REPORT

Trench Rim Soil Sampling Report

Landsburg Mine Site

Submitted to:

Washington State Department of Ecology
3190 - 160th Avenue SE
Bellevue, WA 98008

Submitted by:

Golder Associates Inc.
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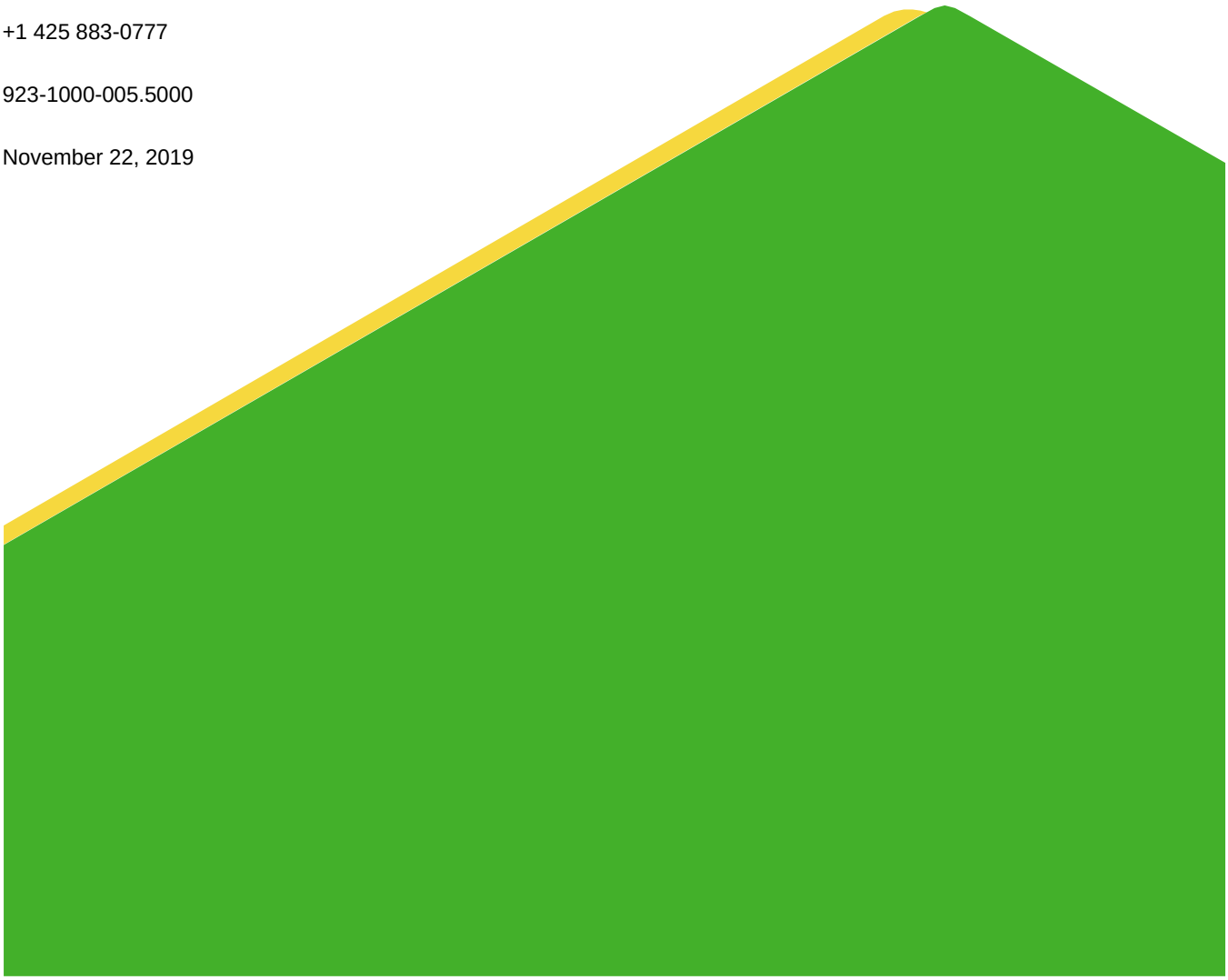
923-1000-005.5000

November 22, 2019



Distribution List

Washington State Department of Ecology

Palmer Coking Coal Company, LLP

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1.0 INTRODUCTION

This report presents the sampling procedures and analytical results associated with trench rim soil sampling conducted at the Landsburg Mine Site (Site). The Washington State Department of Health (WDOH) in its 2016 health consultation report suggested the collection of soil samples just outside of the proposed cap edge at the trench rim for volatile organic compounds (VOCs) analysis. In response to the WDOH request, a total of 15 soil samples were collected from along the trench rim and analyzed for VOCs. There were no detections of any VOCs at concentrations exceeding residential cleanup levels or exceeding concentrations protective of groundwater.

2.0 BACKGROUND

The Site consists of a former underground coal mine located approximately 1.5 miles northwest of Ravensdale in a rural area of southeast King County, Washington. The Site is situated directly south and east of the S.E. Summit-Landsburg Road, and north of the S.E. Kent-Kangley Road. The Cedar River passes within approximately 700 feet of the Site to the north. The location of the Site is shown in Figure 1. The topography of the Site and general Site features are depicted in Figure 2.

During the Remedial Investigation (RI) in 1993, trench rim perimeter soil samples were collected to assess for potential contamination associated with historic waste disposal and handling activities and for potential contamination that may have occurred during interim action drum removal efforts in 1991. A total of 13 composite soil samples were collected from targeted areas along the trench rim with higher probability for potential contamination, and three grab soils samples were collected from test pits dug by excavator along the trench rims. All trench rim soil samples were analyzed for Target Analyte List (TAL) metals, cyanide, VOCs, pesticides, polychlorinated biphenyls (PCBs), semi-volatile organics, and anions (Golder 1996). There were no compounds detected in any of the samples at concentrations above MTCA Method B cleanup levels, or above background levels for select metals (arsenic and beryllium).

In their 2016 Consultation Report, WDOH expressed concerns that the samples collected in 1993 for VOC analysis were not collected following procedures that are currently used to minimize loss of volatiles. The Landsburg Group agreed in the Cleanup Action Plan (CAP) (Ecology 2017) to collect surface soils along the trench rim just outside of the proposed cap edge and analyze the samples for VOCs. While the EDR indicated that soil sampling would be completed after trench backfilling, Golder Associates Inc. (Golder) proposed in the Additional Soil Sampling Workplan (Workplan) (Golder 2019) to collect the soil samples before trench backfilling began. In the unlikely event that elevated VOC contaminant levels were detected, corrective actions could have been taken before trench backfilling began, thus, reducing the risk that these soils may be used as backfill. Additionally, if trench rim soil removal were required, it would be preferred to complete the removal prior to construction of the cap and surrounding stormwater drainage system and prevent potential damage from occurring to these structures.

3.0 SAMPLING AND ANALYSIS

The provisions included in the Compliance Monitoring Plan (CMP) (Golder 2017) are applicable to the trench rim soil sampling proposed in the Workplan. Specifically, the requirements established in the CMP Health and Safety Plan (HASP) and Quality Assurance Project Plan (QAPP) were followed during the completion of the trench rim soil sampling. In addition to these requirements, field procedures specific to trench rim soil sampling for VOC analysis are described within this section of the Workplan.

Soil samples were collected in accordance with the United States Environmental Protection Agency (EPA) Method 5035 method, which is associated with closed-system purge-and-trap and extraction sampling techniques. Prior to collecting each sample, field personnel donned clean, disposable nitrile gloves and used a new TerraCore™ type sampler. A clean, stainless steel trowel was used to clear a fresh surface prior to sampling. The trowel was decontaminated by washing it with a mixture of Alconox and water between samples and drying with a paper towel.

Visual or olfactory indicators of the presence of VOCs, such as discolored soil, sheen or odor, were evaluated at the time of sampling, but there were no indications of contamination noted. Undisturbed soil samples were collected from the fresh surface using the TerraCore™ sampling kits. Each kit was provided by the laboratory and consisted of a total of three 40-milliliter (mL) VOA vials and a 2-oz jar in addition to the TerraCore™ sampler. The 2-oz jar was filled for the laboratory to analyze for percent solids to allow the results to be reported on a dry weight basis. Two vials with sodium bisulfate were filled for low-level VOC analysis and one vial with methanol was filled for a high-level analysis. The TerraCore™ sampler is designed to deliver approximately 5 grams of typical soil. Samples were collected using the TerraCore™ sampler as described in the Workplan (Golder 2019).

On March 29, 2019, ten surface soil samples and one duplicate sample were collected from the perimeter of the trench at the locations shown on Figure 2. As the cap will extend a minimum of 5-feet beyond the trench edge on both sides (to provide an “overhang” to prevent infiltration water from flowing laterally back into the trenches), each of the ten samples were taken at least 5-feet from the edge of the trench.

Samples were placed in an ice-filled cooler chilled to 4°C until they were transported under standard chain-of-custody procedures to Analytical Resources Inc. (ARI), a Washington State-accredited laboratory located in Tukwila, Washington. Samples were analyzed for VOCs by EPA Method 8260C.

4.0 ANALYTICAL RESULTS

There were no VOCs detected in any of the trench rim soil samples at concentrations exceeding Model Toxics Control Act (MTCA) cleanup levels for unrestricted use or above cleanup levels based on protection of groundwater. Table 2 list all compounds that were detected in any of the soil samples collected. All the samples contained trace detections of acetone and methyl ethyl ketone. Discussions with ARI laboratory and a review of published research on the issue (Journal of Soil and Sediment Contamination 2004) indicated that these compounds are generated when natural organic matter is present in soil samples preserved with sodium bisulfate. The Landsburg site is a wooded area and there is natural organic matter in the surface soils.

To further evaluate the trace VOC detections observed in the samples collected on March 29, 2019, four additional trench rim soil samples were collected on September 5, 2019. The September 5, 2019 samples were collected after the trench backfilling was complete. Figure 2 depicts the location of the four additional soil samples. The additional soil samples were co-located at four of the soil sampling locations completed in March 2019. September 5, 2019 samples were collected using the same sampling procedures as the March 2019 samples, except the September samples were collected in unpreserved vials (no sodium bisulfate preservative) and were analyzed by OnSite Environmental Inc. (a Washington State-accredited laboratory located in Redmond, Washington). The only VOC detected in any of the four additional soil samples was one trace detection (0.025 milligrams per kilogram [mg/kg]) of acetone, which is significantly below the lowest MTCA cleanup level of 25 mg/kg.

Appendix A contains the data validated analytical results from both the March 2019 and September 2019 trench rim soil sampling events.

5.0 CLOSING

Golder Associates Inc.

Joseph Xi, PE
Senior Project Engineer

Gary L. Zimmerman
Principal

JX/GLZ/sb

v:\projects_1992 projects\923-1000\2019 trench rim surface soil sampling\trench rim report\final\923-1000-r-rev0-2019_surface soil sampling report 112119.docx

6.0 REFERENCES

Ecology. 2017. Final Cleanup Action Plan Landsburg Mine Site MTCA Remediation Project, Ravensdale, Washington. Prepared by Golder Associates Inc. June 7.

Golder Associates Inc. (Golder) 1996. Remedial Investigation and Feasibility Study for the Landsburg Mine Site. Prepared for the Landsburg PLP Steering Committee. Redmond, Washington.

Golder 2017. Compliance Monitoring Plan, Landsburg Mine Site MTCA Remediation Project, Ravensdale, Washington. Prepared by Golder Associates Inc. June 7.

Golder 2018. Engineering Design Report, Landsburg Mine Site MTCA, Ravensdale, Washington. Prepared by Golder Associates Inc. August 14.

Golder 2019. Additional Surface Soil Sampling Workplan, Landsburg Mine Site MTCA, Ravensdale, Washington. Prepared by Golder Associates Inc. February 19.

Journal of Soil and Sediment Contamination. 2004. Acetone Production as a Result of Sodium Bisulfate Preservation of Soil Samples. Issue 13:245-254.

Western Regional Climate Center. (WRCC). 2012. Period of Record General Climate Summary – Precipitation. Revised 10/31/2012. Web address: https://wrcc.dri.edu. Accessed 3/26/2018.

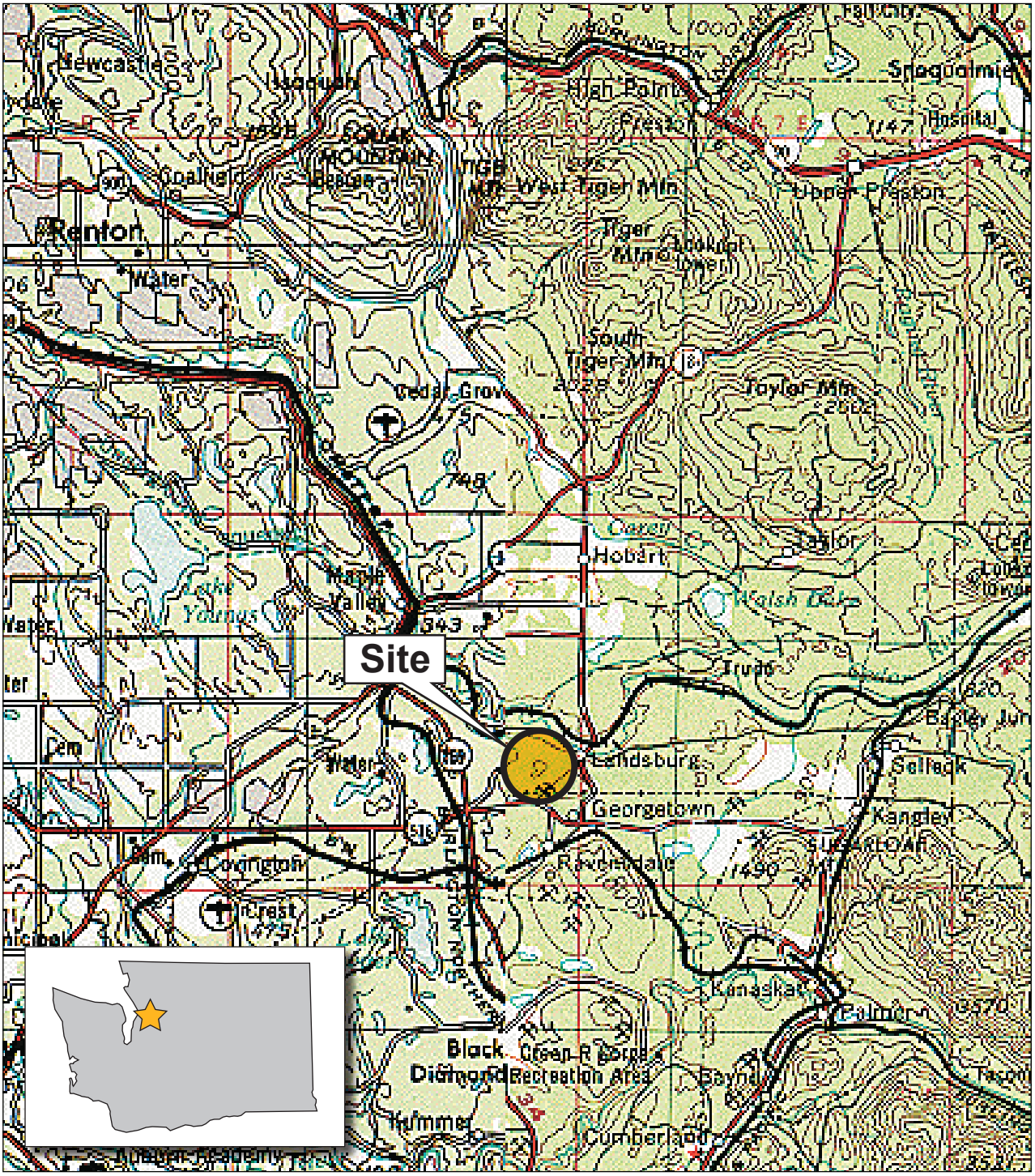
Tables

Table 1: Compounds Detected in Trench Rim Soil Samples
Landsburg Mine Site

Sample Location	Sample Date	Parameter	Lowest* MTCA Cleanup Level (mg/kg)	Result (mg/kg)	Lab Qual	Comments
S6	3/29/2019	2-Pentanone	-	0.00616		naturally occuring organic matter
S10	3/29/2019	4-Isopropyl Toluene	-	0.00077	J	naturally occuring organic matter
S4	3/29/2019	4-Isopropyl Toluene	-	0.00127	J	naturally occuring organic matter
S6	3/29/2019	4-Isopropyl Toluene	-	0.00031	J	naturally occuring organic matter
S8	3/29/2019	4-Isopropyl Toluene	-	0.00034	J	naturally occuring organic matter
S9	3/29/2019	4-Isopropyl Toluene	-	0.00179		naturally occuring organic matter
S1	3/29/2019	Acetone	29	0.124		byproduct of organics in soium bisulfate
S10	3/29/2019	Acetone	29	0.161		byproduct of organics in soium bisulfate
S11	3/29/2019	Acetone	29	0.15		byproduct of organics in soium bisulfate
S2	3/29/2019	Acetone	29	0.0374		byproduct of organics in soium bisulfate
S3	3/29/2019	Acetone	29	0.403		byproduct of organics in soium bisulfate
S4	3/29/2019	Acetone	29	0.353		byproduct of organics in soium bisulfate
S5	3/29/2019	Acetone	29	0.0575		byproduct of organics in soium bisulfate
S6	3/29/2019	Acetone	29	0.315		byproduct of organics in soium bisulfate
S7	3/29/2019	Acetone	29	0.0843		byproduct of organics in soium bisulfate
S8	3/29/2019	Acetone	29	0.167		byproduct of organics in soium bisulfate
S9	3/29/2019	Acetone	29	0.216		byproduct of organics in soium bisulfate
S3B	9/5/2019	Acetone	29	0.025		additional sample collected Sept 2019
S1	3/29/2019	methyl ethyl ketone	48000	0.00812		byproduct of organics in soium bisulfate
S10	3/29/2019	methyl ethyl ketone	48000	0.00713		byproduct of organics in soium bisulfate
S11	3/29/2019	methyl ethyl ketone	48000	0.0132		byproduct of organics in soium bisulfate
S3	3/29/2019	methyl ethyl ketone	48000	0.0302		byproduct of organics in soium bisulfate
S4	3/29/2019	methyl ethyl ketone	48000	0.00335	J	byproduct of organics in soium bisulfate
S5	3/29/2019	methyl ethyl ketone	48000	0.0025	J	byproduct of organics in soium bisulfate
S6	3/29/2019	methyl ethyl ketone	48000	0.0198		byproduct of organics in soium bisulfate
S7	3/29/2019	methyl ethyl ketone	48000	0.00502	J	byproduct of organics in soium bisulfate
S8	3/29/2019	methyl ethyl ketone	48000	0.00786		byproduct of organics in soium bisulfate
S9	3/29/2019	methyl ethyl ketone	48000	0.0117		byproduct of organics in soium bisulfate
S1	3/29/2019	Methylene Chloride	0.02	0.0035		in blank at 0.0011 common lab contaminant
S10	3/29/2019	Methylene Chloride	0.02	0.00261		in blank at 0.0011 common lab contaminant
S3	3/29/2019	Methylene Chloride	0.02	0.00515		in blank at 0.0011 common lab contaminant
S1	3/29/2019	Toluene	4.5	0.00033	J	
S10	3/29/2019	Toluene	4.5	0.00044	J	
S3	3/29/2019	Toluene	4.5	0.00096	J	
S4	3/29/2019	Toluene	4.5	0.00167		
S6	3/29/2019	Toluene	4.5	0.00058	J	
S8	3/29/2019	Toluene	4.5	0.00041	J	
S9	3/29/2019	Toluene	4.5	0.00058	J	

*Lowest cleanup level for unrestricted land use including protection of groundwater (CLARC Database, May 2019).
"-" There are no cleanup standards established for 2-pentanone or 4-isopropyl toluene

Figures



Source: USGS 1:250,000 Sheets,Seattle and Wenatchee

0 8000

SCALE IN FEET

CLIENT

LANDSBURG MINE SITE PLP GROUP

CONSULTANT

GOLDER

YYYY-MM-DD	2018-03-27
PREPARED	REDMOND
DESIGN	
REVIEW	
APPROVED	

PROJECT

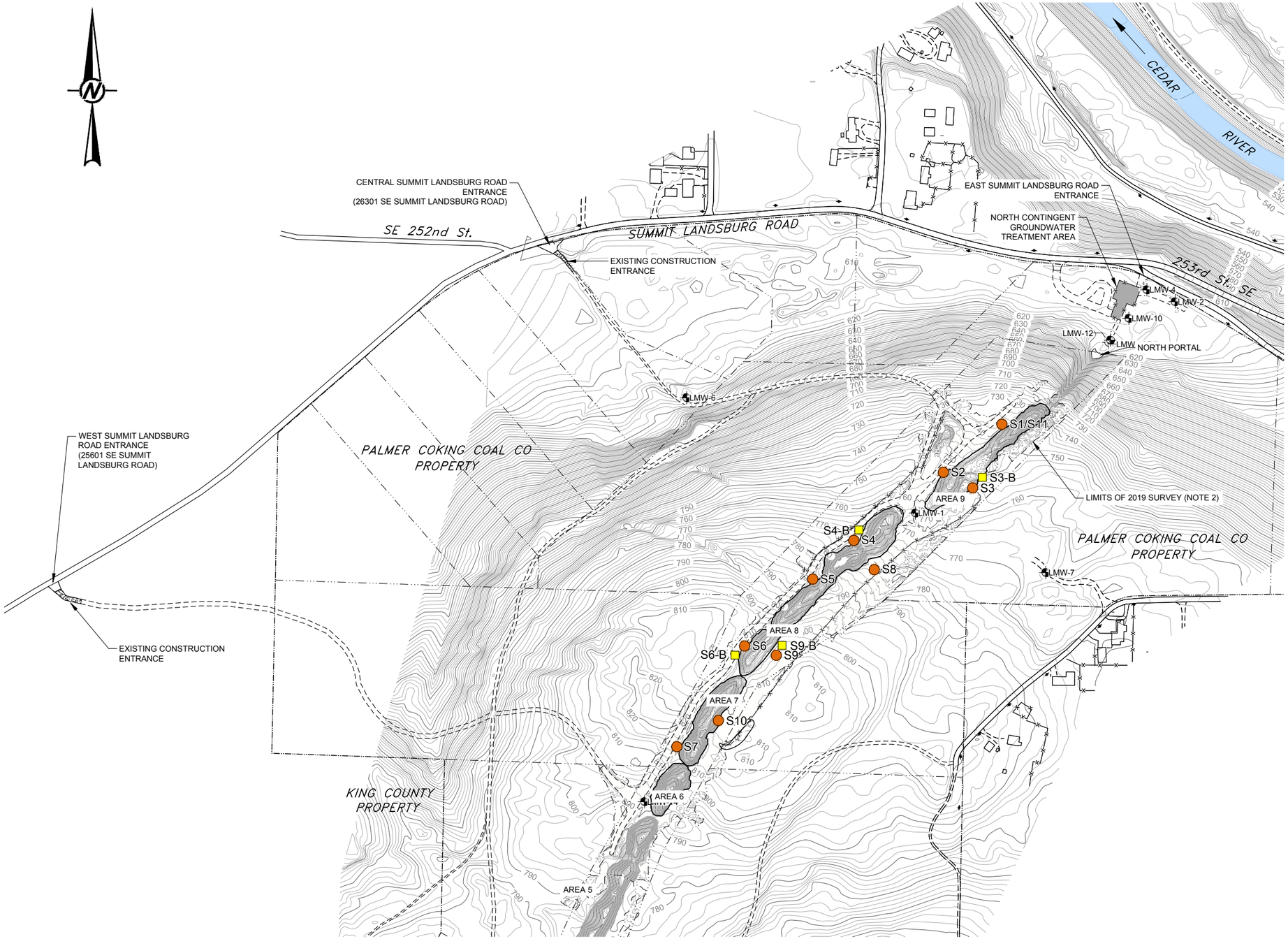
LANDSBURG MINE SITE

TITLE

SITE LOCATION

PROJECT No.	PHASE	FIGURE
923-1000.005	1000	1

G:\Palmer\CokingCoal\Coal\LandsburgMineWA\99_PROJECTS\923100000S_RemedialAction\1000_RemedialActionDesign\02_PRODUCTION\INDD\923100_005_1000_001.indd



REFERENCE NOTES

1. BASE TOPOGRAPHY OUTSIDE OF TRENCH AREA FROM SURVEY BY TRIAD ASSOCIATES, DATED 01/21/03.
   - HORIZONTAL DATUM: NAD 83 (91) WASHINGTON STATE PLANE, NORTH ZONE, US FOOT (BASED ON KING COUNTY SURVEY CONTROL POINT NUMBERS 6201, 6161 AND 6234)
   - VERTICAL DATUM: NAVD 88 (BASED ON CONVERSION OF GPS FIELD MEASUREMENTS USING THE GEOID96 PROGRAM)
   - CONTOUR INTERVAL: 2 FT
2. BASE TOPOGRAPHY IN TRENCH AREA FROM SURVEY BY DAVID EVANS AND ASSOCIATES, DATED 01/08/19 (POST-STAGE 1 REMEDIAL ACTION - TRENCH CLEARING).
   - HORIZONTAL DATUM: NAD 83/2011
   - VERTICAL DATUM: NAVD 88 (ELEVATIONS DERIVED FROM GPS MEASUREMENTS USING GEOID MODEL 12B)
   - CONTOUR INTERVAL: 2 FT
3. AS-BUILT LOCATIONS OF NORTH CONTINGENT GROUNDWATER TREATMENT AREA FEATURES FROM SURVEY BY PACIFIC GEOMATIC SERVICES, INC., DATED 09/16/08.
4. PROPERTY BOUNDARIES FROM KING COUNTY GIS DATA PORTAL, ACCESSED 3/20/18.
5. LOCATIONS OF ROADS OUTSIDE OF THE TRENCH AREA ARE APPROXIMATE.
6. SITE CONDITIONS PRESENTED IN THESE DRAWINGS MAY HAVE CHANGED SINCE THE DATE OF SURVEY. PROJECT FEATURE LOCATIONS, CONFIGURATIONS, AND LAYOUTS ARE TO BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BASED ON THE CONDITIONS ENCOUNTERED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES ENCOUNTERED.
7. TRENCH RIM SAMPLING LOCATIONS ARE APPROXIMATELY LOCATED JUST OUTSIDE OF THE PROPOSED CAP EDGE (MINIMUM 5FT AWAY FROM RIM EDGE).

LEGEND

- LMW-2 — EXISTING MONITORING WELL
- NEW MONITORING WELL (LOCATION APPROX)
- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- EXISTING UTILITY POLE
- EXISTING CHAINLINK FENCE
- EXISTING BUILDING
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- APPROXIMATE TRENCH RIM SAMPLING LOCATIONS COLLECTED 3-29-19 (NOTE 7)
- APPROXIMATE TRENCH RIM SAMPLING LOCATIONS COLLECTED 9-5-19
- S1/S11 — DUPLICATE SAMPLE

0 200 400
1" = 200' FEET

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
A	2019-10-17	DRAFT	JX	REDMOND	FSS	GZ

SEAL

CLIENT
LANDSBURG MINE SITE PLP GROUP

CONSULTANT
GOLDER
REDMOND
18300 NE UNION HILL RD, STE 200
REDMOND, WA
USA
[+1] (425) 883 0777
www.golder.com

PROJECT
LANDSBURG MINE SITE
MTCA REMEDIAL ACTION

TITLE
TRENCH RIM SAMPLING LOCATIONS

PROJECT NO.	PHASE	REV.	of	FIGURE
9231000005	1000	A		2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in

APPENDIX A

Analytical Results

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Landsburg PLP Group
Project Manager: Gary Zimmerman
Project Name: Landsburg Mine Site
Project Number: 923-1000-005.3019
Reviewer: Eric Adams
Validation Date: May 2019
Laboratory: Analytical Resources, Inc (ARI)
SDG#: 19D0018
Analytical Method (type and no.): EPA SW8260C
Matrix: ☐ Air ☑ Soil/Sed. ☐ Water ☐ Waste ☐ Other (specify):
Sample Names: S1 through S11

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☑	☐	☐	all surface samples, elevation noted
e) Sample type indicated (grab/composite)?	☐	☑	☐	confirmed grab samples
f) Field QC noted?	☑	☐	☐	S1 and S11 duplicates
g) Field parameters collected (note types)?	☐	☐	☑	
h) Field calibration within control limits?	☐	☐	☑	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☐	☑	
j) Does the laboratory narrative note deficiencies?	☑	☐	☐	

Note deficiencies: See Work Order Case Narrative in Laboratory data package

Chain of Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	
e) Were the appropriate reporting limits achieved?	☑	☐	☐	
f) Were any sample dilutions noted?	☑	☐	☐	no dilutions
g) Were any matrix problems noted?	☐	☑	☐	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Blanks	**YES**	**NO**	**NA**	**COMMENTS**
a) Were analytes detected in the method blank(s)?	☑	☐	☐	see attached Table 1
b) Were analytes detected in the field blank(s)?	☐	☐	☑	
c) Were analytes detected in the equipment blank(s)?	☐	☐	☑	
d) Were analytes detected in the trip blank(s)?	☐	☑	☐	

Laboratory Control Sample (LCS)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was a LCS analyzed once per SDG?	☑	☐	☐	
b) Were the proper compounds included in the LCS?	☑	☐	☐	
c) Was the LCS accuracy criteria met?	☐	☑	☐	see note #1

Duplicates	**YES**	**NO**	**NA**	**COMMENTS**
a) Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	
b) Were field dup. precision criteria met (note RPD)?	☑	☐	☐	
c) Were lab duplicates analyzed (note original and duplicate samples)?	☐	☑	☐	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☑	

Blind Standards	**YES**	**NO**	**NA**	**COMMENTS**
a) Was a blind standard used (indicate name compounds included and concentrations)?	☐	☑	☐	
b) Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was MS accuracy criteria met?	☐	☐	☑	
Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☐	
b) Was MSD accuracy criteria met?	☐	☐	☑	
Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☐	
c) Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes	**YES**	**NO**	**NA**	**COMMENTS**
a) Were surrogate recoveries within control limits?	☑	☐	☐	
b) Were surrogate recoveries not calculated due to dilutions?	☐	☑	☐	

Comments/Notes:

Note #1 - LCS Methyl ter-butyl Ether %Rec 77.3; low compared to %Rec limit of 79 to 127%; LCS Dup for Methyl ter-butyl Ether 81.5%

Comments/Notes:

Note #2 - All of the acetone and methyl ethyl ketone detections are suspected to be related to the interaction between natural organics present in the humic / loamy surface soils and the sodium bisulfate preservative used in the Method 5035A sample collection.

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
See attached Table 2				

Signature:____ **Date:**__________________________

Table 1
Batch BHD0099 Method Blank Detects

SDG Batch	Constituent	Result (ug/Kg)	Qualifier	RL (ug/Kg)	MDL (ug/Kg)	Comment
BHD0099	Methylene Chloride	1.11	J	2	0.64	
BHD0099	1,2,4-Trichlorobenzene	0.8	J	5	0.33	
BHD0099	Hexachlorobutadiene	0.52	J	5	0.41	
BHD0099	Naphthalene	1.07	J	5	0.43	
BHD0099	1,2,3-Trichlorobenzene	1.12	J	5	0.31	

Abbreviations
RL - reporting limit
MDL - method detection limit
ug/Kg - microgram per kilogram
Qualifier Definitions
J - Compound was detected at a concentration less than the reporting limit but greater than the method detectio

SDG Batch	Sample Name	Constituent	New Result	New RL	Qualifier	Reason
BHD0099	S1	1,2,4-Trimethylbenzene	1.25	1.25	U	Detected in Method Blank
BHD0099	S2	1,2,4-Trimethylbenzene	1.17	1.17	U	Detected in Method Blank
BHD0099	S3	1,2,4-Trimethylbenzene	1.75	1.75	U	Detected in Method Blank
BHD0099	S4	1,2,4-Trimethylbenzene	1.33	1.33	U	Detected in Method Blank
BHD0099	S6	1,2,4-Trimethylbenzene	1.14	1.14	U	Detected in Method Blank
BHD0099	S1	Methylene Chloride	3.5	2.49	J+	Detected in Method Blank
BHD0099	S10	Methylene Chloride	2.61	2.36	J+	Detected in Method Blank
BHD0099	S11	Methylene Chloride	2.27	2.27	U	Detected in Method Blank
BHD0099	S2	Methylene Chloride	2.34	2.34	U	Detected in Method Blank
BHD0099	S3	Methylene Chloride	5.15	3.5	J+	Detected in Method Blank
BHD0099	S4	Methylene Chloride	2.65	2.65	U	Detected in Method Blank
BHD0099	S5	Methylene Chloride	2.6	2.6	U	Detected in Method Blank
BHD0099	S6	Methylene Chloride	2.29	2.29	U	Detected in Method Blank
BHD0099	S7	Methylene Chloride	2.3	2.3	U	Detected in Method Blank
BHD0099	S8	Methylene Chloride	2.58	2.58	U	Detected in Method Blank
BHD0099	S9	Methylene Chloride	2.75	2.75	U	Detected in Method Blank
BHD0099	S1	Naphthalene	6.23	6.23	U	Detected in Method Blank

Abbreviations

Qualifier Definitions

Analytical Resources, Incorporated
Analytical Chemists and Consultants

04 April 2019

Gary Zimmerman
Golder Associates
18300 NE Union Hill Road Suite 200
Redmond, WA 98052-3333

RE: Landsburg

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
19D0018	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Cert# 100006

PJLA Testing
Accreditation # 66169

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 1900018	Turn-around Requested: Std	Page: 1 of 2	
ARI Client Company: Golder	Phone: 425 883 0777	Date: 3/29/19	Ice Present? Yes
Client Contact: Gary Zimmerman		No. of Coolers: 1	Cooler Temps: 3.1°C
Client Project Name: Landsburg			
Client Project #: 923 1000 005.5000	Samplers: GZ/JM		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	VOC (Client list) 5035	Percent Moisture						Notes/Comments
S1	3/29/19	1010	S	4	X	X						
S2		1025	S	4	X	X						
S3		1045	S	4	X	X						
S4		1050	S	4	X	X						
S5		1105	S	4	X	X						
S6		1120	S	4	X	X						
S7		1125	S	4	X	X						
S8		1145	S	4	X	X						
S9		1155	S	4	X	X						
S10		1205	S	4	X	X						

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
Ecology EIM EDD Analyze under current MSA w/ Golder	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Joe Miller	Printed Name: Jacob Walte	Printed Name:	Printed Name:
	Company: Golder	Company: ARI	Company:	Company:
	Date & Time: 3/29/19 1420	Date & Time: 03/29/19 1420	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19D0018	Turn-around Requested: Std	Page: 2 of 2	
ARI Client Company: Golder	Phone: 425-883-0777	Date: 3/29/19	Ice Present? Yes
Client Contact: Gary Zimmerman		No. of Coolers: 1	Cooler Temps: 3.1°C
Client Project Name: Landsburg			
Client Project #: 933100000S.5000	Samplers: GZ/JM		

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Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: VOC 8035 (Client List)	Analysis Requested: Percent Moisture	Notes/Comments
S11	3/29/19	1015	S	4	X	X	
TripBlank	—	—	W	3	Hold		

Comments/Special Instructions
Ecology EIM EPD

Analyze under current MSA w/ Golder

	Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature)				
Printed Name:	Joe Miller	Jacob Matter		
Company:	Golder	ARI		
Date & Time:	3/29/19 1420	03/29/19 1700		

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Report

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S1	19D0018-01	Solid	29-Mar-2019 10:10	29-Mar-2019 14:20
S2	19D0018-02	Solid	29-Mar-2019 10:25	29-Mar-2019 14:20
S3	19D0018-03	Solid	29-Mar-2019 10:45	29-Mar-2019 14:20
S4	19D0018-04	Solid	29-Mar-2019 10:50	29-Mar-2019 14:20
S5	19D0018-05	Solid	29-Mar-2019 11:05	29-Mar-2019 14:20
S6	19D0018-06	Solid	29-Mar-2019 11:20	29-Mar-2019 14:20
S7	19D0018-07	Solid	29-Mar-2019 11:25	29-Mar-2019 14:20
S8	19D0018-08	Solid	29-Mar-2019 11:45	29-Mar-2019 14:20
S9	19D0018-09	Solid	29-Mar-2019 11:55	29-Mar-2019 14:20
S10	19D0018-10	Solid	29-Mar-2019 12:05	29-Mar-2019 14:20
S11	19D0018-11	Solid	29-Mar-2019 10:15	29-Mar-2019 14:20
Trip Blanks	19D0018-12	Water	29-Mar-2019 10:10	29-Mar-2019 14:20

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Work Order Case Narrative

Volatiles - EPA Method SW8260C

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements with the exception of all associated "Q" flagged analytes which are out of control low in the CCAL and dichlorodifluoromethane is out of control high .
All associated samples that contain analyte have been flagged with a "Q" qualifer.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits with the exception of analytes flagged on the associated forms.

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Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 4/1/2019 1:09:45PM

WORK ORDER

19D0018

Client: Golder Associates
Project: Landsburg
Project Manager: Kelly Bottem
Project Number: Landsburg

Report To:
Golder Associates
Gary Zimmerman
18300 NE Union Hill Road Suite 200
Redmond, WA 98052-3333
Phone: 425-883-0777
Fax: -

Invoice To:
Golder Associates
Gary Zimmerman
18300 NE Union Hill Road Suite 200
Redmond, WA 98052-3333
Phone :425-883-0777
Fax: -

Date Due: 12-Apr-2019 18:00 (10 day TAT)
Received By: Jacob Walter
Date Received: 29-Mar-2019 14:20
Logged In By: Jacob Walter
Date Logged In: 01-Apr-2019 13:02

Samples Received at: **3.1°C**

Intact, properly signed and dated custody seals attached to outside of cooler(s)	No	Custody papers included with the cooler	Yes
Custody papers properly filled out (in, signed, analyses requested, etc)	Yes	Was a temperature blank included in the cooler	No
Was sufficient ice used (if appropriate)	Yes	All bottles sealed in individual plastic bags	No
All bottles arrived in good condition (unbroken)	Yes	All bottle labels complete and legible	Yes
Number of containers listed on COC match number received	Yes	Bottle labels and tags agree with COC	Yes
Correct bottles used for the requested analyses	Yes	All VOC vials free of air bubbles	Yes
Analyses/bottles require preservation (attach preservation sheet excluding VOC)	No	Sufficient amount of sample sent in each bottle	Yes
Sample split at ARI	No		

Analysis	Due	TAT	Expires	Comments

WORK ORDER

19D0018

Client: Golder Associates
Project: Landsburg
Project Manager: Kelly Bottem
Project Number: Landsburg

Analysis	Due	TAT	Expires	Comments
19D0018-01 S1 [Solid] Sampled 29-Mar-2019 10:10 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 10:10	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 10:10	
19D0018-02 S2 [Solid] Sampled 29-Mar-2019 10:25 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 10:25	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 10:25	
19D0018-03 S3 [Solid] Sampled 29-Mar-2019 10:45 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 10:45	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 10:45	
19D0018-04 S4 [Solid] Sampled 29-Mar-2019 10:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 10:50	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 10:50	
19D0018-05 S5 [Solid] Sampled 29-Mar-2019 11:05 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 11:05	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 11:05	
19D0018-06 S6 [Solid] Sampled 29-Mar-2019 11:20 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 11:20	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 11:20	
19D0018-07 S7 [Solid] Sampled 29-Mar-2019 11:25 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 11:25	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 11:25	

WORK ORDER

19D0018

Client: Golder Associates | **Project Manager:** Kelly Bottem

Project: Landsburg | **Project Number:** Landsburg

Analysis	Due	TAT	Expires	Comments
19D0018-08 S8 [Solid] Sampled 29-Mar-2019 11:45 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 11:45	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 11:45	
19D0018-09 S9 [Solid] Sampled 29-Mar-2019 11:55 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 11:55	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 11:55	
19D0018-10 S10 [Solid] Sampled 29-Mar-2019 12:05 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 12:05	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 12:05	
19D0018-11 S11 [Solid] Sampled 29-Mar-2019 10:15 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 4 oz	*B = VOA Vial, Clear, 40 mL, NaHSO4*	*C = VOA Vial, Clear, 40 mL, NaHSO4*	*D = VOA Vial, Clear, 40 mL, MeOH*	
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 10:15	
Solids, Total, Dried at 103 -105 °C, Soli	12-Apr-2019 15:00	10	26-Apr-2019 10:15	
19D0018-12 Trip Blanks [Water] Sampled 29-Mar-2019 10:10 (GMT-08:00) Pacific Time (US & Canada)				
A = VOA Vial, Clear, 40 mL, HCL	*B = VOA Vial, Clear, 40 mL, HCL*	*C = VOA Vial, Clear, 40 mL, HCL*		
8260C VOA	12-Apr-2019 15:00	10	12-Apr-2019 10:10	

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Golder Project Name: Landsburg

COC No(s): (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 1900018 Tracking No: (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1420 3.1°C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D005206

Cooler Accepted by: JSm Date: 03/29/19 Time: 1420

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ...	(Bubble Wrap) (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	(NA)	YES	NO
Were all VOC vials free of air bubbles?	NA	(YES)	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	NA	3/27/19	

Was Sample Split by ARI : (NA) YES Date/Time: Equipment: Split by:

Samples Logged by: JSm Date: 04/01/19 Time: 1301 Labels checked by: JSm

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S1

19D0018-01 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:10

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 14:54

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-01 B

Preparation Batch: BHD0099 — Sample Size: 4.78 g (wet) — Dry Weight:4.01 g

Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 83.90

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.33	1.25	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.29	1.25	ND	ug/kg	U
Bromomethane	74-83-9	1	0.23	1.25	ND	ug/kg	U
Chloroethane	75-00-3	1	0.58	1.25	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.33	1.25	ND	ug/kg	U
Acrolein	107-02-8	1	4.75	6.23	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.36	2.49	ND	ug/kg	U
Acetone	67-64-1	1	0.60	6.23	**124**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.42	1.25	ND	ug/kg	U
Bromoethane	74-96-4	1	0.55	2.49	ND	ug/kg	U
Iodomethane	74-88-4	1	0.27	1.25	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.79	2.49	**3.50**	ug/kg	
Acrylonitrile	107-13-1	1	1.28	6.23	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.70	1.25	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.33	1.25	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.48	6.23	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.25	1.25	ND	ug/kg	U
2-Butanone	78-93-3	1	0.64	6.23	**8.12**	ug/kg	
2,2-Dichloropropane	594-20-7	1	0.36	1.25	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.30	1.25	ND	ug/kg	U
Chloroform	67-66-3	1	0.29	1.25	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.40	1.25	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.28	1.25	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.39	1.25	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.27	1.25	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.24	1.25	ND	ug/kg	U
Benzene	71-43-2	1	0.37	1.25	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.26	1.25	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.20	1.25	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.32	1.25	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.18	1.25	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.34	6.23	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.52	6.23	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.28	1.25	ND	ug/kg	U
Toluene	108-88-3	1	0.19	1.25	**0.33**	ug/kg	J
trans-1,3-Dichloropropene	10061-02-6	1	0.27	1.25	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S1

19D0018-01 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:10

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 14:54

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.55	6.23	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.36	1.25	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.26	1.25	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.32	1.25	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.33	1.25	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.22	1.25	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.27	1.25	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.25	1.25	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.29	1.25	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.49	2.49	ND	ug/kg	U
o-Xylene	95-47-6	1	0.28	1.25	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.77	2.49	ND	ug/kg	U
Styrene	100-42-5	1	0.17	1.25	ND	ug/kg	U
Bromoform	75-25-2	1	0.37	1.25	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.32	1.25	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.64	2.49	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.54	6.23	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.34	1.25	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.19	1.25	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.29	1.25	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.37	1.25	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.35	1.25	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.38	1.25	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.32	1.25	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.29	1.25	**0.88**	ug/kg	J
s-Butylbenzene	135-98-8	1	0.30	1.25	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.29	1.25	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.28	1.25	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.29	1.25	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.33	1.25	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.37	1.25	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.73	6.23	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.41	6.23	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.51	6.23	ND	ug/kg	U
Naphthalene	91-20-3	1	0.53	6.23	**0.60**	ug/kg	J
1,2,3-Trichlorobenzene	87-61-6	1	0.38	6.23	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.26	1.25	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.29	1.25	ND	ug/kg	U
2-Pentanone	107-87-9	1	6.23	6.23	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S1

19D0018-01 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:10

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 14:54

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*101*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*104*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*99.7*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S2

19D0018-02 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:25

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 15:16

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-02 B

Preparation Batch: BHD0099 — Sample Size: 5.16 g (wet) — Dry Weight:4.28 g

Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 82.96

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.31	1.17	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.27	1.17	ND	ug/kg	U
Bromomethane	74-83-9	1	0.22	1.17	ND	ug/kg	U
Chloroethane	75-00-3	1	0.54	1.17	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.31	1.17	ND	ug/kg	U
Acrolein	107-02-8	1	4.45	5.84	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.34	2.34	ND	ug/kg	U
Acetone	67-64-1	1	0.56	5.84	**37.4**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.39	1.17	ND	ug/kg	U
Bromoethane	74-96-4	1	0.51	2.34	ND	ug/kg	U
Iodomethane	74-88-4	1	0.25	1.17	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.74	2.34	**1.32**	ug/kg	J
Acrylonitrile	107-13-1	1	1.20	5.84	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.65	1.17	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.31	1.17	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.45	5.84	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.24	1.17	ND	ug/kg	U
2-Butanone	78-93-3	1	0.60	5.84	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	0.34	1.17	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.28	1.17	ND	ug/kg	U
Chloroform	67-66-3	1	0.27	1.17	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.38	1.17	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.26	1.17	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.36	1.17	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.25	1.17	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.22	1.17	ND	ug/kg	U
Benzene	71-43-2	1	0.35	1.17	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.25	1.17	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.19	1.17	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.30	1.17	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.17	1.17	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.32	5.84	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.49	5.84	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.26	1.17	ND	ug/kg	U
Toluene	108-88-3	1	0.18	1.17	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.25	1.17	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S2

19D0018-02 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:25

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 15:16

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.51	5.84	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.33	1.17	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.24	1.17	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.30	1.17	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.31	1.17	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.21	1.17	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.26	1.17	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.24	1.17	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.27	1.17	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.46	2.34	ND	ug/kg	U
o-Xylene	95-47-6	1	0.26	1.17	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.72	2.34	ND	ug/kg	U
Styrene	100-42-5	1	0.16	1.17	ND	ug/kg	U
Bromoform	75-25-2	1	0.35	1.17	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.30	1.17	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.60	2.34	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.51	5.84	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.32	1.17	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.18	1.17	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.27	1.17	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.35	1.17	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.32	1.17	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.36	1.17	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.30	1.17	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.27	1.17	**0.48**	ug/kg	J
s-Butylbenzene	135-98-8	1	0.28	1.17	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.28	1.17	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.27	1.17	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.27	1.17	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.31	1.17	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.34	1.17	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.68	5.84	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.39	5.84	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.48	5.84	ND	ug/kg	U
Naphthalene	91-20-3	1	0.50	5.84	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.36	5.84	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.24	1.17	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.27	1.17	ND	ug/kg	U
2-Pentanone	107-87-9	1	5.84	5.84	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
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Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S2

19D0018-02 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:25

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 15:16

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*103*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*104*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*100*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S3

19D0018-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:45

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 15:38

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-03 B

Preparation Batch: BHD0099 — Sample Size: 3.78 g (wet) — Dry Weight:2.86 g

Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 75.68

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.46	1.75	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.41	1.75	ND	ug/kg	U
Bromomethane	74-83-9	1	0.33	1.75	ND	ug/kg	U
Chloroethane	75-00-3	1	0.81	1.75	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.46	1.75	ND	ug/kg	U
Acrolein	107-02-8	1	6.66	8.74	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.50	3.50	ND	ug/kg	U
Acetone	67-64-1	1	0.84	8.74	**403**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.59	1.75	ND	ug/kg	U
Bromoethane	74-96-4	1	0.77	3.50	ND	ug/kg	U
Iodomethane	74-88-4	1	0.38	1.75	ND	ug/kg	U
Methylene Chloride	75-09-2	1	1.11	3.50	**5.15**	ug/kg	
Acrylonitrile	107-13-1	1	1.80	8.74	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.98	1.75	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.46	1.75	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.67	8.74	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.35	1.75	ND	ug/kg	U
2-Butanone	78-93-3	1	0.90	8.74	**30.2**	ug/kg	
2,2-Dichloropropane	594-20-7	1	0.51	1.75	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.42	1.75	ND	ug/kg	U
Chloroform	67-66-3	1	0.41	1.75	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.56	1.75	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.40	1.75	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.55	1.75	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.37	1.75	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.33	1.75	ND	ug/kg	U
Benzene	71-43-2	1	0.52	1.75	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.37	1.75	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.28	1.75	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.44	1.75	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.26	1.75	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.48	8.74	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.73	8.74	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.40	1.75	ND	ug/kg	U
Toluene	108-88-3	1	0.26	1.75	**0.96**	ug/kg	J
trans-1,3-Dichloropropene	10061-02-6	1	0.38	1.75	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S3

19D0018-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:45

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 15:38

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.77	8.74	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.50	1.75	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.37	1.75	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.45	1.75	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.46	1.75	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.31	1.75	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.38	1.75	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.35	1.75	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.41	1.75	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.69	3.50	ND	ug/kg	U
o-Xylene	95-47-6	1	0.39	1.75	ND	ug/kg	U
Xylenes, total	1330-20-7	1	1.08	3.50	ND	ug/kg	U
Styrene	100-42-5	1	0.24	1.75	ND	ug/kg	U
Bromoform	75-25-2	1	0.52	1.75	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.44	1.75	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.90	3.50	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.76	8.74	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.48	1.75	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.27	1.75	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.41	1.75	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.52	1.75	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.48	1.75	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.53	1.75	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.44	1.75	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.40	1.75	**0.73**	ug/kg	J
s-Butylbenzene	135-98-8	1	0.42	1.75	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.41	1.75	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.40	1.75	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.41	1.75	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.46	1.75	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.51	1.75	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	1.02	8.74	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.58	8.74	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.72	8.74	ND	ug/kg	U
Naphthalene	91-20-3	1	0.75	8.74	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.53	8.74	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.36	1.75	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.40	1.75	ND	ug/kg	U
2-Pentanone	107-87-9	1	8.74	8.74	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S3

19D0018-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:45

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 15:38

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*97.0*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*94.6*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*95.5*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S4

19D0018-04 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:50

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 16:00

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-04 B

Preparation Batch: BHD0099 — Sample Size: 4.94 g (wet) — Dry Weight:3.77 g

Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 76.31

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.35	1.33	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.31	1.33	ND	ug/kg	U
Bromomethane	74-83-9	1	0.25	1.33	ND	ug/kg	U
Chloroethane	75-00-3	1	0.61	1.33	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.35	1.33	ND	ug/kg	U
Acrolein	107-02-8	1	5.05	6.63	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.38	2.65	ND	ug/kg	U
Acetone	67-64-1	1	0.64	6.63	**353**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.45	1.33	ND	ug/kg	U
Bromoethane	74-96-4	1	0.58	2.65	ND	ug/kg	U
Iodomethane	74-88-4	1	0.29	1.33	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.84	2.65	**1.50**	ug/kg	J
Acrylonitrile	107-13-1	1	1.37	6.63	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.74	1.33	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.35	1.33	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.51	6.63	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.27	1.33	ND	ug/kg	U
2-Butanone	78-93-3	1	0.68	6.63	**3.35**	ug/kg	J
2,2-Dichloropropane	594-20-7	1	0.39	1.33	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.32	1.33	ND	ug/kg	U
Chloroform	67-66-3	1	0.31	1.33	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.43	1.33	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.30	1.33	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.41	1.33	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.28	1.33	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.25	1.33	ND	ug/kg	U
Benzene	71-43-2	1	0.39	1.33	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.28	1.33	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.21	1.33	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.34	1.33	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.19	1.33	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.37	6.63	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.56	6.63	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.30	1.33	ND	ug/kg	U
Toluene	108-88-3	1	0.20	1.33	**1.67**	ug/kg	
trans-1,3-Dichloropropene	10061-02-6	1	0.29	1.33	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S4

19D0018-04 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:50

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 16:00

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.58	6.63	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.38	1.33	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.28	1.33	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.34	1.33	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.35	1.33	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.23	1.33	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.29	1.33	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.27	1.33	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.31	1.33	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.52	2.65	ND	ug/kg	U
o-Xylene	95-47-6	1	0.30	1.33	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.82	2.65	ND	ug/kg	U
Styrene	100-42-5	1	0.18	1.33	ND	ug/kg	U
Bromoform	75-25-2	1	0.39	1.33	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.34	1.33	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.69	2.65	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.58	6.63	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.36	1.33	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.20	1.33	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.31	1.33	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.40	1.33	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.37	1.33	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.41	1.33	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.34	1.33	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.31	1.33	**0.44**	ug/kg	J
s-Butylbenzene	135-98-8	1	0.32	1.33	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.31	1.33	**1.27**	ug/kg	J
1,3-Dichlorobenzene	541-73-1	1	0.30	1.33	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.31	1.33	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.35	1.33	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.39	1.33	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.78	6.63	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.44	6.63	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.54	6.63	ND	ug/kg	U
Naphthalene	91-20-3	1	0.57	6.63	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.40	6.63	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.27	1.33	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.31	1.33	ND	ug/kg	U
2-Pentanone	107-87-9	1	6.63	6.63	ND	ug/kg	U

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S4

19D0018-04 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:50

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 16:00

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*97.7*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*103*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*100*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S5

19D0018-05 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:05
Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 16:23

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-05 B
Preparation Batch: BHD0099 — Sample Size: 4.22 g (wet) — Dry Weight:3.84 g
Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 91.08

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.34	1.30	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.31	1.30	ND	ug/kg	U
Bromomethane	74-83-9	1	0.24	1.30	ND	ug/kg	U
Chloroethane	75-00-3	1	0.60	1.30	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.35	1.30	ND	ug/kg	U
Acrolein	107-02-8	1	4.96	6.50	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.37	2.60	ND	ug/kg	U
Acetone	67-64-1	1	0.63	6.50	**57.5**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.44	1.30	ND	ug/kg	U
Bromoethane	74-96-4	1	0.57	2.60	ND	ug/kg	U
Iodomethane	74-88-4	1	0.28	1.30	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.83	2.60	**1.96**	ug/kg	J
Acrylonitrile	107-13-1	1	1.34	6.50	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.73	1.30	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.35	1.30	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.50	6.50	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.26	1.30	ND	ug/kg	U
2-Butanone	78-93-3	1	0.67	6.50	**2.50**	ug/kg	J
2,2-Dichloropropane	594-20-7	1	0.38	1.30	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.31	1.30	ND	ug/kg	U
Chloroform	67-66-3	1	0.30	1.30	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.42	1.30	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.29	1.30	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.41	1.30	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.28	1.30	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.25	1.30	ND	ug/kg	U
Benzene	71-43-2	1	0.39	1.30	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.28	1.30	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.21	1.30	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.33	1.30	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.19	1.30	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.36	6.50	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.55	6.50	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.29	1.30	ND	ug/kg	U
Toluene	108-88-3	1	0.20	1.30	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.28	1.30	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S5

19D0018-05 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:05

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 16:23

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.57	6.50	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.37	1.30	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.27	1.30	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.33	1.30	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.35	1.30	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.23	1.30	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.28	1.30	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.26	1.30	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.30	1.30	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.51	2.60	ND	ug/kg	U
o-Xylene	95-47-6	1	0.29	1.30	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.80	2.60	ND	ug/kg	U
Styrene	100-42-5	1	0.18	1.30	ND	ug/kg	U
Bromoform	75-25-2	1	0.39	1.30	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.33	1.30	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.67	2.60	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.57	6.50	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.35	1.30	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.20	1.30	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.30	1.30	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.39	1.30	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.36	1.30	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.40	1.30	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.33	1.30	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.30	1.30	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.31	1.30	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.31	1.30	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.30	1.30	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.30	1.30	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.34	1.30	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.38	1.30	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.76	6.50	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.43	6.50	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.53	6.50	ND	ug/kg	U
Naphthalene	91-20-3	1	0.56	6.50	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.40	6.50	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.27	1.30	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.30	1.30	ND	ug/kg	U
2-Pentanone	107-87-9	1	6.50	6.50	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S5

19D0018-05 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:05

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 16:23

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*99.9*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*102*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*99.8*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S6

19D0018-06 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:20

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 16:45

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-06 B

Preparation Batch: BHD0099 — Sample Size: 5.16 g (wet) — Dry Weight:4.38 g

Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 84.80

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.30	1.14	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.27	1.14	ND	ug/kg	U
Bromomethane	74-83-9	1	0.21	1.14	ND	ug/kg	U
Chloroethane	75-00-3	1	0.53	1.14	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.30	1.14	ND	ug/kg	U
Acrolein	107-02-8	1	4.35	5.71	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.33	2.29	ND	ug/kg	U
Acetone	67-64-1	1	0.55	5.71	**315**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.38	1.14	ND	ug/kg	U
Bromoethane	74-96-4	1	0.50	2.29	ND	ug/kg	U
Iodomethane	74-88-4	1	0.25	1.14	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.73	2.29	**1.88**	ug/kg	J
Acrylonitrile	107-13-1	1	1.18	5.71	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.64	1.14	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.30	1.14	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.44	5.71	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.23	1.14	ND	ug/kg	U
2-Butanone	78-93-3	1	0.59	5.71	**19.8**	ug/kg	
2,2-Dichloropropane	594-20-7	1	0.33	1.14	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.27	1.14	ND	ug/kg	U
Chloroform	67-66-3	1	0.27	1.14	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.37	1.14	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.26	1.14	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.36	1.14	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.24	1.14	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.22	1.14	ND	ug/kg	U
Benzene	71-43-2	1	0.34	1.14	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.24	1.14	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.19	1.14	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.29	1.14	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.17	1.14	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.32	5.71	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.48	5.71	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.26	1.14	ND	ug/kg	U
Toluene	108-88-3	1	0.17	1.14	**0.58**	ug/kg	J
trans-1,3-Dichloropropene	10061-02-6	1	0.25	1.14	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S6

19D0018-06 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:20

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 16:45

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.50	5.71	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.33	1.14	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.24	1.14	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.29	1.14	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.30	1.14	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.20	1.14	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.25	1.14	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.23	1.14	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.27	1.14	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.45	2.29	ND	ug/kg	U
o-Xylene	95-47-6	1	0.26	1.14	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.70	2.29	ND	ug/kg	U
Styrene	100-42-5	1	0.16	1.14	ND	ug/kg	U
Bromoform	75-25-2	1	0.34	1.14	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.29	1.14	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.59	2.29	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.50	5.71	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.31	1.14	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.17	1.14	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.27	1.14	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.34	1.14	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.32	1.14	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.35	1.14	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.29	1.14	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.26	1.14	**0.34**	ug/kg	J
s-Butylbenzene	135-98-8	1	0.27	1.14	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.27	1.14	**0.31**	ug/kg	J
1,3-Dichlorobenzene	541-73-1	1	0.26	1.14	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.27	1.14	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.30	1.14	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.33	1.14	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.67	5.71	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.38	5.71	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.47	5.71	ND	ug/kg	U
Naphthalene	91-20-3	1	0.49	5.71	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.35	5.71	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.24	1.14	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.26	1.14	ND	ug/kg	U
2-Pentanone	107-87-9	1	5.71	5.71	**6.16**	ug/kg	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S6

19D0018-06 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:20

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 16:45

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*101*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*99.9*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*96.5*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*94.7*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S7

19D0018-07 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:25

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 17:07

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-07 B

Preparation Batch: BHD0099 — Sample Size: 5.07 g (wet) — Dry Weight:4.35 g

Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 85.87

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.30	1.15	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.27	1.15	ND	ug/kg	U
Bromomethane	74-83-9	1	0.21	1.15	ND	ug/kg	U
Chloroethane	75-00-3	1	0.53	1.15	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.31	1.15	ND	ug/kg	U
Acrolein	107-02-8	1	4.38	5.74	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.33	2.30	ND	ug/kg	U
Acetone	67-64-1	1	0.55	5.74	**84.3**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.39	1.15	ND	ug/kg	U
Bromoethane	74-96-4	1	0.51	2.30	ND	ug/kg	U
Iodomethane	74-88-4	1	0.25	1.15	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.73	2.30	**1.75**	ug/kg	J
Acrylonitrile	107-13-1	1	1.18	5.74	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.64	1.15	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.31	1.15	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.44	5.74	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.23	1.15	ND	ug/kg	U
2-Butanone	78-93-3	1	0.59	5.74	**5.02**	ug/kg	J
2,2-Dichloropropane	594-20-7	1	0.34	1.15	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.28	1.15	ND	ug/kg	U
Chloroform	67-66-3	1	0.27	1.15	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.37	1.15	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.26	1.15	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.36	1.15	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.24	1.15	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.22	1.15	ND	ug/kg	U
Benzene	71-43-2	1	0.34	1.15	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.24	1.15	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.19	1.15	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.29	1.15	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.17	1.15	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.32	5.74	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.48	5.74	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.26	1.15	ND	ug/kg	U
Toluene	108-88-3	1	0.17	1.15	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.25	1.15	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S7

19D0018-07 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:25

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 17:07

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.50	5.74	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.33	1.15	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.24	1.15	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.30	1.15	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.31	1.15	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.20	1.15	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.25	1.15	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.23	1.15	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.27	1.15	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.45	2.30	ND	ug/kg	U
o-Xylene	95-47-6	1	0.26	1.15	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.71	2.30	ND	ug/kg	U
Styrene	100-42-5	1	0.16	1.15	ND	ug/kg	U
Bromoform	75-25-2	1	0.34	1.15	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.29	1.15	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.59	2.30	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.50	5.74	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.31	1.15	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.18	1.15	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.27	1.15	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.34	1.15	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.32	1.15	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.35	1.15	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.29	1.15	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.26	1.15	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.28	1.15	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.27	1.15	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.26	1.15	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.27	1.15	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.30	1.15	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.34	1.15	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.67	5.74	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.38	5.74	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.47	5.74	ND	ug/kg	U
Naphthalene	91-20-3	1	0.49	5.74	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.35	5.74	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.24	1.15	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.27	1.15	ND	ug/kg	U
2-Pentanone	107-87-9	1	5.74	5.74	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S7

19D0018-07 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:25

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 17:07

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*104*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*102*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*98.1*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S8

19D0018-08 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:45

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 17:29

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-08 B

Preparation Batch: BHD0099 — Sample Size: 4.89 g (wet) — Dry Weight:3.88 g

Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 79.36

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.34	1.29	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.30	1.29	ND	ug/kg	U
Bromomethane	74-83-9	1	0.24	1.29	ND	ug/kg	U
Chloroethane	75-00-3	1	0.60	1.29	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.34	1.29	ND	ug/kg	U
Acrolein	107-02-8	1	4.91	6.44	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.37	2.58	ND	ug/kg	U
Acetone	67-64-1	1	0.62	6.44	**167**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.43	1.29	ND	ug/kg	U
Bromoethane	74-96-4	1	0.57	2.58	ND	ug/kg	U
Iodomethane	74-88-4	1	0.28	1.29	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.82	2.58	**1.78**	ug/kg	J
Acrylonitrile	107-13-1	1	1.33	6.44	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.72	1.29	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.34	1.29	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.49	6.44	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.26	1.29	ND	ug/kg	U
2-Butanone	78-93-3	1	0.66	6.44	**7.86**	ug/kg	
2,2-Dichloropropane	594-20-7	1	0.38	1.29	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.31	1.29	ND	ug/kg	U
Chloroform	67-66-3	1	0.30	1.29	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.42	1.29	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.29	1.29	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.40	1.29	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.27	1.29	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.25	1.29	ND	ug/kg	U
Benzene	71-43-2	1	0.38	1.29	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.27	1.29	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.21	1.29	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.33	1.29	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.19	1.29	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.36	6.44	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.54	6.44	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.29	1.29	ND	ug/kg	U
Toluene	108-88-3	1	0.19	1.29	**0.41**	ug/kg	J
trans-1,3-Dichloropropene	10061-02-6	1	0.28	1.29	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S8

19D0018-08 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:45

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 17:29

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.57	6.44	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.37	1.29	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.27	1.29	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.33	1.29	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.34	1.29	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.23	1.29	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.28	1.29	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.26	1.29	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.30	1.29	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.51	2.58	ND	ug/kg	U
o-Xylene	95-47-6	1	0.29	1.29	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.79	2.58	ND	ug/kg	U
Styrene	100-42-5	1	0.18	1.29	ND	ug/kg	U
Bromoform	75-25-2	1	0.38	1.29	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.33	1.29	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.67	2.58	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.56	6.44	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.35	1.29	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.20	1.29	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.30	1.29	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.39	1.29	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.36	1.29	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.39	1.29	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.33	1.29	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.30	1.29	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.31	1.29	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.30	1.29	**0.34**	ug/kg	J
1,3-Dichlorobenzene	541-73-1	1	0.29	1.29	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.30	1.29	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.34	1.29	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.38	1.29	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.76	6.44	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.43	6.44	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.53	6.44	ND	ug/kg	U
Naphthalene	91-20-3	1	0.55	6.44	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.39	6.44	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.27	1.29	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.30	1.29	ND	ug/kg	U
2-Pentanone	107-87-9	1	6.44	6.44	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S8

19D0018-08 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:45

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 17:29

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*103*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*96.4*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*98.1*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S9

19D0018-09 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:55

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 17:51

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-09 B

Preparation Batch: BHD0099 — Sample Size: 4.23 g (wet) — Dry Weight:3.63 g

Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 85.88

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.36	1.38	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.32	1.38	ND	ug/kg	U
Bromomethane	74-83-9	1	0.26	1.38	ND	ug/kg	U
Chloroethane	75-00-3	1	0.64	1.38	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.37	1.38	ND	ug/kg	U
Acrolein	107-02-8	1	5.24	6.88	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.40	2.75	ND	ug/kg	U
Acetone	67-64-1	1	0.66	6.88	**216**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.46	1.38	ND	ug/kg	U
Bromoethane	74-96-4	1	0.61	2.75	ND	ug/kg	U
Iodomethane	74-88-4	1	0.30	1.38	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.87	2.75	**2.06**	ug/kg	J
Acrylonitrile	107-13-1	1	1.42	6.88	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.77	1.38	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.37	1.38	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.52	6.88	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.28	1.38	ND	ug/kg	U
2-Butanone	78-93-3	1	0.71	6.88	**11.7**	ug/kg	
2,2-Dichloropropane	594-20-7	1	0.40	1.38	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.33	1.38	ND	ug/kg	U
Chloroform	67-66-3	1	0.32	1.38	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.44	1.38	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.31	1.38	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.43	1.38	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.29	1.38	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.26	1.38	ND	ug/kg	U
Benzene	71-43-2	1	0.41	1.38	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.29	1.38	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.22	1.38	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.35	1.38	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.20	1.38	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.38	6.88	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.58	6.88	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.31	1.38	ND	ug/kg	U
Toluene	108-88-3	1	0.21	1.38	**0.58**	ug/kg	J
trans-1,3-Dichloropropene	10061-02-6	1	0.30	1.38	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S9

19D0018-09 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:55

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 17:51

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.60	6.88	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.39	1.38	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.29	1.38	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.35	1.38	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.37	1.38	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.24	1.38	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.30	1.38	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.28	1.38	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.32	1.38	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.54	2.75	ND	ug/kg	U
o-Xylene	95-47-6	1	0.31	1.38	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.85	2.75	ND	ug/kg	U
Styrene	100-42-5	1	0.19	1.38	ND	ug/kg	U
Bromoform	75-25-2	1	0.41	1.38	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.35	1.38	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.71	2.75	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.60	6.88	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.37	1.38	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.21	1.38	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.32	1.38	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.41	1.38	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.38	1.38	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.42	1.38	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.35	1.38	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.32	1.38	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.33	1.38	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.32	1.38	**1.79**	ug/kg	
1,3-Dichlorobenzene	541-73-1	1	0.31	1.38	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.32	1.38	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.36	1.38	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.40	1.38	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.81	6.88	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.46	6.88	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.56	6.88	ND	ug/kg	U
Naphthalene	91-20-3	1	0.59	6.88	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.42	6.88	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.28	1.38	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.32	1.38	ND	ug/kg	U
2-Pentanone	107-87-9	1	6.88	6.88	ND	ug/kg	U

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S9

19D0018-09 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 11:55

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 17:51

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*105*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*102*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*97.6*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S10

19D0018-10 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 12:05
Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 18:14

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-10 B
Preparation Batch: BHD0099 — Sample Size: 5.04 g (wet) — Dry Weight:4.25 g
Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 84.23

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.31	1.18	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.28	1.18	ND	ug/kg	U
Bromomethane	74-83-9	1	0.22	1.18	ND	ug/kg	U
Chloroethane	75-00-3	1	0.54	1.18	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.31	1.18	ND	ug/kg	U
Acrolein	107-02-8	1	4.49	5.89	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.34	2.36	ND	ug/kg	U
Acetone	67-64-1	1	0.57	5.89	**161**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.40	1.18	ND	ug/kg	U
Bromoethane	74-96-4	1	0.52	2.36	ND	ug/kg	U
Iodomethane	74-88-4	1	0.25	1.18	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.75	2.36	**2.61**	ug/kg	
Acrylonitrile	107-13-1	1	1.21	5.89	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.66	1.18	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.31	1.18	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.45	5.89	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.24	1.18	ND	ug/kg	U
2-Butanone	78-93-3	1	0.60	5.89	**7.13**	ug/kg	
2,2-Dichloropropane	594-20-7	1	0.34	1.18	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.28	1.18	ND	ug/kg	U
Chloroform	67-66-3	1	0.28	1.18	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.38	1.18	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.27	1.18	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.37	1.18	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.25	1.18	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.22	1.18	ND	ug/kg	U
Benzene	71-43-2	1	0.35	1.18	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.25	1.18	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.19	1.18	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.30	1.18	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.17	1.18	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.33	5.89	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.49	5.89	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.27	1.18	ND	ug/kg	U
Toluene	108-88-3	1	0.18	1.18	**0.44**	ug/kg	J
trans-1,3-Dichloropropene	10061-02-6	1	0.25	1.18	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S10

19D0018-10 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 12:05

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 18:14

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.52	5.89	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.34	1.18	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.25	1.18	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.30	1.18	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.31	1.18	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.21	1.18	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.26	1.18	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.24	1.18	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.27	1.18	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.46	2.36	ND	ug/kg	U
o-Xylene	95-47-6	1	0.26	1.18	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.73	2.36	ND	ug/kg	U
Styrene	100-42-5	1	0.16	1.18	ND	ug/kg	U
Bromoform	75-25-2	1	0.35	1.18	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.30	1.18	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.61	2.36	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.51	5.89	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.32	1.18	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.18	1.18	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.27	1.18	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.35	1.18	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.33	1.18	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.36	1.18	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.30	1.18	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.27	1.18	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.28	1.18	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.28	1.18	**0.77**	ug/kg	J
1,3-Dichlorobenzene	541-73-1	1	0.27	1.18	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.27	1.18	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.31	1.18	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.35	1.18	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.69	5.89	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.39	5.89	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.48	5.89	ND	ug/kg	U
Naphthalene	91-20-3	1	0.51	5.89	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.36	5.89	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.24	1.18	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.27	1.18	ND	ug/kg	U
2-Pentanone	107-87-9	1	5.89	5.89	ND	ug/kg	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S10

19D0018-10 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 12:05

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 18:14

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*105*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*102*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*99.5*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S11

19D0018-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:15
Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 18:36

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19D0018-11 B
Preparation Batch: BHD0099 — Sample Size: 5.1 g (wet) — Dry Weight:4.40 g
Prepared: 03-Apr-2019 — Final Volume: 5 mL — % Solids: 86.27

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.30	1.14	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.27	1.14	ND	ug/kg	U
Bromomethane	74-83-9	1	0.21	1.14	ND	ug/kg	U
Chloroethane	75-00-3	1	0.53	1.14	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.30	1.14	ND	ug/kg	U
Acrolein	107-02-8	1	4.33	5.68	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.33	2.27	ND	ug/kg	U
Acetone	67-64-1	1	0.55	5.68	**150**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.38	1.14	ND	ug/kg	U
Bromoethane	74-96-4	1	0.50	2.27	ND	ug/kg	U
Iodomethane	74-88-4	1	0.24	1.14	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.72	2.27	**1.63**	ug/kg	J
Acrylonitrile	107-13-1	1	1.17	5.68	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.64	1.14	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.30	1.14	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.43	5.68	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.23	1.14	ND	ug/kg	U
2-Butanone	78-93-3	1	0.58	5.68	**13.2**	ug/kg	
2,2-Dichloropropane	594-20-7	1	0.33	1.14	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.27	1.14	ND	ug/kg	U
Chloroform	67-66-3	1	0.27	1.14	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.37	1.14	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.26	1.14	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.35	1.14	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.24	1.14	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.22	1.14	ND	ug/kg	U
Benzene	71-43-2	1	0.34	1.14	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.24	1.14	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.18	1.14	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.29	1.14	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.17	1.14	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.31	5.68	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.48	5.68	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.26	1.14	ND	ug/kg	U
Toluene	108-88-3	1	0.17	1.14	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.25	1.14	ND	ug/kg	U

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S11

19D0018-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:15

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 18:36

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.50	5.68	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.33	1.14	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.24	1.14	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.29	1.14	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.30	1.14	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.20	1.14	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.25	1.14	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.23	1.14	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.26	1.14	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.45	2.27	ND	ug/kg	U
o-Xylene	95-47-6	1	0.25	1.14	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.70	2.27	ND	ug/kg	U
Styrene	100-42-5	1	0.16	1.14	ND	ug/kg	U
Bromoform	75-25-2	1	0.34	1.14	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.29	1.14	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.59	2.27	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.50	5.68	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.31	1.14	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.17	1.14	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.26	1.14	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.34	1.14	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.31	1.14	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.35	1.14	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.29	1.14	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.26	1.14	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.27	1.14	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.27	1.14	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.26	1.14	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.26	1.14	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.30	1.14	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.33	1.14	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.67	5.68	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.38	5.68	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.47	5.68	ND	ug/kg	U
Naphthalene	91-20-3	1	0.49	5.68	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.35	5.68	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.24	1.14	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.26	1.14	ND	ug/kg	U
2-Pentanone	107-87-9	1	5.68	5.68	ND	ug/kg	U

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

S11

19D0018-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:15

Instrument: NT5 Analyst: PB — Analyzed: 04/03/2019 18:36

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*106*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*102*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*101*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Trip Blanks

19D0018-12 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:10
Instrument: NT3 Analyst: PKC — Analyzed: 04/02/2019 13:22

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19D0018-12 A
Preparation Batch: BHD0059 — Sample Size: 10 mL
Prepared: 02-Apr-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.09	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.06	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.25	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.09	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.04	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.48	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.04	0.20	ND	ug/L	U
Acetone	67-64-1	1	2.06	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.05	0.20	ND	ug/L	U
Bromoethane	74-96-4	1	0.04	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.23	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.49	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.60	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.04	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.05	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.07	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.05	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	0.81	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.05	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.04	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.03	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.06	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.04	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.03	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.04	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.07	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.05	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.04	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.05	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.15	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	0.97	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.06	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.08	0.20	ND	ug/L	U

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Trip Blanks

19D0018-12 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:10

Instrument: NT3 Analyst: PKC — Analyzed: 04/02/2019 13:22

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.90	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.13	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.06	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.05	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.05	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.07	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.02	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.05	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.06	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.06	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.13	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.32	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.02	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.06	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.02	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.02	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.02	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.03	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.02	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.02	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.02	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.03	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.04	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.04	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.02	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.04	0.20	ND	ug/L	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.37	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.11	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.07	0.50	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.11	0.50	ND	ug/L	U
Dichlorodifluoromethane	75-71-8	1	0.05	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.07	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	5.00	5.00	ND	ug/L	U

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Trip Blanks

19D0018-12 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/29/2019 10:10
Instrument: NT3 Analyst: PKC — Analyzed: 04/02/2019 13:22

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-129 %*	*95.5*	*%*	
Surrogate: Toluene-d8		*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*95.7*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*102*	*%*	

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0059 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHD0059-BLK1)				Prepared: 02-Apr-2019 Analyzed: 02-Apr-2019 12:30							
Chloromethane	ND	0.09	0.50	ug/L							U
Vinyl Chloride	ND	0.06	0.20	ug/L							U
Bromomethane	ND	0.25	1.00	ug/L							U
Chloroethane	ND	0.09	0.20	ug/L							U
Trichlorofluoromethane	ND	0.04	0.20	ug/L							U
Acrolein	ND	2.48	5.00	ug/L							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.04	0.20	ug/L							U
Acetone	ND	2.06	5.00	ug/L							U
1,1-Dichloroethene	ND	0.05	0.20	ug/L							U
Bromoethane	ND	0.04	0.20	ug/L							U
Iodomethane	ND	0.23	1.00	ug/L							U
Methylene Chloride	ND	0.49	1.00	ug/L							U
Acrylonitrile	ND	0.60	1.00	ug/L							U
Carbon Disulfide	ND	0.04	0.20	ug/L							U
trans-1,2-Dichloroethene	ND	0.05	0.20	ug/L							U
Vinyl Acetate	ND	0.07	0.20	ug/L							U
1,1-Dichloroethane	ND	0.05	0.20	ug/L							U
2-Butanone	ND	0.81	5.00	ug/L							U
2,2-Dichloropropane	ND	0.05	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.04	0.20	ug/L							U
Chloroform	ND	0.03	0.20	ug/L							U
Bromochloromethane	ND	0.06	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.04	0.20	ug/L							U
1,1-Dichloropropene	ND	0.03	0.20	ug/L							U
Carbon tetrachloride	ND	0.04	0.20	ug/L							U
1,2-Dichloroethane	ND	0.07	0.20	ug/L							U
Benzene	ND	0.03	0.20	ug/L							U
Trichloroethene	ND	0.05	0.20	ug/L							U
1,2-Dichloropropane	ND	0.04	0.20	ug/L							U
Bromodichloromethane	ND	0.05	0.20	ug/L							U
Dibromomethane	ND	0.15	0.20	ug/L							U
2-Chloroethyl vinyl ether	ND	0.25	1.00	ug/L							U
4-Methyl-2-Pentanone	ND	0.97	5.00	ug/L							U
cis-1,3-Dichloropropene	ND	0.06	0.20	ug/L							U
Toluene	ND	0.04	0.20	ug/L							U

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0059 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHD0059-BLK1)				Prepared: 02-Apr-2019 Analyzed: 02-Apr-2019 12:30							
trans-1,3-Dichloropropene	ND	0.08	0.20	ug/L							U
2-Hexanone	ND	0.90	5.00	ug/L							U
1,1,2-Trichloroethane	ND	0.13	0.20	ug/L							U
1,3-Dichloropropane	ND	0.06	0.20	ug/L							U
Tetrachloroethene	ND	0.05	0.20	ug/L							U
Dibromochloromethane	ND	0.05	0.20	ug/L							U
1,2-Dibromoethane	ND	0.07	0.20	ug/L							U
Chlorobenzene	ND	0.02	0.20	ug/L							U
Ethylbenzene	ND	0.04	0.20	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.04	0.20	ug/L							U
m,p-Xylene	ND	0.05	0.40	ug/L							U
o-Xylene	ND	0.03	0.20	ug/L							U
Xylenes, total	ND	0.09	0.60	ug/L							U
Styrene	ND	0.05	0.20	ug/L							U
Bromoform	ND	0.06	0.20	ug/L							U
1,1,2,2-Tetrachloroethane	ND	0.06	0.20	ug/L							U
1,2,3-Trichloropropane	ND	0.13	0.50	ug/L							U
trans-1,4-Dichloro 2-Butene	ND	0.32	1.00	ug/L							U
n-Propylbenzene	ND	0.02	0.20	ug/L							U
Bromobenzene	ND	0.06	0.20	ug/L							U
Isopropyl Benzene	ND	0.02	0.20	ug/L							U
2-Chlorotoluene	ND	0.02	0.20	ug/L							U
4-Chlorotoluene	ND	0.02	0.20	ug/L							U
t-Butylbenzene	ND	0.03	0.20	ug/L							U
1,3,5-Trimethylbenzene	ND	0.02	0.20	ug/L							U
1,2,4-Trimethylbenzene	ND	0.02	0.20	ug/L							U
s-Butylbenzene	ND	0.02	0.20	ug/L							U
4-Isopropyl Toluene	ND	0.03	0.20	ug/L							U
1,3-Dichlorobenzene	ND	0.04	0.20	ug/L							U
1,4-Dichlorobenzene	ND	0.04	0.20	ug/L							U
n-Butylbenzene	0.03	0.02	0.20	ug/L							J
1,2-Dichlorobenzene	ND	0.04	0.20	ug/L							U
1,2-Dibromo-3-chloropropane	ND	0.37	0.50	ug/L							U
1,2,4-Trichlorobenzene	0.13	0.11	0.50	ug/L							J
Hexachloro-1,3-Butadiene	0.14	0.07	0.50	ug/L							J

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0059 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHD0059-BLK1)				Prepared: 02-Apr-2019 Analyzed: 02-Apr-2019 12:30							
Naphthalene	0.46	0.12	0.50	ug/L							J
1,2,3-Trichlorobenzene	0.50	0.11	0.50	ug/L							J
Dichlorodifluoromethane	ND	0.05	0.20	ug/L							U
Methyl tert-butyl Ether	ND	0.07	0.50	ug/L							U
2-Pentanone	ND	5.00	5.00	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	4.97			ug/L	*5.00*		*99.3*	*80-129*			
Surrogate: Toluene-d8	4.94			ug/L	*5.00*		*98.9*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.03			ug/L	*5.00*		*101*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.97			ug/L	*5.00*		*99.4*	*80-120*			
LCS (BHD0059-BS1)				Prepared: 02-Apr-2019 Analyzed: 02-Apr-2019 09:27							
Chloromethane	10.9	0.09	0.50	ug/L	10.0		109	60-138			
Vinyl Chloride	10.6	0.06	0.20	ug/L	10.0		106	66-133			
Bromomethane	10.5	0.25	1.00	ug/L	10.0		105	72-131			
Chloroethane	9.78	0.09	0.20	ug/L	10.0		97.8	60-155			
Trichlorofluoromethane	10.3	0.04	0.20	ug/L	10.0		103	80-129			
Acrolein	51.7	2.48	5.00	ug/L	50.0		103	52-144			
1,1,2-Trichloro-1,2,2-Trifluoroethane	10.7	0.04	0.20	ug/L	10.0		107	76-129			
Acetone	48.2	2.06	5.00	ug/L	50.0		96.4	58-142			
1,1-Dichloroethene	10.3	0.05	0.20	ug/L	10.0		103	69-135			
Bromoethane	10.1	0.04	0.20	ug/L	10.0		101	78-128			
Iodomethane	10.3	0.23	1.00	ug/L	10.0		103	56-147			
Methylene Chloride	10.4	0.49	1.00	ug/L	10.0		104	65-135			
Acrylonitrile	10.4	0.60	1.00	ug/L	10.0		104	64-134			
Carbon Disulfide	10.6	0.04	0.20	ug/L	10.0		106	78-125			
trans-1,2-Dichloroethene	10.5	0.05	0.20	ug/L	10.0		105	78-128			
Vinyl Acetate	10.3	0.07	0.20	ug/L	10.0		103	55-138			
1,1-Dichloroethane	10.5	0.05	0.20	ug/L	10.0		105	76-124			
2-Butanone	57.0	0.81	5.00	ug/L	50.0		114	61-140			
2,2-Dichloropropane	9.54	0.05	0.20	ug/L	10.0		95.4	78-125			
cis-1,2-Dichloroethene	10.3	0.04	0.20	ug/L	10.0		103	80-121			
Chloroform	9.82	0.03	0.20	ug/L	10.0		98.2	80-122			
Bromochloromethane	10.2	0.06	0.20	ug/L	10.0		102	80-121			
1,1,1-Trichloroethane	10.5	0.04	0.20	ug/L	10.0		105	79-123			
1,1-Dichloropropene	9.88	0.03	0.20	ug/L	10.0		98.8	80-120			

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0059 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHD0059-BS1)				Prepared: 02-Apr-2019 Analyzed: 02-Apr-2019 09:27							
Carbon tetrachloride	9.93	0.04	0.20	ug/L	10.0		99.3	53-137			
1,2-Dichloroethane	9.67	0.07	0.20	ug/L	10.0		96.7	75-123			
Benzene	10.2	0.03	0.20	ug/L	10.0		102	80-120			
Trichloroethene	10.5	0.05	0.20	ug/L	10.0		105	80-120			
1,2-Dichloropropane	9.97	0.04	0.20	ug/L	10.0		99.7	80-120			
Bromodichloromethane	9.39	0.05	0.20	ug/L	10.0		93.9	80-121			
Dibromomethane	9.81	0.15	0.20	ug/L	10.0		98.1	80-120			
2-Chloroethyl vinyl ether	9.49	0.25	1.00	ug/L	10.0		94.9	74-127			
4-Methyl-2-Pentanone	55.0	0.97	5.00	ug/L	50.0		110	67-133			
cis-1,3-Dichloropropene	9.81	0.06	0.20	ug/L	10.0		98.1	80-124			
Toluene	10.0	0.04	0.20	ug/L	10.0		100	80-120			
trans-1,3-Dichloropropene	9.64	0.08	0.20	ug/L	10.0		96.4	71-127			
2-Hexanone	50.2	0.90	5.00	ug/L	50.0		100	69-133			
1,1,2-Trichloroethane	9.73	0.13	0.20	ug/L	10.0		97.3	80-121			
1,3-Dichloropropane	9.61	0.06	0.20	ug/L	10.0		96.1	80-120			
Tetrachloroethene	10.3	0.05	0.20	ug/L	10.0		103	80-120			
Dibromochloromethane	9.34	0.05	0.20	ug/L	10.0		93.4	65-135			
1,2-Dibromoethane	9.65	0.07	0.20	ug/L	10.0		96.5	80-121			
Chlorobenzene	9.68	0.02	0.20	ug/L	10.0		96.8	80-120			
Ethylbenzene	9.91	0.04	0.20	ug/L	10.0		99.1	80-120			
1,1,1,2-Tetrachloroethane	9.54	0.04	0.20	ug/L	10.0		95.4	80-120			
m,p-Xylene	19.6	0.05	0.40	ug/L	20.0		97.9	80-121			
o-Xylene	9.57	0.03	0.20	ug/L	10.0		95.7	80-121			
Xylenes, total	29.1	0.09	0.60	ug/L	30.0		97.1	76-127			
Styrene	9.50	0.05	0.20	ug/L	10.0		95.0	80-124			
Bromoform	9.13	0.06	0.20	ug/L	10.0		91.3	51-134			
1,1,2,2-Tetrachloroethane	8.29	0.06	0.20	ug/L	10.0		82.9	77-123			
1,2,3-Trichloropropane	8.55	0.13	0.50	ug/L	10.0		85.5	76-125			
trans-1,4-Dichloro 2-Butene	8.71	0.32	1.00	ug/L	10.0		87.1	55-129			
n-Propylbenzene	9.85	0.02	0.20	ug/L	10.0		98.5	78-130			
Bromobenzene	9.47	0.06	0.20	ug/L	10.0		94.7	80-120			
Isopropyl Benzene	9.58	0.02	0.20	ug/L	10.0		95.8	80-128			
2-Chlorotoluene	9.44	0.02	0.20	ug/L	10.0		94.4	78-122			
4-Chlorotoluene	9.41	0.02	0.20	ug/L	10.0		94.1	80-121			
t-Butylbenzene	9.73	0.03	0.20	ug/L	10.0		97.3	78-125			

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0059 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHD0059-BS1)					Prepared: 02-Apr-2019 Analyzed: 02-Apr-2019 09:27						
1,3,5-Trimethylbenzene	9.73	0.02	0.20	ug/L	10.0		97.3	80-129			
1,2,4-Trimethylbenzene	9.58	0.02	0.20	ug/L	10.0		95.8	80-127			
s-Butylbenzene	10.2	0.02	0.20	ug/L	10.0		102	78-129			
4-Isopropyl Toluene	10.1	0.03	0.20	ug/L	10.0		101	79-130			
1,3-Dichlorobenzene	9.86	0.04	0.20	ug/L	10.0		98.6	80-120			
1,4-Dichlorobenzene	9.52	0.04	0.20	ug/L	10.0		95.2	80-120			
n-Butylbenzene	10.5	0.02	0.20	ug/L	10.0		105	74-129			
1,2-Dichlorobenzene	9.44	0.04	0.20	ug/L	10.0		94.4	80-120			
1,2-Dibromo-3-chloropropane	6.25	0.37	0.50	ug/L	10.0		62.5	62-123			Q
1,2,4-Trichlorobenzene	8.28	0.11	0.50	ug/L	10.0		82.8	64-124			
Hexachloro-1,3-Butadiene	11.5	0.07	0.50	ug/L	10.0		115	58-123			
Naphthalene	8.86	0.12	0.50	ug/L	10.0		88.6	50-134			
1,2,3-Trichlorobenzene	6.30	0.11	0.50	ug/L	10.0		63.0	49-133			Q
Dichlorodifluoromethane	12.6	0.05	0.20	ug/L	10.0		126	48-147			Q
Methyl tert-butyl Ether	10.6	0.07	0.50	ug/L	10.0		106	71-132			
2-Pentanone	46.8	5.00	5.00	ug/L	50.0		93.7	69-134			
Surrogate: 1,2-Dichloroethane-d4	4.73			ug/L	*5.00*		*94.5*	*80-129*			
Surrogate: Toluene-d8	5.00			ug/L	*5.00*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.05			ug/L	*5.00*		*101*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.90			ug/L	*5.00*		*98.1*	*80-120*			
LCS Dup (BHD0059-BSD1)					Prepared: 02-Apr-2019 Analyzed: 02-Apr-2019 11:38						
Chloromethane	10.8	0.09	0.50	ug/L	10.0		108	60-138	0.36	30	
Vinyl Chloride	10.7	0.06	0.20	ug/L	10.0		107	66-133	1.42	30	
Bromomethane	10.8	0.25	1.00	ug/L	10.0		108	72-131	2.72	30	
Chloroethane	10.2	0.09	0.20	ug/L	10.0		102	60-155	3.76	30	
Trichlorofluoromethane	10.8	0.04	0.20	ug/L	10.0		108	80-129	4.47	30	
Acrolein	55.1	2.48	5.00	ug/L	50.0		110	52-144	6.32	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	11.3	0.04	0.20	ug/L	10.0		113	76-129	5.51	30	
Acetone	56.6	2.06	5.00	ug/L	50.0		113	58-142	15.90	30	
1,1-Dichloroethene	10.7	0.05	0.20	ug/L	10.0		107	69-135	3.96	30	
Bromoethane	10.4	0.04	0.20	ug/L	10.0		104	78-128	2.39	30	
Iodomethane	10.4	0.23	1.00	ug/L	10.0		104	56-147	0.92	30	
Methylene Chloride	10.7	0.49	1.00	ug/L	10.0		107	65-135	2.63	30	
Acrylonitrile	11.8	0.60	1.00	ug/L	10.0		118	64-134	13.20	30	

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0059 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHD0059-BSD1)					Prepared: 02-Apr-2019 Analyzed: 02-Apr-2019 11:38						
Carbon Disulfide	10.9	0.04	0.20	ug/L	10.0		109	78-125	2.93	30	
trans-1,2-Dichloroethene	10.9	0.05	0.20	ug/L	10.0		109	78-128	3.77	30	
Vinyl Acetate	11.3	0.07	0.20	ug/L	10.0		113	55-138	9.52	30	
1,1-Dichloroethane	10.9	0.05	0.20	ug/L	10.0		109	76-124	3.38	30	
2-Butanone	63.1	0.81	5.00	ug/L	50.0		126	61-140	10.10	30	
2,2-Dichloropropane	10.2	0.05	0.20	ug/L	10.0		102	78-125	6.34	30	
cis-1,2-Dichloroethene	10.6	0.04	0.20	ug/L	10.0		106	80-121	2.66	30	
Chloroform	10.1	0.03	0.20	ug/L	10.0		101	80-122	2.59	30	
Bromochloromethane	10.9	0.06	0.20	ug/L	10.0		109	80-121	5.93	30	
1,1,1-Trichloroethane	11.0	0.04	0.20	ug/L	10.0		110	79-123	4.37	30	
1,1-Dichloropropene	10.2	0.03	0.20	ug/L	10.0		102	80-120	3.44	30	
Carbon tetrachloride	10.3	0.04	0.20	ug/L	10.0		103	53-137	3.94	30	
1,2-Dichloroethane	10.2	0.07	0.20	ug/L	10.0		102	75-123	5.42	30	
Benzene	10.6	0.03	0.20	ug/L	10.0		106	80-120	3.87	30	
Trichloroethene	10.9	0.05	0.20	ug/L	10.0		109	80-120	3.37	30	
1,2-Dichloropropane	10.7	0.04	0.20	ug/L	10.0		107	80-120	6.86	30	
Bromodichloromethane	9.91	0.05	0.20	ug/L	10.0		99.1	80-121	5.37	30	
Dibromomethane	10.5	0.15	0.20	ug/L	10.0		105	80-120	6.34	30	
2-Chloroethyl vinyl ether	10.3	0.25	1.00	ug/L	10.0		103	74-127	7.93	30	
4-Methyl-2-Pentanone	62.0	0.97	5.00	ug/L	50.0		124	67-133	12.00	30	
cis-1,3-Dichloropropene	10.5	0.06	0.20	ug/L	10.0		105	80-124	7.16	30	
Toluene	10.5	0.04	0.20	ug/L	10.0		105	80-120	4.87	30	
trans-1,3-Dichloropropene	10.7	0.08	0.20	ug/L	10.0		107	71-127	9.92	30	
2-Hexanone	56.7	0.90	5.00	ug/L	50.0		113	69-133	12.10	30	
1,1,2-Trichloroethane	10.7	0.13	0.20	ug/L	10.0		107	80-121	9.54	30	
1,3-Dichloropropane	10.1	0.06	0.20	ug/L	10.0		101	80-120	5.04	30	
Tetrachloroethene	10.5	0.05	0.20	ug/L	10.0		105	80-120	2.45	30	
Dibromochloromethane	9.95	0.05	0.20	ug/L	10.0		99.5	65-135	6.24	30	
1,2-Dibromoethane	11.0	0.07	0.20	ug/L	10.0		110	80-121	12.70	30	
Chlorobenzene	10.1	0.02	0.20	ug/L	10.0		101	80-120	4.60	30	
Ethylbenzene	10.2	0.04	0.20	ug/L	10.0		102	80-120	2.67	30	
1,1,1,2-Tetrachloroethane	9.93	0.04	0.20	ug/L	10.0		99.3	80-120	4.06	30	
m,p-Xylene	20.4	0.05	0.40	ug/L	20.0		102	80-121	4.37	30	
o-Xylene	10.0	0.03	0.20	ug/L	10.0		100	80-121	4.74	30	
Xylenes, total	30.5	0.09	0.60	ug/L	30.0		102	76-127	4.49	30	

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0059 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHD0059-BSD1)				Prepared: 02-Apr-2019 Analyzed: 02-Apr-2019 11:38							
Styrene	10.1	0.05	0.20	ug/L	10.0		101	80-124	6.47	30	
Bromoform	9.63	0.06	0.20	ug/L	10.0		96.3	51-134	5.34	30	
1,1,2,2-Tetrachloroethane	8.91	0.06	0.20	ug/L	10.0		89.1	77-123	7.16	30	
1,2,3-Trichloropropane	9.59	0.13	0.50	ug/L	10.0		95.9	76-125	11.40	30	
trans-1,4-Dichloro 2-Butene	9.10	0.32	1.00	ug/L	10.0		91.0	55-129	4.37	30	
n-Propylbenzene	10.2	0.02	0.20	ug/L	10.0		102	78-130	3.40	30	
Bromobenzene	10.1	0.06	0.20	ug/L	10.0		101	80-120	6.05	30	
Isopropyl Benzene	9.92	0.02	0.20	ug/L	10.0		99.2	80-128	3.46	30	
2-Chlorotoluene	9.73	0.02	0.20	ug/L	10.0		97.3	78-122	3.08	30	
4-Chlorotoluene	9.72	0.02	0.20	ug/L	10.0		97.2	80-121	3.24	30	
t-Butylbenzene	9.98	0.03	0.20	ug/L	10.0		99.8	78-125	2.55	30	
1,3,5-Trimethylbenzene	9.93	0.02	0.20	ug/L	10.0		99.3	80-129	2.07	30	
1,2,4-Trimethylbenzene	9.95	0.02	0.20	ug/L	10.0		99.5	80-127	3.79	30	
s-Butylbenzene	10.4	0.02	0.20	ug/L	10.0		104	78-129	1.99	30	
4-Isopropyl Toluene	10.4	0.03	0.20	ug/L	10.0		104	79-130	2.94	30	
1,3-Dichlorobenzene	10.2	0.04	0.20	ug/L	10.0		102	80-120	3.37	30	
1,4-Dichlorobenzene	10.2	0.04	0.20	ug/L	10.0		102	80-120	6.44	30	
n-Butylbenzene	10.8	0.02	0.20	ug/L	10.0		108	74-129	3.21	30	
1,2-Dichlorobenzene	9.99	0.04	0.20	ug/L	10.0		99.9	80-120	5.65	30	
1,2-Dibromo-3-chloropropane	7.09	0.37	0.50	ug/L	10.0		70.9	62-123	12.50	30	Q
1,2,4-Trichlorobenzene	8.92	0.11	0.50	ug/L	10.0		89.2	64-124	7.43	30	
Hexachloro-1,3-Butadiene	12.0	0.07	0.50	ug/L	10.0		120	58-123	4.29	30	
Naphthalene	6.64	0.12	0.50	ug/L	10.0		66.4	50-134	28.70	30	
1,2,3-Trichlorobenzene	6.93	0.11	0.50	ug/L	10.0		69.3	49-133	9.51	30	Q
Dichlorodifluoromethane	12.4	0.05	0.20	ug/L	10.0		124	48-147	1.32	30	Q
Methyl tert-butyl Ether	11.7	0.07	0.50	ug/L	10.0		117	71-132	9.66	30	
2-Pentanone	53.9	5.00	5.00	ug/L	50.0		108	69-134	14.10	30	
Surrogate: 1,2-Dichloroethane-d4	4.96			ug/L	*5.00*		*99.2*	*80-129*			
Surrogate: Toluene-d8	5.03			ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.14			ug/L	*5.00*		*103*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.88			ug/L	*5.00*		*97.6*	*80-120*			

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0099 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHD0099-BLK1)				Prepared: 03-Apr-2019 Analyzed: 03-Apr-2019 11:03							
Chloromethane	ND	0.26	1.00	ug/kg							U
Vinyl Chloride	ND	0.24	1.00	ug/kg							U
Bromomethane	ND	0.19	1.00	ug/kg							U
Chloroethane	ND	0.46	1.00	ug/kg							U
Trichlorofluoromethane	ND	0.27	1.00	ug/kg							U
Acrolein	ND	3.81	5.00	ug/kg							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.29	2.00	ug/kg							U
Acetone	ND	0.48	5.00	ug/kg							U
1,1-Dichloroethene	ND	0.34	1.00	ug/kg							U
Bromoethane	ND	0.44	2.00	ug/kg							U
Iodomethane	ND	0.22	1.00	ug/kg							U
Methylene Chloride	1.11	0.64	2.00	ug/kg							J
Acrylonitrile	ND	1.03	5.00	ug/kg							U
Carbon Disulfide	ND	0.56	1.00	ug/kg							U
trans-1,2-Dichloroethene	ND	0.27	1.00	ug/kg							U
Vinyl Acetate	ND	0.38	5.00	ug/kg							U
1,1-Dichloroethane	ND	0.20	1.00	ug/kg							U
2-Butanone	ND	0.51	5.00	ug/kg							U
2,2-Dichloropropane	ND	0.29	1.00	ug/kg							U
cis-1,2-Dichloroethene	ND	0.24	1.00	ug/kg							U
Chloroform	ND	0.23	1.00	ug/kg							U
Bromochloromethane	ND	0.32	1.00	ug/kg							U
1,1,1-Trichloroethane	ND	0.23	1.00	ug/kg							U
1,1-Dichloropropene	ND	0.31	1.00	ug/kg							U
Carbon tetrachloride	ND	0.21	1.00	ug/kg							U
1,2-Dichloroethane	ND	0.19	1.00	ug/kg							U
Benzene	ND	0.30	1.00	ug/kg							U
Trichloroethene	ND	0.21	1.00	ug/kg							U
1,2-Dichloropropane	ND	0.16	1.00	ug/kg							U
Bromodichloromethane	ND	0.25	1.00	ug/kg							U
Dibromomethane	ND	0.15	1.00	ug/kg							U
2-Chloroethyl vinyl ether	ND	0.28	5.00	ug/kg							U
4-Methyl-2-Pentanone	ND	0.42	5.00	ug/kg							U
cis-1,3-Dichloropropene	ND	0.23	1.00	ug/kg							U
Toluene	ND	0.15	1.00	ug/kg							U

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0099 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHD0099-BLK1)				Prepared: 03-Apr-2019 Analyzed: 03-Apr-2019 11:03							
trans-1,3-Dichloropropene	ND	0.22	1.00	ug/kg							U
2-Hexanone	ND	0.44	5.00	ug/kg							U
1,1,2-Trichloroethane	ND	0.29	1.00	ug/kg							U
1,3-Dichloropropane	ND	0.21	1.00	ug/kg							U
Tetrachloroethene	ND	0.26	1.00	ug/kg							U
Dibromochloromethane	ND	0.27	1.00	ug/kg							U
1,2-Dibromoethane	ND	0.18	1.00	ug/kg							U
Chlorobenzene	ND	0.22	1.00	ug/kg							U
Ethylbenzene	ND	0.20	1.00	ug/kg							U
1,1,1,2-Tetrachloroethane	ND	0.23	1.00	ug/kg							U
m,p-Xylene	ND	0.39	2.00	ug/kg							U
o-Xylene	ND	0.22	1.00	ug/kg							U
Xylenes, total	ND	0.62	2.00	ug/kg							U
Styrene	ND	0.14	1.00	ug/kg							U
Bromoform	ND	0.30	1.00	ug/kg							U
1,1,2,2-Tetrachloroethane	ND	0.25	1.00	ug/kg							U
1,2,3-Trichloropropane	ND	0.52	2.00	ug/kg							U
trans-1,4-Dichloro 2-Butene	ND	0.44	5.00	ug/kg							U
n-Propylbenzene	ND	0.27	1.00	ug/kg							U
Bromobenzene	ND	0.15	1.00	ug/kg							U
Isopropyl Benzene	ND	0.23	1.00	ug/kg							U
2-Chlorotoluene	ND	0.30	1.00	ug/kg							U
4-Chlorotoluene	ND	0.28	1.00	ug/kg							U
t-Butylbenzene	ND	0.31	1.00	ug/kg							U
1,3,5-Trimethylbenzene	ND	0.25	1.00	ug/kg							U
1,2,4-Trimethylbenzene	ND	0.23	1.00	ug/kg							U
s-Butylbenzene	ND	0.24	1.00	ug/kg							U
4-Isopropyl Toluene	ND	0.24	1.00	ug/kg							U
1,3-Dichlorobenzene	ND	0.23	1.00	ug/kg							U
1,4-Dichlorobenzene	ND	0.23	1.00	ug/kg							U
n-Butylbenzene	ND	0.26	1.00	ug/kg							U
1,2-Dichlorobenzene	ND	0.29	1.00	ug/kg							U
1,2-Dibromo-3-chloropropane	ND	0.59	5.00	ug/kg							U
1,2,4-Trichlorobenzene	0.80	0.33	5.00	ug/kg							J
Hexachloro-1,3-Butadiene	0.52	0.41	5.00	ug/kg							J

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0099 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHD0099-BLK1)				Prepared: 03-Apr-2019 Analyzed: 03-Apr-2019 11:03							
Naphthalene	1.07	0.43	5.00	ug/kg							J
1,2,3-Trichlorobenzene	1.12	0.31	5.00	ug/kg							J
Dichlorodifluoromethane	ND	0.21	1.00	ug/kg							U
Methyl tert-butyl Ether	ND	0.23	1.00	ug/kg							U
2-Pentanone	ND	5.00	5.00	ug/kg							U
Surrogate: 1,2-Dichloroethane-d4	44.1			ug/kg	*50.0*		*88.3*	*80-149*			
Surrogate: Toluene-d8	51.4			ug/kg	*50.0*		*103*	*77-120*			
Surrogate: 4-Bromofluorobenzene	51.0			ug/kg	*50.0*		*102*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	48.9			ug/kg	*50.0*		*97.9*	*80-120*			
LCS (BHD0099-BS1)				Prepared: 03-Apr-2019 Analyzed: 03-Apr-2019 10:02							
Chloromethane	47.7			ug/kg	50.0		95.4	64-132			
Vinyl Chloride	48.3			ug/kg	50.0		96.6	74-135			
Bromomethane	48.3			ug/kg	50.0		96.6	53-144			
Chloroethane	43.6			ug/kg	50.0		87.1	55-149			
Trichlorofluoromethane	44.3			ug/kg	50.0		88.6	61-164			
Acrolein	182			ug/kg	250		72.6	59-140			Q
1,1,2-Trichloro-1,2,2-Trifluoroethane	49.0			ug/kg	50.0		98.1	74-143			
Acetone	214			ug/kg	250		85.5	48-137			
1,1-Dichloroethene	47.4			ug/kg	50.0		94.9	77-134			
Bromoethane	45.2			ug/kg	50.0		90.3	65-145			
Iodomethane	44.8			ug/kg	50.0		89.6	31-162			
Methylene Chloride	43.4			ug/kg	50.0		86.8	69-129			
Acrylonitrile	39.7			ug/kg	50.0		79.5	69-134			Q
Carbon Disulfide	44.4			ug/kg	50.0		88.8	71-137			
trans-1,2-Dichloroethene	42.2			ug/kg	50.0		84.4	79-130			
Vinyl Acetate	40.1			ug/kg	50.0		80.3	66-141			
1,1-Dichloroethane	42.4			ug/kg	50.0		84.7	80-126			
2-Butanone	200			ug/kg	250		79.8	70-132			Q
2,2-Dichloropropane	45.4			ug/kg	50.0		90.7	77-138			
cis-1,2-Dichloroethene	41.2			ug/kg	50.0		82.3	80-125			
Chloroform	41.5			ug/kg	50.0		83.1	80-126			
Bromochloromethane	40.9			ug/kg	50.0		81.9	80-129			
1,1,1-Trichloroethane	45.3			ug/kg	50.0		90.6	78-133			
1,1-Dichloropropene	52.1			ug/kg	50.0		104	79-120			

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0099 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHD0099-BS1)				Prepared: 03-Apr-2019 Analyzed: 03-Apr-2019 10:02							
Carbon tetrachloride	55.8			ug/kg	50.0		112	71-129			
1,2-Dichloroethane	45.3			ug/kg	50.0		90.6	76-120			
Benzene	49.3			ug/kg	50.0		98.7	80-120			
Trichloroethene	51.8			ug/kg	50.0		104	80-120			
1,2-Dichloropropane	48.8			ug/kg	50.0		97.7	79-120			
Bromodichloromethane	47.2			ug/kg	50.0		94.4	80-122			
Dibromomethane	45.4			ug/kg	50.0		90.8	80-120			
2-Chloroethyl vinyl ether	46.3			ug/kg	50.0		92.5	51-129			
4-Methyl-2-Pentanone	241			ug/kg	250		96.5	73-121			
cis-1,3-Dichloropropene	47.6			ug/kg	50.0		95.2	80-120			
Toluene	48.9			ug/kg	50.0		97.8	75-120			
trans-1,3-Dichloropropene	47.7			ug/kg	50.0		95.4	80-124			
2-Hexanone	240			ug/kg	250		95.9	68-122			
1,1,2-Trichloroethane	46.6			ug/kg	50.0		93.2	79-120			
1,3-Dichloropropane	44.3			ug/kg	50.0		88.5	78-120			
Tetrachloroethene	51.0			ug/kg	50.0		102	74-124			
Dibromochloromethane	47.1			ug/kg	50.0		94.1	74-125			
1,2-Dibromoethane	46.8			ug/kg	50.0		93.7	80-120			
Chlorobenzene	47.0			ug/kg	50.0		93.9	78-120			
Ethylbenzene	49.3			ug/kg	50.0		98.6	80-125			
1,1,1,2-Tetrachloroethane	47.5			ug/kg	50.0		95.0	80-120			
m,p-Xylene	95.4			ug/kg	100		95.4	76-121			
o-Xylene	48.4			ug/kg	50.0		96.9	67-132			
Xylenes, total	144			ug/kg	150		95.9	67-132			
Styrene	47.9			ug/kg	50.0		95.8	80-120			
Bromoform	42.5			ug/kg	50.0		85.0	64-128			
1,1,2,2-Tetrachloroethane	41.6			ug/kg	50.0		83.2	74-120			
1,2,3-Trichloropropane	45.1			ug/kg	50.0		90.1	73-120			
trans-1,4-Dichloro 2-Butene	46.0			ug/kg	50.0		92.0	65-125			
n-Propylbenzene	48.5			ug/kg	50.0		97.0	72-124			
Bromobenzene	47.3			ug/kg	50.0		94.6	76-120			
Isopropyl Benzene	47.6			ug/kg	50.0		95.3	74-121			
2-Chlorotoluene	46.1			ug/kg	50.0		92.2	75-120			
4-Chlorotoluene	46.0			ug/kg	50.0		91.9	69-124			
t-Butylbenzene	48.5			ug/kg	50.0		96.9	72-122			

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Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0099 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHD0099-BS1)				Prepared: 03-Apr-2019 Analyzed: 03-Apr-2019 10:02							
1,3,5-Trimethylbenzene	47.6			ug/kg	50.0		95.2	74-122			
1,2,4-Trimethylbenzene	47.2			ug/kg	50.0		94.4	75-121			
s-Butylbenzene	48.7			ug/kg	50.0		97.5	70-128			
4-Isopropyl Toluene	49.6			ug/kg	50.0		99.1	75-125			
1,3-Dichlorobenzene	47.3			ug/kg	50.0		94.5	75-120			
1,4-Dichlorobenzene	45.6			ug/kg	50.0		91.2	73-120			
n-Butylbenzene	50.0			ug/kg	50.0		100	73-130			
1,2-Dichlorobenzene	44.6			ug/kg	50.0		89.3	76-120			
1,2-Dibromo-3-chloropropane	43.0			ug/kg	50.0		85.9	65-126			
1,2,4-Trichlorobenzene	51.9			ug/kg	50.0		104	66-140			
Hexachloro-1,3-Butadiene	58.3			ug/kg	50.0		117	67-133			
Naphthalene	46.6			ug/kg	50.0		93.2	69-125			
1,2,3-Trichlorobenzene	49.5			ug/kg	50.0		99.0	68-132			
Dichlorodifluoromethane	42.1			ug/kg	50.0		84.2	67-142			
Methyl tert-butyl Ether	38.6			ug/kg	50.0		77.3	79-127			*, Q
n-Hexane	43.1			ug/kg	50.0		86.1	30-160			
2-Pentanone	240			ug/kg	250		95.9	77-120			
Surrogate: 1,2-Dichloroethane-d4	41.2			ug/kg	*50.0*		*82.4*	*80-149*			
Surrogate: Toluene-d8	51.3			ug/kg	*50.0*		*103*	*77-120*			
Surrogate: 4-Bromofluorobenzene	51.6			ug/kg	*50.0*		*103*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	47.9			ug/kg	*50.0*		*95.8*	*80-120*			
LCS Dup (BHD0099-BSD1)				Prepared: 03-Apr-2019 Analyzed: 03-Apr-2019 10:41							
Chloromethane	51.4			ug/kg	50.0		103	64-132	7.56	30	
Vinyl Chloride	53.2			ug/kg	50.0		106	74-135	9.65	30	
Bromomethane	52.0			ug/kg	50.0		104	53-144	7.46	30	
Chloroethane	42.7			ug/kg	50.0		85.4	55-149	1.99	30	
Trichlorofluoromethane	57.5			ug/kg	50.0		115	61-164	25.90	30	
Acrolein	194			ug/kg	250		77.8	59-140	6.82	30	Q
1,1,2-Trichloro-1,2,2-Trifluoroethane	54.3			ug/kg	50.0		109	74-143	10.10	30	
Acetone	257			ug/kg	250		103	48-137	18.50	30	
1,1-Dichloroethene	52.1			ug/kg	50.0		104	77-134	9.42	30	
Bromoethane	49.6			ug/kg	50.0		99.2	65-145	9.35	30	
Iodomethane	54.3			ug/kg	50.0		109	31-162	19.10	30	
Methylene Chloride	45.1			ug/kg	50.0		90.1	69-129	3.72	30	

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0099 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHD0099-BSD1)	Prepared: 03-Apr-2019 Analyzed: 03-Apr-2019 10:41										
Acrylonitrile	40.7			ug/kg	50.0		81.5	69-134	2.49	30	Q
Carbon Disulfide	47.5			ug/kg	50.0		95.1	71-137	6.75	30	
trans-1,2-Dichloroethene	45.4			ug/kg	50.0		90.8	79-130	7.29	30	
Vinyl Acetate	43.0			ug/kg	50.0		86.0	66-141	6.87	30	
1,1-Dichloroethane	44.5			ug/kg	50.0		89.0	80-126	4.95	30	
2-Butanone	222			ug/kg	250		88.7	70-132	10.50	30	Q
2,2-Dichloropropane	49.7			ug/kg	50.0		99.4	77-138	9.16	30	
cis-1,2-Dichloroethene	44.4			ug/kg	50.0		88.9	80-125	7.64	30	
Chloroform	43.5			ug/kg	50.0		86.9	80-126	4.54	30	
Bromochloromethane	41.9			ug/kg	50.0		83.7	80-129	2.25	30	
1,1,1-Trichloroethane	47.6			ug/kg	50.0		95.3	78-133	5.10	30	
1,1-Dichloropropene	55.0			ug/kg	50.0		110	79-120	5.51	30	
Carbon tetrachloride	59.0			ug/kg	50.0		118	71-129	5.51	30	
1,2-Dichloroethane	45.9			ug/kg	50.0		91.8	76-120	1.36	30	
Benzene	51.8			ug/kg	50.0		104	80-120	4.97	30	
Trichloroethene	54.8			ug/kg	50.0		110	80-120	5.56	30	
1,2-Dichloropropane	49.7			ug/kg	50.0		99.3	79-120	1.69	30	
Bromodichloromethane	49.2			ug/kg	50.0		98.4	80-122	4.10	30	
Dibromomethane	47.7			ug/kg	50.0		95.4	80-120	4.97	30	
2-Chloroethyl vinyl ether	51.3			ug/kg	50.0		103	51-129	10.40	30	
4-Methyl-2-Pentanone	258			ug/kg	250		103	73-121	6.55	30	
cis-1,3-Dichloropropene	50.0			ug/kg	50.0		100	80-120	4.86	30	
Toluene	50.9			ug/kg	50.0		102	75-120	3.96	30	
trans-1,3-Dichloropropene	49.3			ug/kg	50.0		98.6	80-124	3.24	30	
2-Hexanone	260			ug/kg	250		104	68-122	8.13	30	
1,1,2-Trichloroethane	47.8			ug/kg	50.0		95.6	79-120	2.57	30	
1,3-Dichloropropane	47.3			ug/kg	50.0		94.5	78-120	6.58	30	
Tetrachloroethene	54.7			ug/kg	50.0		109	74-124	7.16	30	
Dibromochloromethane	49.0			ug/kg	50.0		98.0	74-125	4.00	30	
1,2-Dibromoethane	48.0			ug/kg	50.0		95.9	80-120	2.37	30	
Chlorobenzene	50.1			ug/kg	50.0		100	78-120	6.41	30	
Ethylbenzene	51.7			ug/kg	50.0		103	80-125	4.80	30	
1,1,1,2-Tetrachloroethane	50.5			ug/kg	50.0		101	80-120	6.05	30	
m,p-Xylene	103			ug/kg	100		103	76-121	7.30	30	
o-Xylene	51.9			ug/kg	50.0		104	67-132	6.92	30	

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Volatile Organic Compounds - Quality Control

Batch BHD0099 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHD0099-BSD1)				Prepared: 03-Apr-2019 Analyzed: 03-Apr-2019 10:41							
Xylenes, total	155			ug/kg	150		103	67-132	7.17	30	
Styrene	50.6			ug/kg	50.0		101	80-120	5.42	30	
Bromoform	46.3			ug/kg	50.0		92.5	64-128	8.44	30	
1,1,2,2-Tetrachloroethane	44.8			ug/kg	50.0		89.7	74-120	7.46	30	
1,2,3-Trichloropropane	47.0			ug/kg	50.0		94.0	73-120	4.28	30	
trans-1,4-Dichloro 2-Butene	52.4			ug/kg	50.0		105	65-125	13.00	30	
n-Propylbenzene	51.4			ug/kg	50.0		103	72-124	5.87	30	
Bromobenzene	49.6			ug/kg	50.0		99.2	76-120	4.72	30	
Isopropyl Benzene	50.8			ug/kg	50.0		102	74-121	6.38	30	
2-Chlorotoluene	49.2			ug/kg	50.0		98.5	75-120	6.61	30	
4-Chlorotoluene	49.2			ug/kg	50.0		98.4	69-124	6.85	30	
t-Butylbenzene	50.7			ug/kg	50.0		101	72-122	4.49	30	
1,3,5-Trimethylbenzene	50.6			ug/kg	50.0		101	74-122	6.14	30	
1,2,4-Trimethylbenzene	49.5			ug/kg	50.0		98.9	75-121	4.66	30	
s-Butylbenzene	51.2			ug/kg	50.0		102	70-128	4.86	30	
4-Isopropyl Toluene	51.7			ug/kg	50.0		103	75-125	4.20	30	
1,3-Dichlorobenzene	49.5			ug/kg	50.0		99.1	75-120	4.69	30	
1,4-Dichlorobenzene	47.5			ug/kg	50.0		95.0	73-120	4.05	30	
n-Butylbenzene	52.3			ug/kg	50.0		105	73-130	4.38	30	
1,2-Dichlorobenzene	47.3			ug/kg	50.0		94.6	76-120	5.80	30	
1,2-Dibromo-3-chloropropane	45.9			ug/kg	50.0		91.7	65-126	6.55	30	
1,2,4-Trichlorobenzene	53.7			ug/kg	50.0		107	66-140	3.58	30	
Hexachloro-1,3-Butadiene	59.0			ug/kg	50.0		118	67-133	1.13	30	
Naphthalene	49.6			ug/kg	50.0		99.3	69-125	6.28	30	
1,2,3-Trichlorobenzene	51.7			ug/kg	50.0		103	68-132	4.27	30	
Dichlorodifluoromethane	51.6			ug/kg	50.0		103	67-142	20.20	30	
Methyl tert-butyl Ether	40.8			ug/kg	50.0		81.5	79-127	5.35	30	Q
n-Hexane	45.9			ug/kg	50.0		91.7	30-160	6.28	30	
2-Pentanone	259			ug/kg	250		103	77-120	7.58	30	
Surrogate: 1,2-Dichloroethane-d4	41.8			ug/kg	*50.0*		*83.7*	*80-149*			
Surrogate: Toluene-d8	50.5			ug/kg	*50.0*		*101*	*77-120*			
Surrogate: 4-Bromofluorobenzene	51.6			ug/kg	*50.0*		*103*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	48.4			ug/kg	*50.0*		*96.7*	*80-120*			

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Solid	
Chloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichlorofluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrolein	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acetone	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Iodomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methylene Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrylonitrile	WADOE,DoD-ELAP,NELAP,CALAP
Carbon Disulfide	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Acetate	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Butanone	WADOE,DoD-ELAP,NELAP,CALAP
2,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Carbon tetrachloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromodichloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chloroethyl vinyl ether	WADOE,DoD-ELAP,NELAP
4-Methyl-2-Pentanone	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Toluene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Xylenes, total	WADOE
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP,NELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

2-Pentanone	WADOE
Dibromofluoromethane	WADOE
4-Bromofluorobenzene	WADOE

EPA 8260C in Water

Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Analytical Report

Golder Associates	Project: Landsburg	
18300 NE Union Hill Road Suite 200	Project Number: Landsburg	**Reported:**
Redmond WA, 98052-3333	Project Manager: Gary Zimmerman	04-Apr-2019 13:26

Notes and Definitions

*	Flagged value is not within established control limits.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
J	Estimated concentration value detected below the reporting limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Landsburg PLP Group
Project Manager: Gary Zimmerman
Project Name: Landsburg Mine Site
Project Number: 923-1000-005.3019
Reviewer: Eric Adams
Validation Date: October 2019
Laboratory: OnSite Environmental Inc.
SDG#: 1909-058
Analytical Method (type and no.): EPA SW8260C
Matrix: ☐ Air ☑ Soil/Sed. ☐ Water ☐ Waste ☐ Other (specify):
Sample Names: S3-B, S4-B, S6-B and S9-B

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☑	☐	☐	all surface samples, elevation noted
e) Sample type indicated (grab/composite)?	☐	☑	☐	confirmed grab samples
f) Field QC noted?	☐	☐	☑	
g) Field parameters collected (note types)?	☐	☐	☑	
h) Field calibration within control limits?	☐	☐	☑	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☐	☑	
j) Does the laboratory narrative note deficiencies?	☑	☐	☐	

Note deficiencies: None Noted

Chain of Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	
e) Were the appropriate reporting limits achieved?	☑	☐	☐	
f) Were any sample dilutions noted?	☑	☐	☐	no dilutions
g) Were any matrix problems noted?	☐	☑	☐	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☐	☑	☐	
b) Were analytes detected in the field blank(s)?	☐	☐	☑	
c) Were analytes detected in the equipment blank(s)?	☐	☐	☑	
d) Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	☑	☐	☐	
b) Were the proper compounds included in the LCS?	☑	☐	☐	
c) Was the LCS accuracy criteria met?	☑	☐	☐	

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☐	☑	☐	
b) Were field dup. precision criteria met (note RPD)?	☐	☐	☑	
c) Were lab duplicates analyzed (note original and duplicate samples)?	☐	☑	☐	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☑	

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name compounds included and concentrations)?	☐	☑	☐	
b) Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?	☐	☐	☑	
Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☐	
b) Was MSD accuracy criteria met?	☐	☐	☑	
Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☐	
c) Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes	YES	NO	NA	COMMENTS
a) Were surrogate recoveries within control limits?	☑	☐	☐	
b) Were surrogate recoveries not calculated due to dilutions?	☐	☑	☐	

Comments/Notes:

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
None Required				

Signature:________________________________ **Date:**____________________

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

September 10, 2019

Gary Zimmerman
Golder Associates Inc.
18300 NE Union Hill Road
Suite 200
Redmond, WA 98052-3333

Re: Analytical Data for Project 9231000005.5000
Laboratory Reference No. 1909-058

Dear Gary:

Enclosed are the analytical results and associated quality control data for samples submitted on September 6, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

Case Narrative

Samples were collected on September 5, 2019 and received by the laboratory on September 6, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S3-B**					
Laboratory ID:	09-058-01					
Dichlorodifluoromethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Chloromethane	ND	0.0062	EPA 8260D	9-9-19	9-9-19	
Vinyl Chloride	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Bromomethane	ND	0.0015	EPA 8260D	9-9-19	9-9-19	
Chloroethane	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
Trichlorofluoromethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Acetone	0.025	0.0098	EPA 8260D	9-9-19	9-9-19	
Iodomethane	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
Carbon Disulfide	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Methylene Chloride	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
(trans) 1,2-Dichloroethene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Methyl t-Butyl Ether	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Vinyl Acetate	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
2,2-Dichloropropane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
(cis) 1,2-Dichloroethene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
2-Butanone	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
Bromochloromethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Chloroform	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,1,1-Trichloroethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Carbon Tetrachloride	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloropropene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Benzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloroethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Trichloroethene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloropropane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Dibromomethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Bromodichloromethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
(cis) 1,3-Dichloropropene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Methyl Isobutyl Ketone	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
Toluene	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
(trans) 1,3-Dichloropropene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

VOLATILE ORGANICS EPA 8260D
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S3-B**					
Laboratory ID:	09-058-01					
1,1,2-Trichloroethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Tetrachloroethene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,3-Dichloropropane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
2-Hexanone	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
Dibromochloromethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromoethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Chlorobenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,1,1,2-Tetrachloroethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Ethylbenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
m,p-Xylene	ND	0.0020	EPA 8260D	9-9-19	9-9-19	
o-Xylene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Styrene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Bromoform	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
Isopropylbenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Bromobenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,1,2,2-Tetrachloroethane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichloropropane	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
n-Propylbenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
2-Chlorotoluene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
4-Chlorotoluene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,3,5-Trimethylbenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
tert-Butylbenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trimethylbenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
sec-Butylbenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,3-Dichlorobenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
p-Isopropyltoluene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,4-Dichlorobenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,2-Dichlorobenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
n-Butylbenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trichlorobenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Hexachlorobutadiene	ND	0.0049	EPA 8260D	9-9-19	9-9-19	
Naphthalene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichlorobenzene	ND	0.00098	EPA 8260D	9-9-19	9-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***104***	***76-131***				
Toluene-d8	***94***	***78-128***				
4-Bromofluorobenzene	***87***	***71-130***				

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S4-B**					
Laboratory ID:	09-058-02					
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Chloromethane	ND	0.0065	EPA 8260D	9-9-19	9-9-19	
Vinyl Chloride	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Bromomethane	ND	0.0015	EPA 8260D	9-9-19	9-9-19	
Chloroethane	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Acetone	ND	0.010	EPA 8260D	9-9-19	9-9-19	
Iodomethane	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
Carbon Disulfide	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Methylene Chloride	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Vinyl Acetate	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
2-Butanone	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
Bromochloromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Chloroform	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Benzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Trichloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Dibromomethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Bromodichloromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Methyl Isobutyl Ketone	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
Toluene	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S4-B**					
Laboratory ID:	09-058-02					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Tetrachloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
2-Hexanone	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
Dibromochloromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Chlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Ethylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
m,p-Xylene	ND	0.0021	EPA 8260D	9-9-19	9-9-19	
o-Xylene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Styrene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Bromoform	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
Isopropylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Bromobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
n-Propylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
2-Chlorotoluene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
4-Chlorotoluene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
tert-Butylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
sec-Butylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
p-Isopropyltoluene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
n-Butylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Hexachlorobutadiene	ND	0.0052	EPA 8260D	9-9-19	9-9-19	
Naphthalene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***103***	***76-131***				
Toluene-d8	***98***	***78-128***				
4-Bromofluorobenzene	***88***	***71-130***				

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S6-B**					
Laboratory ID:	09-058-03					
Dichlorodifluoromethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Chloromethane	ND	0.0054	EPA 8260D	9-9-19	9-9-19	
Vinyl Chloride	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Bromomethane	ND	0.0013	EPA 8260D	9-9-19	9-9-19	
Chloroethane	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
Trichlorofluoromethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Acetone	ND	0.0086	EPA 8260D	9-9-19	9-9-19	
Iodomethane	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
Carbon Disulfide	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Methylene Chloride	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
(trans) 1,2-Dichloroethene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Methyl t-Butyl Ether	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Vinyl Acetate	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
2,2-Dichloropropane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
(cis) 1,2-Dichloroethene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
2-Butanone	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
Bromochloromethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Chloroform	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,1,1-Trichloroethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Carbon Tetrachloride	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloropropene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Benzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloroethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Trichloroethene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloropropane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Dibromomethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Bromodichloromethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
(cis) 1,3-Dichloropropene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Methyl Isobutyl Ketone	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
Toluene	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
(trans) 1,3-Dichloropropene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S6-B**					
Laboratory ID:	09-058-03					
1,1,2-Trichloroethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Tetrachloroethene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,3-Dichloropropane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
2-Hexanone	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
Dibromochloromethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromoethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Chlorobenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,1,1,2-Tetrachloroethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Ethylbenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
m,p-Xylene	ND	0.0017	EPA 8260D	9-9-19	9-9-19	
o-Xylene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Styrene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Bromoform	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
Isopropylbenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Bromobenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,1,2,2-Tetrachloroethane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichloropropane	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
n-Propylbenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
2-Chlorotoluene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
4-Chlorotoluene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,3,5-Trimethylbenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
tert-Butylbenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trimethylbenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
sec-Butylbenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,3-Dichlorobenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
p-Isopropyltoluene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,4-Dichlorobenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,2-Dichlorobenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
n-Butylbenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trichlorobenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Hexachlorobutadiene	ND	0.0043	EPA 8260D	9-9-19	9-9-19	
Naphthalene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichlorobenzene	ND	0.00086	EPA 8260D	9-9-19	9-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***101***	***76-131***				
Toluene-d8	***98***	***78-128***				
4-Bromofluorobenzene	***92***	***71-130***				

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S9-B**					
Laboratory ID:	09-058-04					
Dichlorodifluoromethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Chloromethane	ND	0.0061	EPA 8260D	9-9-19	9-9-19	
Vinyl Chloride	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Bromomethane	ND	0.0014	EPA 8260D	9-9-19	9-9-19	
Chloroethane	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
Trichlorofluoromethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Acetone	ND	0.0096	EPA 8260D	9-9-19	9-9-19	
Iodomethane	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
Carbon Disulfide	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Methylene Chloride	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
(trans) 1,2-Dichloroethene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Methyl t-Butyl Ether	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Vinyl Acetate	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
2,2-Dichloropropane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
(cis) 1,2-Dichloroethene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
2-Butanone	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
Bromochloromethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Chloroform	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,1,1-Trichloroethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Carbon Tetrachloride	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloropropene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Benzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloroethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Trichloroethene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloropropane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Dibromomethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Bromodichloromethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
(cis) 1,3-Dichloropropene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Methyl Isobutyl Ketone	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
Toluene	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
(trans) 1,3-Dichloropropene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S9-B**					
Laboratory ID:	09-058-04					
1,1,2-Trichloroethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Tetrachloroethene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,3-Dichloropropane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
2-Hexanone	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
Dibromochloromethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromoethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Chlorobenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,1,1,2-Tetrachloroethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Ethylbenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
m,p-Xylene	ND	0.0019	EPA 8260D	9-9-19	9-9-19	
o-Xylene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Styrene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Bromoform	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
Isopropylbenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Bromobenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,1,2,2-Tetrachloroethane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichloropropane	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
n-Propylbenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
2-Chlorotoluene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
4-Chlorotoluene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,3,5-Trimethylbenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
tert-Butylbenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trimethylbenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
sec-Butylbenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,3-Dichlorobenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
p-Isopropyltoluene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,4-Dichlorobenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,2-Dichlorobenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
n-Butylbenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trichlorobenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Hexachlorobutadiene	ND	0.0048	EPA 8260D	9-9-19	9-9-19	
Naphthalene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichlorobenzene	ND	0.00096	EPA 8260D	9-9-19	9-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***97***	***76-131***				
Toluene-d8	***97***	***78-128***				
4-Bromofluorobenzene	***93***	***71-130***				

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

VOLATILE ORGANICS EPA 8260D
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0909S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Chloromethane	ND	0.0063	EPA 8260D	9-9-19	9-9-19	
Vinyl Chloride	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Bromomethane	ND	0.0015	EPA 8260D	9-9-19	9-9-19	
Chloroethane	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Acetone	ND	0.010	EPA 8260D	9-9-19	9-9-19	
Iodomethane	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
Carbon Disulfide	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Methylene Chloride	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Vinyl Acetate	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
2-Butanone	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
Bromochloromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Chloroform	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Benzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Trichloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Dibromomethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Bromodichloromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
Toluene	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	

Date of Report: September 10, 2019
Samples Submitted: September 6, 2019
Laboratory Reference: 1909-058
Project: 9231000005.5000

VOLATILE ORGANICS EPA 8260D
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0909S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Tetrachloroethene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
2-Hexanone	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
Dibromochloromethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Chlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Ethylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
m,p-Xylene	ND	0.0020	EPA 8260D	9-9-19	9-9-19	
o-Xylene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Styrene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Bromoform	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
Isopropylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Bromobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
n-Propylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
2-Chlorotoluene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
4-Chlorotoluene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
tert-Butylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
sec-Butylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
p-Isopropyltoluene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
n-Butylbenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Hexachlorobutadiene	ND	0.0050	EPA 8260D	9-9-19	9-9-19	
Naphthalene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260D	9-9-19	9-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***104***	***76-131***				
Toluene-d8	***99***	***78-128***				
4-Bromofluorobenzene	***96***	***71-130***				

Date of Report: September 10, 2019
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Project: 9231000005.5000

VOLATILE ORGANICS EPA 8260D
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0909S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0509**	**0.0504**	0.0500	0.0500	102	101	57-133	1	18	
Benzene	**0.0456**	**0.0452**	0.0500	0.0500	91	90	71-129	1	16	
Trichloroethene	**0.0489**	**0.0489**	0.0500	0.0500	98	98	71-122	0	16	
Toluene	**0.0457**	**0.0460**	0.0500	0.0500	91	92	74-125	1	15	
Chlorobenzene	**0.0479**	**0.0474**	0.0500	0.0500	96	95	72-120	1	14	
Surrogate:										
Dibromofluoromethane					***101***	***102***	***76-131***			
Toluene-d8					***97***	***99***	***78-128***			
4-Bromofluorobenzene					***98***	***96***	***71-130***			

Date of Report: September 10, 2019
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Project: 9231000005.5000

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
S3-B	09-058-01	**5**	9-9-19
S4-B	09-058-02	**8**	9-9-19
S6-B	09-058-03	**3**	9-9-19
S9-B	09-058-04	**8**	9-9-19

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

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OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Golder
Project Number: 923-1000.005.5000
Project Name: Landsburg
Project Manager: Gary Z.
Sampled by: Gary Z. ; Joseph K.

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☑ Standard (7 Days)
- ☐ _____ (other)

Laboratory Number: 09-058

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	S3-B	9/5/19	1355	Soil	4					X																	X
2	S4-B		1415	Soil	4					X																	X
3	S6-B		1430	Soil	4					X																	X
4	S9-B		1440	Soil	4					X																	X

	Signature	Company	Date	Time
Relinquished		Golder Associates	9-6-19	1646
Received		Golder Associates	9/6/19	1646
Relinquished		Golder Associates	9/6/19	1738
Received			9/6/19	1738
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Analyze in accordance w/ MSA between Golder and on-site.

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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