CPL MONITOR WELLS

JUNE 2010 SAMPLING EVENT

Data Usability Summary Report

To:	Annette Brewster	**Date:**	September 3, 2010
From:	Jeni Garcia	**File:**	DQRR Final_090310
RE:	Review of Groundwater Data RI/FS Pasco	**cc:**	

This Data Usability Summary Report (DUSR) assesses the laboratory results for groundwater samples collected during the Remedial Investigation and Feasibility Study at the Northwest Terminaling Company (NWTC) Pasco Terminal in Pasco Washington. URS collected ten primary groundwater samples, one duplicate groundwater sample, one equipment rinsate blank, and one trip blank on June 29, June 30, and July 1, 2010. The samples were submitted to TestAmerica (TA) Inc., located in Seattle, Washington. All samples were analyzed for one or more of the following parameters in general accordance with the methods indicated in the table below. The results were reported in one TA data package, 580-20320.

Method	Analytical Parameter
EPA 8260B	Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
NWTPH-Dx	Semi-volatile Petroleum Products-Dx
NWTPH-Gx	Volatile Petroleum Products-Gx
EPA 6010	Total Manganese
EPA 8015B	Ethanol
EPA 300.0	Sulfate
EPA 310.1	Alkalinity
EPA 353.2	Nitrate-Nitrite as Nitrogen
RSK 175	Dissolved Gases (Methane, Ethane, Ethene)

The analytical results for all samples were reviewed using guidance from the EPA Contract Laboratory Program National Functional Guidelines (NFGs) for Organic Data Review (EPA, 2008), EPA Contract Laboratory Program NFGs for Inorganic Data Review (EPA, 2004), laboratory quality control (QC) criteria (as applicable for each analytical method used), and the Quality Assurance Project Plan (QAPP) for NWTC Pasco Terminal RI/FS (URS/CH2MHILL, 2010). Raw data information was not provided by the laboratory, therefore initial and diluted results were not compared as part of this review. The DUSR included verification of the following:

Representativeness

- Chain of custody (COC) records
- Case narrative
- Proper sample collection and handling procedures
- Holding times
- Method / laboratory blank analysis
- Trip blank analysis
- Rinsate blank analysis

Accuracy

- Surrogate compound recoveries
- Laboratory control spike (LCS) recoveries
- Matrix spike (MS) recoveries

Precision

- Laboratory duplicate (laboratory duplicate, matrix spike duplicate (MSD), or LCS duplicate) precision
- Field duplicate precision

Comparability

- Compound identification
- Method detection (MDL) and method reporting limits (RL)

Completeness

- Data completeness and format

No additional qualifiers were applied as a result of this review. Final sample results and qualifiers are presented in analytical summary tables in the associated report.

REPRESENTATIVENESS

Chain-of-Custody and Holding Times

It was indicated on the COC form that samples were maintained under custody and the forms were signed upon release and receipt. All coolers were received by the laboratory within the recommended temperature range of 4ºC ± 2ºC.

A trip blank were provided for volatile analysis but not included on the COC. It was documented at receipt by the laboratory. No sample qualification is necessary.

The trip blank for volatile analysis was received at the laboratory with greater than ¼-inch of headspace. No target analytes were detected in the trip blank. Headspace was not documented in any associated samples received by the laboratory for volatile analysis. Sample qualification is not necessary.

The trip blank sample was analyzed for NWTPH-Gx seventeen minutes outside of the recommended 14-day holding time due to instrument constraints at the laboratory. No sample qualification of the data is necessary.

Case Narrative

All items discussed in the TA case narratives are discussed in the following sections.

Review of Blanks

Method Blanks

Method blanks were used to check for laboratory contamination and instrument bias. The laboratory analyzed at least one method blank for each analysis and for each batch, per method requirements. Target analytes were not reported as detected in the associated method blanks.

Rinsate Blanks

Rinsate blanks were used to check for equipment contamination introduced during the sampling procedures. One rinsate blank, C-Rinsate-0610, was collected on July 1, 2010. Target analytes were not reported as detected in the rinsate blank.

Trip Blanks

Trip blanks were used to check for contamination during transportation and are required for volatile analysis. Target analytes were not reported as detected in the trip blanks.

ACCURACY

Surrogate Recovery Review

Each sample analyzed for organic compounds was spiked with surrogates (system monitoring compounds). Surrogate recoveries are a measure of accuracy for the overall analysis of each individual sample. All surrogate recoveries met the project's acceptance criteria as listed in the QAPP.

Laboratory Control Samples/Laboratory Control Sample Duplicates

Laboratory control samples (LCS) are used to monitor the laboratory's day-to-day performance of routine analytical methods, independent of matrix effects, and to assess accuracy for the target compounds. All LCS or LCS/LCSD percent recoveries met the project's acceptance criteria.

Matrix Spike/Matrix Spike Duplicate Review

Matrix spike/matrix spike duplicate (MS/MSD) samples are analyzed to assess the ability of the laboratory to recover the target compounds from the sample matrix. Additional volume from sample C-MW-7-0610 was submitted to the laboratory for MS/MSD analysis of BTEX, gasoline, diesel and ethanol. The laboratory also performed the sulfate MS/MSD analysis on volume from this sample. Sample volume from C-MW-02-610 was used to perform the MS and/or MSD analysis for manganese and nitrate/nitrite. MS recoveries for samples with concentrations greater than four times the spike amount added were not considered to be a representative measure of accuracy.

The MSD recovery for motor oil associated with sample C-MW-7-0610 received a qualifier 'F' by the laboratory for exceeding laboratory limits of 66-125% at 126%. The percent recovery was within project QAPP limits of 70-130%, and was not qualified as a result of this data review.

All other MS/MSD recoveries were acceptable.

PRECISION

Duplicate Review

Field Duplicate Results

A field duplicate was collected and submitted to the laboratory to verify sampling techniques and assess laboratory procedures. C-MW-22-0610 was collected as a field duplicate for sample C-MW-12-0610, and submitted to the laboratory as a blind sample. The relative percent difference (RPD) was calculated when sample results were greater than five times the reporting limit and compared to the QAPP criterion of ≤30%. All field duplicate data were acceptable.

Laboratory Duplicate Results

TA performed a laboratory duplicate on all batches in accordance to method criteria. In addition to MS/MSD analysis mentioned above the laboratory performed a duplicate analysis on sample C-MW-07-0610 for sulfate and C-MW-02-0610 for manganese and alkalinity. All laboratory duplicate data were acceptable.

LCS/LCSD Duplicate Results

LCS/LCSD RPDs were acceptable for all LCS/LCSD duplicates performed in this data package.

COMPARABILITY

Reporting Limits

The sensitivity (i.e., reporting limits) of the analytical methods is driven by the project-specific objectives. Detections between the MDL and the RL were not reported by the laboratory. Additional qualifiers were not added during the data review process.

COMPLETENESS

The laboratory reported all requested analyses and the deliverable data reports were complete. Completeness is defined as the percentage of usable data out of the total amount of data generated. No qualifiers were assigned as a result of this data review. Completeness for the investigation is 100%.

REFERENCES

USEPA, April 1998. Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, Rev. 5, EPA, Office of Solid Waste, Washington, D.C.

USEPA, October 2004. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

USEPA, September 2008. EPA Contract Laboratory Program National Functional Guidelines for Organics Data Review.

URS/CH2MHill, April 2010. Quality Assurance Project Plan for NWTC Pasco Terminals RI/FS.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-20320-1
Client Project/Site: NWTC Pasco Terminal (WA)

For:
URS Corporation
10550 Richmond Avenue
Houston, Texas 77042

Attn: Staff Geologist Frances Devore

Authorized for release by:
7/29/2010 4:28 PM

Curtis Armstrong
Project Manager I
curtis.armstrong@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Qualifier Definition/Glossary

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-20320-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

GC VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) NWTPH-Gx:
The following trip blank sample was analyzed seventeen minutes outside of analytical holding time due to instrument constraints: Trip Blank (580-20320-13).

No other analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Subcontract non-Sister
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

Client Sample ID: C-MW-02-0610

Lab Sample ID: 580-20320-1

Date Collected: 06/30/10 16:28

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 01:47	1
Toluene	ND		1.0		ug/L			07/13/10 01:47	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 01:47	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 01:47	1
o-Xylene	ND		1.0		ug/L			07/13/10 01:47	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 01:47*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 01:47*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/13/10 01:47*	*1*
Trifluorotoluene (Surr)	*113*		*80 - 120*		*07/13/10 01:47*	*1*
4-Bromofluorobenzene (Surr)	*82*		*75 - 120*		*07/13/10 01:47*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**3.6**		0.12		mg/L		07/11/10 19:34	07/13/10 17:00	1
Motor Oil (>C24-C36)	**3.3**		0.24		mg/L		07/11/10 19:34	07/13/10 17:00	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*99*		*50 - 150*	*07/11/10 19:34*	*07/13/10 17:00*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.085**		0.020		mg/L		07/14/10 10:45	07/14/10 15:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**25**		1.0		mg/L			07/14/10 16:11	100
Sulfate	**100**		6.0		mg/L			07/16/10 10:40	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**550**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 18:36	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/13/10 18:36*	*1*
Trifluorotoluene (Surr)	*115*		*50 - 150*		*07/13/10 18:36*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 12:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*99*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:03*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 11:59	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*84*		*39 - 128*	*07/13/10 11:00*	*07/13/10 11:59*	*1*

Client Sample ID: C-MW-04-0610

Date Collected: 06/29/10 14:57
Date Received: 07/02/10 10:00

Lab Sample ID: 580-20320-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 02:13	1
Toluene	ND		1.0		ug/L			07/13/10 02:13	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 02:13	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 02:13	1
o-Xylene	ND		1.0		ug/L			07/13/10 02:13	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 02:13*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 02:13*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/13/10 02:13*	*1*
Trifluorotoluene (Surr)	*113*		*80 - 120*		*07/13/10 02:13*	*1*
4-Bromofluorobenzene (Surr)	*84*		*75 - 120*		*07/13/10 02:13*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/11/10 19:34	07/13/10 17:20	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/11/10 19:34	07/13/10 17:20	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*07/11/10 19:34*	*07/13/10 17:20*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/14/10 10:45	07/14/10 15:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**49**		1.0		mg/L			07/14/10 15:50	100
Sulfate	**110**		6.0		mg/L			07/16/10 10:56	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**180**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 17:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*		*07/13/10 17:17*	*1*
Trifluorotoluene (Surr)	*117*		*50 - 150*		*07/13/10 17:17*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 12:06	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*111*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:06*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 12:06	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*84*		*39 - 128*	*07/13/10 11:00*	*07/13/10 12:06*	*1*

Client Sample ID: C-MW-06-0610

Date Collected: 06/29/10 16:57
Date Received: 07/02/10 10:00

Lab Sample ID: 580-20320-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 02:38	1
Toluene	ND		1.0		ug/L			07/13/10 02:38	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 02:38	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 02:38	1
o-Xylene	ND		1.0		ug/L			07/13/10 02:38	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 02:38*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 02:38*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*07/13/10 02:38*	*1*
Trifluorotoluene (Surr)	*111*		*80 - 120*		*07/13/10 02:38*	*1*
4-Bromofluorobenzene (Surr)	*83*		*75 - 120*		*07/13/10 02:38*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/11/10 19:34	07/13/10 17:40	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/11/10 19:34	07/13/10 17:40	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*07/11/10 19:34*	*07/13/10 17:40*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.026**		0.020		mg/L		07/14/10 10:45	07/14/10 15:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**38**		1.0		mg/L			07/14/10 15:51	100
Sulfate	**110**		6.0		mg/L			07/16/10 11:13	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 17:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*		*07/13/10 17:43*	*1*
Trifluorotoluene (Surr)	*116*		*50 - 150*		*07/13/10 17:43*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 12:11	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*103*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:11*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 12:13	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*84*		*39 - 128*	*07/13/10 11:00*	*07/13/10 12:13*	*1*

Client Sample ID: C-MW-07-0610

Lab Sample ID: 580-20320-4

Date Collected: 06/30/10 10:01

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 03:29	1
Toluene	ND		1.0		ug/L			07/13/10 03:29	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 03:29	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 03:29	1
o-Xylene	ND		1.0		ug/L			07/13/10 03:29	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*98*		*80 - 120*		*07/13/10 03:29*	*1*
Toluene-d8 (Surr)	*97*		*85 - 120*		*07/13/10 03:29*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/13/10 03:29*	*1*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*07/13/10 03:29*	*1*
4-Bromofluorobenzene (Surr)	*81*		*75 - 120*		*07/13/10 03:29*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/11/10 19:34	07/13/10 18:00	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/11/10 19:34	07/13/10 18:00	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*99*		*50 - 150*	*07/11/10 19:34*	*07/13/10 18:00*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.071**		0.020		mg/L		07/14/10 10:45	07/14/10 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**44**		1.0		mg/L			07/14/10 15:53	100
Sulfate	**110**		6.0		mg/L			07/16/10 11:29	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**190**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 19:02	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/13/10 19:02*	*1*
Trifluorotoluene (Surr)	*116*		*50 - 150*		*07/13/10 19:02*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 12:13	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*111*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:13*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 12:20	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*83*		*39 - 128*	*07/13/10 11:00*	*07/13/10 12:20*	*1*

Client Sample ID: C-MW-08-0610

Lab Sample ID: 580-20320-5

Date Collected: 06/30/10 11:05

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 03:03	1
Toluene	ND		1.0		ug/L			07/13/10 03:03	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 03:03	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 03:03	1
o-Xylene	ND		1.0		ug/L			07/13/10 03:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 03:03*	*1*
Toluene-d8 (Surr)	*98*		*85 - 120*		*07/13/10 03:03*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*07/13/10 03:03*	*1*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*07/13/10 03:03*	*1*
4-Bromofluorobenzene (Surr)	*85*		*75 - 120*		*07/13/10 03:03*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/11/10 19:34	07/13/10 19:39	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/11/10 19:34	07/13/10 19:39	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*07/11/10 19:34*	*07/13/10 19:39*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/14/10 10:45	07/14/10 15:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**45**		1.0		mg/L			07/14/10 15:54	100
Sulfate	**110**		6.0		mg/L			07/16/10 12:02	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**180**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 21:14	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*		*07/13/10 21:14*	*1*
Trifluorotoluene (Surr)	*114*		*50 - 150*		*07/13/10 21:14*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 12:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*106*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:17*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 12:27	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*83*		*39 - 128*	*07/13/10 11:00*	*07/13/10 12:27*	*1*

Client Sample ID: C-MW-10-0610

Lab Sample ID: 580-20320-6

Date Collected: 06/30/10 08:22

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 06:26	1
Toluene	ND		1.0		ug/L			07/13/10 06:26	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 06:26	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 06:26	1
o-Xylene	ND		1.0		ug/L			07/13/10 06:26	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*07/13/10 06:26*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 06:26*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/13/10 06:26*	*1*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*07/13/10 06:26*	*1*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*		*07/13/10 06:26*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/11/10 19:34	07/13/10 19:58	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/11/10 19:34	07/13/10 19:58	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*07/11/10 19:34*	*07/13/10 19:58*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/14/10 10:45	07/14/10 16:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**48**		1.0		mg/L			07/14/10 15:55	100
Sulfate	**110**		6.0		mg/L			07/16/10 12:18	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**180**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 21:40	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/13/10 21:40*	*1*
Trifluorotoluene (Surr)	*115*		*50 - 150*		*07/13/10 21:40*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 12:20	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*105*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:20*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 12:34	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*84*		*39 - 128*	*07/13/10 11:00*	*07/13/10 12:34*	*1*

Client Sample ID: C-MW-11-0610

Lab Sample ID: 580-20320-7

Date Collected: 06/30/10 12:41

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 06:52	1
Toluene	ND		1.0		ug/L			07/13/10 06:52	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 06:52	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 06:52	1
o-Xylene	ND		1.0		ug/L			07/13/10 06:52	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 06:52*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 06:52*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/13/10 06:52*	*1*
Trifluorotoluene (Surr)	*109*		*80 - 120*		*07/13/10 06:52*	*1*
4-Bromofluorobenzene (Surr)	*88*		*75 - 120*		*07/13/10 06:52*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**1.1**		0.12		mg/L		07/11/10 19:34	07/13/10 20:18	1
Motor Oil (>C24-C36)	**0.45**		0.24		mg/L		07/11/10 19:34	07/13/10 20:18	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*07/11/10 19:34*	*07/13/10 20:18*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.079**		0.020		mg/L		07/14/10 10:45	07/14/10 16:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**35**		1.0		mg/L			07/14/10 15:59	100
Sulfate	**88**		6.0		mg/L			07/16/10 13:07	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**310**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 22:07	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*		*07/13/10 22:07*	*1*
Trifluorotoluene (Surr)	*114*		*50 - 150*		*07/13/10 22:07*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 12:29	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*109*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:29*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 12:49	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*85*		*39 - 128*	*07/13/10 11:00*	*07/13/10 12:49*	*1*

Client Sample ID: C-MW-12-0610

Lab Sample ID: 580-20320-8

Date Collected: 06/30/10 14:22

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.1**		1.0		ug/L			07/13/10 07:17	1
Toluene	ND		1.0		ug/L			07/13/10 07:17	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 07:17	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 07:17	1
o-Xylene	ND		1.0		ug/L			07/13/10 07:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 07:17*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 07:17*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/13/10 07:17*	*1*
Trifluorotoluene (Surr)	*108*		*80 - 120*		*07/13/10 07:17*	*1*
4-Bromofluorobenzene (Surr)	*87*		*75 - 120*		*07/13/10 07:17*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.95**		0.12		mg/L		07/11/10 19:34	07/13/10 20:38	1
Motor Oil (>C24-C36)	**0.70**		0.24		mg/L		07/11/10 19:34	07/13/10 20:38	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*07/11/10 19:34*	*07/13/10 20:38*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.49**		0.020		mg/L		07/14/10 10:45	07/14/10 16:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**32**		1.0		mg/L			07/14/10 16:00	100
Sulfate	**120**		6.0		mg/L			07/16/10 13:24	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**320**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 22:33	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*		*07/13/10 22:33*	*1*
Trifluorotoluene (Surr)	*113*		*50 - 150*		*07/13/10 22:33*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**86.1**		26.0		ug/L		07/13/10 10:30	07/13/10 12:37	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*106*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:37*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 12:56	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*83*		*39 - 128*	*07/13/10 11:00*	*07/13/10 12:56*	*1*

Client Sample ID: C-MW-14-0610

Lab Sample ID: 580-20320-9

Date Collected: 06/29/10 09:59

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 07:43	1
Toluene	ND		1.0		ug/L			07/13/10 07:43	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 07:43	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 07:43	1
o-Xylene	ND		1.0		ug/L			07/13/10 07:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 07:43*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 07:43*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/13/10 07:43*	*1*
Trifluorotoluene (Surr)	*108*		*80 - 120*		*07/13/10 07:43*	*1*
4-Bromofluorobenzene (Surr)	*89*		*75 - 120*		*07/13/10 07:43*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.16**		0.12		mg/L		07/11/10 19:34	07/13/10 20:58	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/11/10 19:34	07/13/10 20:58	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*07/11/10 19:34*	*07/13/10 20:58*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/14/10 10:45	07/14/10 16:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**43**		1.0		mg/L			07/14/10 16:01	100
Sulfate	**120**		6.0		mg/L			07/16/10 13:40	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**220**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 22:59	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/13/10 22:59*	*1*
Trifluorotoluene (Surr)	*113*		*50 - 150*		*07/13/10 22:59*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 12:40	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*112*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:40*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 13:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*82*		*39 - 128*	*07/13/10 11:00*	*07/13/10 13:03*	*1*

Client Sample ID: C-MW-22-0610

Lab Sample ID: 580-20320-10

Date Collected: 06/30/10 07:07

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.0**		1.0		ug/L			07/13/10 08:08	1
Toluene	ND		1.0		ug/L			07/13/10 08:08	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 08:08	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 08:08	1
o-Xylene	ND		1.0		ug/L			07/13/10 08:08	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 08:08*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*07/13/10 08:08*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/13/10 08:08*	*1*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*07/13/10 08:08*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*07/13/10 08:08*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.95**		0.12		mg/L		07/11/10 19:34	07/13/10 21:18	1
Motor Oil (>C24-C36)	**0.65**		0.24		mg/L		07/11/10 19:34	07/13/10 21:18	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*07/11/10 19:34*	*07/13/10 21:18*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.47**		0.020		mg/L		07/14/10 10:45	07/14/10 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**26**		1.0		mg/L			07/14/10 16:02	100
Sulfate	**120**		6.0		mg/L			07/16/10 13:57	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**330**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 23:25	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*		*07/13/10 23:25*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*07/13/10 23:25*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**80.2**		26.0		ug/L		07/13/10 10:30	07/13/10 12:44	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*103*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:44*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 13:10	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*84*		*39 - 128*	*07/13/10 11:00*	*07/13/10 13:10*	*1*

Client Sample ID: C-RW-01-0610

Lab Sample ID: 580-20320-11

Date Collected: 06/29/10 12:52

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 08:33	1
Toluene	ND		1.0		ug/L			07/13/10 08:33	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 08:33	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 08:33	1
o-Xylene	ND		1.0		ug/L			07/13/10 08:33	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*07/13/10 08:33*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 08:33*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/13/10 08:33*	*1*
Trifluorotoluene (Surr)	*108*		*80 - 120*		*07/13/10 08:33*	*1*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*		*07/13/10 08:33*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/11/10 19:34	07/13/10 21:38	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/11/10 19:34	07/13/10 21:38	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*07/11/10 19:34*	*07/13/10 21:38*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/14/10 10:45	07/14/10 16:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**41**		1.0		mg/L			07/14/10 16:03	100
Sulfate	**120**		6.0		mg/L			07/16/10 14:13	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**180**		5.0		mg/L			07/12/10 12:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 18:10	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*		*07/13/10 18:10*	*1*
Trifluorotoluene (Surr)	*116*		*50 - 150*		*07/13/10 18:10*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 12:54	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*109*		*70 - 122*	*07/13/10 10:30*	*07/13/10 12:54*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 13:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*85*		*39 - 128*	*07/13/10 11:00*	*07/13/10 13:17*	*1*

Client Sample ID: C-Rinsate-0610

Lab Sample ID: 580-20320-12

Date Collected: 07/01/10 12:30

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 09:50	1
Toluene	ND		1.0		ug/L			07/13/10 09:50	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 09:50	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 09:50	1
o-Xylene	ND		1.0		ug/L			07/13/10 09:50	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 09:50*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 09:50*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*07/13/10 09:50*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*07/13/10 09:50*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*07/13/10 09:50*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/11/10 19:34	07/13/10 21:58	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/11/10 19:34	07/13/10 21:58	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*07/11/10 19:34*	*07/13/10 21:58*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 23:51	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*		*07/13/10 23:51*	*1*
Trifluorotoluene (Surr)	*113*		*50 - 150*		*07/13/10 23:51*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 13:02	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*109*		*70 - 122*	*07/13/10 10:30*	*07/13/10 13:02*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 13:24	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*84*		*39 - 128*	*07/13/10 11:00*	*07/13/10 13:24*	*1*

Client Sample ID: Trip Blank

Lab Sample ID: 580-20320-13

Date Collected: 06/29/10 00:00

Matrix: Water

Date Received: 07/02/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 01:22	1
Toluene	ND		1.0		ug/L			07/13/10 01:22	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 01:22	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 01:22	1

Client Sample ID: Trip Blank
Date Collected: 06/29/10 00:00
Date Received: 07/02/10 10:00

Lab Sample ID: 580-20320-13
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0		ug/L			07/13/10 01:22	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 01:22*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 01:22*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/13/10 01:22*	*1*
Trifluorotoluene (Surr)	*109*		*80 - 120*		*07/13/10 01:22*	*1*
4-Bromofluorobenzene (Surr)	*82*		*75 - 120*		*07/13/10 01:22*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	H	0.050		mg/L			07/14/10 00:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*50 - 150*		*07/14/10 00:17*	*1*
Trifluorotoluene (Surr)	*112*		*50 - 150*		*07/14/10 00:17*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 13:05	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*109*		*70 - 122*	*07/13/10 10:30*	*07/13/10 13:05*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 13:31	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*83*		*39 - 128*	*07/13/10 11:00*	*07/13/10 13:31*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-67584/4
Matrix: Water
Analysis Batch: 67584

Client Sample ID: MB 580-67584/4
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/13/10 00:06	1
Toluene	ND		1.0		ug/L			07/13/10 00:06	1
Ethylbenzene	ND		1.0		ug/L			07/13/10 00:06	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/13/10 00:06	1
o-Xylene	ND		1.0		ug/L			07/13/10 00:06	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/13/10 00:06*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/13/10 00:06*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*07/13/10 00:06*	*1*
Trifluorotoluene (Surr)	*99*		*80 - 120*		*07/13/10 00:06*	*1*
4-Bromofluorobenzene (Surr)	*86*		*75 - 120*		*07/13/10 00:06*	*1*

Lab Sample ID: LCS 580-67584/5
Matrix: Water
Analysis Batch: 67584

Client Sample ID: LCS 580-67584/5
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	25.0	24.3		ug/L		97	80 - 120
Toluene	25.1	24.8		ug/L		99	75 - 120
Ethylbenzene	25.0	25.6		ug/L		102	75 - 125
m-Xylene & p-Xylene	50.1	50.2		ug/L		100	75 - 130
o-Xylene	25.0	23.8		ug/L		95	80 - 120

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*100*		*85 - 120*
Ethylbenzene-d10	*101*		*80 - 120*
Trifluorotoluene (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*86*		*75 - 120*

Lab Sample ID: 580-20320-4 MS
Matrix: Water
Analysis Batch: 67584

Client Sample ID: C-MW-07-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	ND		20.1	20.1		ug/L		100	80 - 120
Toluene	ND		20.1	20.5		ug/L		102	75 - 120
Ethylbenzene	ND		20.1	20.7		ug/L		103	75 - 125
m-Xylene & p-Xylene	ND		40.2	41.3		ug/L		103	75 - 130
o-Xylene	ND		20.1	20.3		ug/L		101	80 - 120

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
Fluorobenzene (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*100*		*85 - 120*
Ethylbenzene-d10	*100*		*80 - 120*
Trifluorotoluene (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-20320-4 MSD
Matrix: Water
Analysis Batch: 67584

Client Sample ID: C-MW-07-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	ND		20.1	20.3		ug/L		101	80 - 120	1	30
Toluene	ND		20.1	20.6		ug/L		102	75 - 120	1	30
Ethylbenzene	ND		20.1	21.6		ug/L		107	75 - 125	4	30
m-Xylene & p-Xylene	ND		40.2	42.4		ug/L		106	75 - 130	3	30
o-Xylene	ND		20.1	20.3		ug/L		101	80 - 120	0	30

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*101*		*85 - 120*
Ethylbenzene-d10	*102*		*80 - 120*
Trifluorotoluene (Surr)	*111*		*80 - 120*
4-Bromofluorobenzene (Surr)	*89*		*75 - 120*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-67521/1-A
Matrix: Water
Analysis Batch: 67618

Client Sample ID: MB 580-67521/1-A
Prep Type: Total/NA
Prep Batch: 67521

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/11/10 19:34	07/13/10 15:21	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		07/11/10 19:34	07/13/10 15:21	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*07/11/10 19:34*	*07/13/10 15:21*	*1*

Lab Sample ID: LCS 580-67521/2-A
Matrix: Water
Analysis Batch: 67618

Client Sample ID: LCS 580-67521/2-A
Prep Type: Total/NA
Prep Batch: 67521

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24)	5.00	5.38		mg/L		108	70 - 140
Motor Oil (>C24-C36)	5.00	6.03		mg/L		121	66 - 125

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*103*		*50 - 150*

Lab Sample ID: 580-20320-4 MS
Matrix: Water
Analysis Batch: 67618

Client Sample ID: C-MW-07-0610
Prep Type: Total/NA
Prep Batch: 67521

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24)	ND		4.76	5.27		mg/L		111	70 - 140
Motor Oil (>C24-C36)	ND		4.76	5.75		mg/L		119	66 - 125

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*105*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-20320-4 MSD — **Client Sample ID: C-MW-07-0610**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 67618 — **Prep Batch: 67521**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	ND		4.76	5.54		mg/L		116	70 - 140	5	27
Motor Oil (>C24-C36)	ND		4.76	6.09	F	mg/L		126	66 - 125	6	27

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*105*		*50 - 150*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-67738/19-A — **Client Sample ID: MB 580-67738/19-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 67799 — **Prep Batch: 67738**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/14/10 10:45	07/14/10 15:01	1

Lab Sample ID: LCS 580-67738/20-A — **Client Sample ID: LCS 580-67738/20-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 67799 — **Prep Batch: 67738**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Manganese	1.00	1.00		mg/L		100	80 - 120

Lab Sample ID: LCSD 580-67738/21-A — **Client Sample ID: LCSD 580-67738/21-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 67799 — **Prep Batch: 67738**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Manganese	1.00	1.01		mg/L		101	80 - 120	1	20

Lab Sample ID: 580-20320-1 MS — **Client Sample ID: C-MW-02-0610**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 67799 — **Prep Batch: 67738**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Manganese	0.085		1.00	1.09		mg/L		101	75 - 125

Lab Sample ID: 580-20320-1 MSD — **Client Sample ID: C-MW-02-0610**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 67799 — **Prep Batch: 67738**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Manganese	0.085		1.00	1.11		mg/L		102	75 - 125	1	20

Lab Sample ID: 580-20320-1 DU — **Client Sample ID: C-MW-02-0610**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 67799 — **Prep Batch: 67738**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	0.085		0.0848		mg/L		1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-67952/3
Matrix: Water
Analysis Batch: 67952

Client Sample ID: MB 580-67952/3
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.2		mg/L			07/15/10 11:13	1

Lab Sample ID: LCS 580-67952/4
Matrix: Water
Analysis Batch: 67952

Client Sample ID: LCS 580-67952/4
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Sulfate			15.0	14.3		mg/L		95	90 - 110		

Lab Sample ID: 580-20320-4 MS
Matrix: Water
Analysis Batch: 67952

Client Sample ID: C-MW-07-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Sulfate	110		40.0	154		mg/L		102	80 - 120		

Lab Sample ID: 580-20320-4 MSD
Matrix: Water
Analysis Batch: 67952

Client Sample ID: C-MW-07-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Sulfate	110		40.0	152		mg/L		96	80 - 120	2	20

Lab Sample ID: 580-20320-4 DU
Matrix: Water
Analysis Batch: 67952

Client Sample ID: C-MW-07-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	110		113		mg/L		0	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 580-67653/1
Matrix: Water
Analysis Batch: 67653

Client Sample ID: MB 580-67653/1
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0		mg/L			07/12/10 12:00	1

Lab Sample ID: LCS 580-67653/2
Matrix: Water
Analysis Batch: 67653

Client Sample ID: LCS 580-67653/2
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Alkalinity			100	93.7		mg/L		94	85 - 115		

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: 580-20320-1 DU
Matrix: Water
Analysis Batch: 67653

Client Sample ID: C-MW-02-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	550			562		mg/L				2	17

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 580-67792/30
Matrix: Water
Analysis Batch: 67792

Client Sample ID: MB 580-67792/30
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.010		mg/L			07/14/10 17:26	1

Lab Sample ID: LCS 580-67792/29
Matrix: Water
Analysis Batch: 67792

Client Sample ID: LCS 580-67792/29
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Nitrate Nitrite as N			1.00	1.02		mg/L		102	90 - 110		

Lab Sample ID: 580-20320-1 MS
Matrix: Water
Analysis Batch: 67792

Client Sample ID: C-MW-02-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Nitrate Nitrite as N	25		1.00	24.2	4	mg/L		-90	60 - 130		

Lab Sample ID: 580-20320-1 DU
Matrix: Water
Analysis Batch: 67792

Client Sample ID: C-MW-02-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Nitrate Nitrite as N	25			25.1		mg/L				0	20

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-67679/4
Matrix: Water
Analysis Batch: 67679

Client Sample ID: MB 580-67679/4
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/13/10 15:59	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*		*07/13/10 15:59*	*1*
Trifluorotoluene (Surr)	*114*		*50 - 150*		*07/13/10 15:59*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-67679/5
Matrix: Water
Analysis Batch: 67679

Client Sample ID: LCS 580-67679/5
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Gasoline			1.00	0.979		mg/L		98	79 - 110		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*
Trifluorotoluene (Surr)	*106*		*50 - 150*

Lab Sample ID: LCSD 580-67679/6
Matrix: Water
Analysis Batch: 67679

Client Sample ID: LCSD 580-67679/6
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline			1.00	0.967		mg/L		97	79 - 110	1	20

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*50 - 150*
Trifluorotoluene (Surr)	*104*		*50 - 150*

Lab Sample ID: 580-20320-4 MS
Matrix: Water
Analysis Batch: 67679

Client Sample ID: C-MW-07-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Gasoline	ND		1.16	1.22		mg/L		104	50 - 150		

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*
Trifluorotoluene (Surr)	*114*		*50 - 150*

Lab Sample ID: 580-20320-4 MSD
Matrix: Water
Analysis Batch: 67679

Client Sample ID: C-MW-07-0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline	ND		1.16	1.23		mg/L		105	50 - 150	1	35

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*
Trifluorotoluene (Surr)	*113*		*50 - 150*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Lab Sample ID: 10G1724-BLK1
Matrix: Water
Analysis Batch: T010433

Client Sample ID: 10G1724-BLK1
Prep Type: total
Prep Batch: 10G1724_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/13/10 10:30	07/13/10 11:48	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*104*		*70 - 122*	*07/13/10 10:30*	*07/13/10 11:48*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC (Continued)

Lab Sample ID: 10G1724-BS1
Matrix: Water
Analysis Batch: T010433

Client Sample ID: 10G1724-BS1
Prep Type: total
Prep Batch: 10G1724_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane			278	242		ug/L		87	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Acetylene	*105*		*70 - 122*

Lab Sample ID: 10G1724-MS1
Matrix: Water
Analysis Batch: T010433

Client Sample ID: C-MW-07-0610
Prep Type: total
Prep Batch: 10G1724_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane	ND		278	269		ug/L		97	46 - 133		

Surrogate	*Matrix Spike % Recovery*	*Matrix Spike Qualifier*	*Limits*
Acetylene	*108*		*70 - 122*

Lab Sample ID: 10G1724-MSD1
Matrix: Water
Analysis Batch: T010433

Client Sample ID: C-MW-07-0610
Prep Type: total
Prep Batch: 10G1724_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane	ND		278	262		ug/L		94	46 - 133	3	20

Surrogate	*Matrix Spike Dup % Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
Acetylene	*101*		*70 - 122*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Lab Sample ID: 10G1726-BLK1
Matrix: Water
Analysis Batch: T010434

Client Sample ID: 10G1726-BLK1
Prep Type: total
Prep Batch: 10G1726_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		07/13/10 11:00	07/13/10 11:31	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*87*		*39 - 128*	*07/13/10 11:00*	*07/13/10 11:31*	*1*

Lab Sample ID: 10G1726-BS1
Matrix: Water
Analysis Batch: T010434

Client Sample ID: 10G1726-BS1
Prep Type: total
Prep Batch: 10G1726_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Ethanol			50.0	49.4		mg/L		99	70 - 130		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Isopropyl Acetate	*88*		*39 - 128*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified (Continued)

Lab Sample ID: 10G1726-MS1
Matrix: Water
Analysis Batch: T010434

Client Sample ID: C-MW-07-0610
Prep Type: total
Prep Batch: 10G1726_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits		
Ethanol	ND		50.0	52.5		mg/L		105	65 - 130		

Surrogate	*Matrix Spike % Recovery*	*Matrix Spike Qualifier*	*Limits*
Isopropyl Acetate	*86*		*39 - 128*

Lab Sample ID: 10G1726-MSD1
Matrix: Water
Analysis Batch: T010434

Client Sample ID: C-MW-07-0610
Prep Type: total
Prep Batch: 10G1726_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ethanol	ND		50.0	50.8		mg/L		102	65 - 130	3	11

Surrogate	*Matrix Spike Dup % Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
Isopropyl Acetate	*86*		*39 - 128*

Client Sample ID: C-MW-02-0610

Lab Sample ID: 580-20320-1

Date Collected: 06/30/10 16:28

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 01:47	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 17:00	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 15:16	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 10:40	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 16:11	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 18:36	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:03	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 11:59	ljt	TestAmerica Nashville

Client Sample ID: C-MW-04-0610

Lab Sample ID: 580-20320-2

Date Collected: 06/29/10 14:57

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 02:13	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 17:20	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 15:44	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 10:56	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 15:50	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 17:17	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:06	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 12:06	ljt	TestAmerica Nashville

Client Sample ID: C-MW-06-0610

Lab Sample ID: 580-20320-3

Date Collected: 06/29/10 16:57

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 02:38	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 17:40	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 15:48	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 11:13	AM	TestAmerica Seattle

Lab Chronicle

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-20320-1

Client Sample ID: C-MW-06-0610

Lab Sample ID: 580-20320-3

Date Collected: 06/29/10 16:57

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 15:51	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 17:43	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:11	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 12:13	ljt	TestAmerica Nashville

Client Sample ID: C-MW-07-0610

Lab Sample ID: 580-20320-4

Date Collected: 06/30/10 10:01

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 03:29	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 18:00	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 15:52	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 11:29	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 15:53	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 19:02	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:13	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 12:20	ljt	TestAmerica Nashville

Client Sample ID: C-MW-08-0610

Lab Sample ID: 580-20320-5

Date Collected: 06/30/10 11:05

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 03:03	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 19:39	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 15:56	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 12:02	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 15:54	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 21:14	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:17	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville

Client Sample ID: C-MW-08-0610

Lab Sample ID: 580-20320-5

Date Collected: 06/30/10 11:05

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
total	Analysis	SW846 8015B		1	T010434	07/13/10 12:27	ljt	TestAmerica Nashville

Client Sample ID: C-MW-10-0610

Lab Sample ID: 580-20320-6

Date Collected: 06/30/10 08:22

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 06:26	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 19:58	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 16:00	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 12:18	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 15:55	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 21:40	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:20	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 12:34	ljt	TestAmerica Nashville

Client Sample ID: C-MW-11-0610

Lab Sample ID: 580-20320-7

Date Collected: 06/30/10 12:41

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 06:52	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 20:18	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 16:05	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 13:07	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 15:59	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 22:07	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:29	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 12:49	ljt	TestAmerica Nashville

Lab Chronicle

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-20320-1

Client Sample ID: C-MW-12-0610

Lab Sample ID: 580-20320-8

Date Collected: 06/30/10 14:22

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 07:17	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 20:38	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 16:09	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 13:24	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 16:00	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 22:33	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:37	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 12:56	ljt	TestAmerica Nashville

Client Sample ID: C-MW-14-0610

Lab Sample ID: 580-20320-9

Date Collected: 06/29/10 09:59

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 07:43	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 20:58	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 16:13	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 13:40	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 16:01	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 22:59	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:40	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 13:03	ljt	TestAmerica Nashville

Client Sample ID: C-MW-22-0610

Lab Sample ID: 580-20320-10

Date Collected: 06/30/10 07:07

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 08:08	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 21:18	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 16:16	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 13:57	AM	TestAmerica Seattle

Client Sample ID: C-MW-22-0610

Lab Sample ID: 580-20320-10

Date Collected: 06/30/10 07:07

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 16:02	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 23:25	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:44	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 13:10	ljt	TestAmerica Nashville

Client Sample ID: C-RW-01-0610

Lab Sample ID: 580-20320-11

Date Collected: 06/29/10 12:52

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 08:33	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 21:38	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			67738	07/14/10 10:45	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	67799	07/14/10 16:20	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67952	07/16/10 14:13	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67653	07/12/10 12:00	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		100	67792	07/14/10 16:03	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 18:10	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 12:54	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 13:17	ljt	TestAmerica Nashville

Client Sample ID: C-Rinsate-0610

Lab Sample ID: 580-20320-12

Date Collected: 07/01/10 12:30

Matrix: Water

Date Received: 07/02/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 09:50	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67521	07/11/10 19:34	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67618	07/13/10 21:58	EK	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/13/10 23:51	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 13:02	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 13:24	ljt	TestAmerica Nashville

Client Sample ID: Trip Blank
Date Collected: 06/29/10 00:00
Date Received: 07/02/10 10:00

Lab Sample ID: 580-20320-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67584	07/13/10 01:22	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67679	07/14/10 00:17	MAT	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1724_P	07/13/10 10:30	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010433	07/13/10 13:05	ljt	TestAmerica Nashville
total	Prep	NO PREP-PEST		1	10G1726_P	07/13/10 11:00	ljt	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T010434	07/13/10 13:31	ljt	TestAmerica Nashville

Certification Summary

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-20320-1

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica Seattle		USDA		P330-08-00099	05/22/11
TestAmerica Seattle	Alaska	State Program	10	UST-022	03/04/11
TestAmerica Seattle	California	NELAC Secondary AB	9	1115CA	01/31/11
TestAmerica Seattle	Florida	NELAC Secondary AB	4	E871074	06/30/11
TestAmerica Seattle	L-A-B	DoD ELAP	0	L2236	01/19/13
TestAmerica Seattle	L-A-B	ISO/IEC 17025	0	L2236	01/19/13
TestAmerica Seattle	Montana	State Program	8		04/30/20
TestAmerica Seattle	Oregon	NELAC Primary AB	10	WA100007	11/06/10
TestAmerica Seattle	Washington	State Program	10	C1226	02/17/11
TestAmerica Nashville		AIHA		100790	09/01/11
TestAmerica Nashville		USDA		S-48469	09/30/10
TestAmerica Nashville	A2LA	A2LA	0	0453.07	12/31/11
TestAmerica Nashville	A2LA	WY UST	0	453.07	12/31/11
TestAmerica Nashville	Alabama	State Program	4	41150	10/31/10
TestAmerica Nashville	Alaska	State Program	10	UST-087	07/24/11
TestAmerica Nashville	Arizona	State Program	9	AZ0473	05/05/11
TestAmerica Nashville	Arkansas	State Program	6	88-0737	04/25/11
TestAmerica Nashville	California	NELAC Secondary AB	9	1168CA	10/31/10
TestAmerica Nashville	Colorado	State Program	8	N/A	02/28/11
TestAmerica Nashville	Connecticut	State Program	1	PH-0220	12/31/11
TestAmerica Nashville	Florida	NELAC Primary AB	4	E87358	06/30/11
TestAmerica Nashville	Illinois	NELAC Secondary AB	5	200010	12/09/10
TestAmerica Nashville	Iowa	State Program	7	131	05/01/12
TestAmerica Nashville	Kansas	NELAC Secondary AB	7	E-10229	10/31/10
TestAmerica Nashville	Kentucky	State Program	4	90038	12/31/10
TestAmerica Nashville	Kentucky	State Program	4	2	10/28/10
TestAmerica Nashville	Louisiana	NELAC Secondary AB	6	LA100011	12/31/10
TestAmerica Nashville	Louisiana	NELAC Secondary AB	6	30613	06/30/11
TestAmerica Nashville	Maryland	State Program	3	316	03/31/11
TestAmerica Nashville	Massachusetts	State Program	1	M-TN032	06/30/11
TestAmerica Nashville	Minnesota	State Program	5	047-999-345	12/31/10
TestAmerica Nashville	Mississippi	State Program	4	N/A	06/30/11
TestAmerica Nashville	Montana	State Program	8	NA	01/01/15
TestAmerica Nashville	Nevada	State Program	9	TN00032	07/31/10
TestAmerica Nashville	New Hampshire	NELAC Secondary AB	1	2963	10/09/10
TestAmerica Nashville	New Jersey	NELAC Secondary AB	2	TN965	06/30/11
TestAmerica Nashville	New York	NELAC Secondary AB	2	11342	04/01/11
TestAmerica Nashville	North Carolina	State Program	4	387	12/31/10
TestAmerica Nashville	North Dakota	State Program	8	R-146	06/30/11
TestAmerica Nashville	Ohio	VAP	5	CL0033	04/01/12
TestAmerica Nashville	Oklahoma	State Program	6	9412	08/31/10
TestAmerica Nashville	Oregon	NELAC Secondary AB	10	TN200001	04/30/11
TestAmerica Nashville	Pennsylvania	NELAC Secondary AB	3	68-00585	06/30/11
TestAmerica Nashville	Rhode Island	State Program	1	LAO00268	12/30/10
TestAmerica Nashville	South Carolina	State Program	4	84009	03/19/11
TestAmerica Nashville	South Carolina	State Program	4	84009	02/28/11
TestAmerica Nashville	Tennessee	State Program	4	10598	06/30/12
TestAmerica Nashville	Tennessee	State Program	4	2008	03/19/11
TestAmerica Nashville	Texas	NELAC Secondary AB	6	T104704077-09-TX	08/31/10
TestAmerica Nashville	Utah	NELAC Secondary AB	8	TAN	06/30/10
TestAmerica Nashville	Virginia	State Program	3	00323	06/30/11
TestAmerica Nashville	Washington	State Program	10	C1712	07/19/10
TestAmerica Nashville	West Virginia	State Program	3	219	02/28/11
TestAmerica Nashville	Wisconsin	State Program	5	998020430	08/31/10

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Summary

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-20320-1

Lab Sample ID	Client Sample ID	Matrix	Sampled	Received
580-20320-1	C-MW-02-0610	Water	06/30/10 16:28	07/02/10 10:00
580-20320-2	C-MW-04-0610	Water	06/29/10 14:57	07/02/10 10:00
580-20320-3	C-MW-06-0610	Water	06/29/10 16:57	07/02/10 10:00
580-20320-4	C-MW-07-0610	Water	06/30/10 10:01	07/02/10 10:00
580-20320-5	C-MW-08-0610	Water	06/30/10 11:05	07/02/10 10:00
580-20320-6	C-MW-10-0610	Water	06/30/10 08:22	07/02/10 10:00
580-20320-7	C-MW-11-0610	Water	06/30/10 12:41	07/02/10 10:00
580-20320-8	C-MW-12-0610	Water	06/30/10 14:22	07/02/10 10:00
580-20320-9	C-MW-14-0610	Water	06/29/10 09:59	07/02/10 10:00
580-20320-10	C-MW-22-0610	Water	06/30/10 07:07	07/02/10 10:00
580-20320-11	C-RW-01-0610	Water	06/29/10 12:52	07/02/10 10:00
580-20320-12	C-Rinsate-0610	Water	07/01/10 12:30	07/02/10 10:00
580-20320-13	Trip Blank	Water	06/29/10 00:00	07/02/10 10:00

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush
☐ Short Hold

Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
URS Corp	Annette Brewster	7/1/10	6356
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page**
10550 Richmond Ave Ste 155	713-914-6485	20320	1 of 1
City / **State** / **Zip Code**	**Sampler**	**Lab Contact**	
Houston / TX / 77042	E. LeCocq	C. Armstrong	
Project Name and Location (State)	**Billing Contact**		
NWTC Pasco Terminal (WA)			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: BTEX	NWTPH-Gx	NWTPH-Dx	Ethanol	Methane	Alkalinity	Nitrate/Nitrite	Sulfate	Manganese
-1 C-MW-02-0610	6/30/10	1628		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-2 C-MW-04-0610	6/29/10	1457		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-3 C-MW-06-0610	6/29/10	1657		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-4 C-MW-07-0610	6/30/10	1001		X			1	1	1	35			X	X	X	X	X	X	X	X	X
-5 C-MW-08-0610	6/30/10	1105		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-6 C-MW-10-0610	6/30/10	822		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-7 C-MW-11-0610	6/30/10	1241		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-8 C-MW-12-0610	6/30/10	1422		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-9 C-MW-14-0610	6/29/10	959		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-10 C-MW-22-0610	6/30/10	707		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-11 C-RW-01-0610	6/29/10	1252		X			1	1	1	14			X	X	X	X	X	X	X	X	X
-12 C-Rinsate-0610	7/1/10	1230		X						11			X	X	X	X					
-13																					

Special Instructions/ Conditions of Receipt:
MS/MSD Volume for: BTEX, Gx, Dx, Ethanol

Cooler: Trip Blank TB 7/6/10 — ☒ Yes ☐ No Cooler Temp:____

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other STANDARD

QC Requirements (Specify): MS/MSD on MW-07 for: Gx, Dx, BTEX, Ethanol / Trip Blank for Volatiles

	Date	Time		Date	Time
1. Relinquished By Sign/Print: Zack Oremland	7/1/10	1430	1. Received By Sign/Print: Cathy Gamble	7/2/10	10:00
2. Relinquished By Sign/Print:			2. Received By Sign/Print:		
3. Relinquished By Sign/Print:			3. Received By Sign/Print:		

Comments: 4 Coolers total. Trip Blanks provided for Lab QC volatiles

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0210)

07/29/2010

Login Sample Receipt Check List

Client: URS Corporation

Job Number: 580-20320-1

Login Number: 20320

List Source: TestAmerica Seattle

Creator: Gamble, Cathy

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	Received Trip BLank not on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	False	trip blank vial I has >1/4" HS
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

CPL MONITOR WELLS

DECEMBER 2010 SAMPLING EVENT

Data Usability Summary Report

To:	Annette Brewster	**Date:**	January 25, 2011
From:	Jeni Garcia	**File:**	DQRR FinalRev.1_012511
RE:	Review of December 2010 Groundwater Data RI/FS Pasco	**cc:**	Zack Oremland

This Data Usability Summary Report (DUSR) assesses the laboratory results for groundwater samples collected during the Remedial Investigation and Feasibility Study at the Northwest Terminaling Company (NWTC) Pasco Terminal in Pasco Washington. URS collected 10 primary groundwater samples, one duplicate groundwater sample, one equipment rinsate blank, and one trip blank from December 14, 2010 to December 17, 2010. The samples were submitted to TestAmerica (TA) Inc., located in Seattle, Washington. All samples were analyzed for one or more of the following parameters in general accordance with the methods indicated in the table below. The results were reported in one TA data package, 580-23591.

Method	Analytical Parameter
EPA 8260B	Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
NWTPH-Dx	Semi-volatile Petroleum Products-Dx
NWTPH-Gx	Volatile Petroleum Products-Gx
EPA 6010B	Total Manganese
EPA 8015B	Ethanol
EPA 300.0	Sulfate
EPA 310.1	Alkalinity
EPA 353.2	Nitrate-Nitrite as Nitrogen
RSK 175M	Dissolved Gases (Methane)

The analytical results for all samples were reviewed using guidance from the EPA Contract Laboratory Program National Functional Guidelines (NFGs) for Organic Data Review (EPA, 2008), EPA Contract Laboratory Program NFGs for Inorganic Data Review (EPA, 2004), laboratory quality control (QC) criteria (as applicable for each analytical method used), and the Quality Assurance Project Plan (QAPP) for NWTC Pasco Terminal RI/FS (URS/CH2MHILL, 2010). Raw data information was not provided by the laboratory, therefore initial and diluted results were not compared as part of this review. The DUSR included verification of the following:

Representativeness

- Chain of custody (COC) records
- Case narrative
- Proper sample collection and handling procedures
- Holding times
- Method / laboratory blank analysis
- Trip blank analysis
- Rinsate blank analysis

Accuracy

- Surrogate compound recoveries
- Laboratory control spike (LCS) recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries

Precision

- Laboratory duplicate (laboratory duplicate, matrix spike duplicate MSD, or LCS duplicate) precision
- Field duplicate precision

Comparability

- Compound identification
- Method detection (MDL) and method reporting limits (MRL)

Completeness

- Data completeness and format

Final sample results are presented in analytical summary tables in the associated report. No qualifiers were added to data as a result of this review.

REPRESENTATIVENESS

Chain-of-Custody and Holding Times

It was indicated on the COC form that samples were maintained under custody and the forms were signed upon release and receipt. All coolers were received by the laboratory within the recommended temperature range of 4ºC ± 2ºC.

Case Narrative

All items discussed in the TA case narratives are discussed in the following sections.

Review of Blanks

Method Blanks

Method blanks were used to check for laboratory contamination and instrument bias. The laboratory analyzed at least one method blank for each analysis and for each batch, per method requirements. Target analytes were not reported as detected in the associated method blanks.

Rinsate Blanks

Rinsate blanks were used to check for equipment contamination introduced during the sampling procedures. One rinsate blank, C-RW-02-1210, was collected on December 17, 2010. Nitrate nitrite was detected in the trip blank at 0.045 mg/L. All nitrate nitrite results were greater than

10x the trip blank concentration, therefore no qualification is necessary. No other target analytes were reported as detected in the rinsate blank.

Trip Blanks

Trip blanks were used to check for contamination during transportation and are required for volatile analysis. Target analytes were not reported as detected in the trip blanks.

ACCURACY

Surrogate Recovery Review

Each sample analyzed for organic compounds was spiked with surrogates (system monitoring compounds). Surrogate recoveries are a measure of accuracy for the overall analysis of each individual sample.

An alternate surrogate standard, isopropyl acetate, was utilized for ethanol analyses. The surrogate percent recoveries ranged from 68% to 81%, within the laboratory control limits of 39% to 128%. The project specific surrogate limits specified in the QAPP range from 70% to 129%. Surrogate recoveries reported for ethanol were not notably low and were within laboratory control limits, therefore no qualification is necessary.

Acetylene surrogate recoveries for the methane MS and MSD analyses were below the project specific and laboratory limits of 70%-122% at 52% and 46%, respectively. The MS/MSD percent recoveries and parent sample surrogate recoveries were both within project specific and laboratory limits, therefore no qualification is necessary.

All other surrogate recoveries met the project's acceptance criteria as listed in the QAPP.

Laboratory Control Samples/Laboratory Control Sample Duplicates

LCS/LCSD analyses are used to monitor the laboratory's day-to-day performance of routine analytical methods, independent of matrix effects, and to assess accuracy for the target compounds. In instances when the LCS/LCSD recoveries were above project or laboratory quality control limits and the target sample was not detected, the results were not qualified. All LCS or LCS/LCSD percent recoveries met the project's acceptance criteria.

Matrix Spike/Matrix Spike Duplicate Review

MS/MSD samples are analyzed to assess the ability of the laboratory to recover the target compounds from the sample matrix. Additional volume from sample C-MW-12-1210 was submitted to the laboratory for MS/MSD. MS/MSD recoveries for samples with concentrations greater than four times the spike amount added were not considered to be a representative measure of accuracy.

The MS recovery for benzene of 125% was above project and laboratory limits of 80%-120. In addition, the relative percent difference (RPD) for benzene (37%), ethylbenzene (31%), m-xylene & p-xylene (33%) and o-xylene (32%) exceeded the project and laboratory limit (30%). These

analytes were not detected in the parent sample C-MW-12-1210, therefore, no qualification is necessary.

All other MS/MSD recoveries were acceptable.

PRECISION

Duplicate Review

Field Duplicate Results

A field duplicate was collected and submitted to the laboratory to verify sampling techniques and assess laboratory procedures. C-MW-22-1210 was collected as a field duplicate for sample C-MW-12-1210, and submitted to the laboratory as a blind sample. The RPD was calculated when sample results were greater than five times the reporting limit and compared to the QAPP criterion of ≤30%. All field duplicate data were acceptable.

Laboratory Duplicate Results

TA performed a laboratory duplicate on all batches in accordance to method criteria. In addition to MS/MSD analysis mentioned above, the laboratory performed a laboratory duplicate analysis on sample C-MW-12-1210 for sulfate and alkalinity. All RPDs for laboratory duplicate data were acceptable.

LCS/LCSD Duplicate Results

LCS/LCSD RPDs were acceptable for all LCS/LCSD duplicates performed in this data package.

COMPARABILITY

Compound Identification

The laboratory noted that the chromatograms associated with the diesel range and motor oil range results reported for C-MW-02-1210 and C-MW-12-1210, and the diesel range results reported for C-MW-11-1210 and C-MW-22-1210 were primarily due to mineral/transformer oil and/or biogenic interference. These comments are available on the laboratory reports, no qualification was necessary.

Reporting Limits

The sensitivity (i.e., reporting limits) of the analytical methods is driven by the project-specific objectives. Target detection limits for the project are the TA MRLs. MRLs reported by TA were below project action levels defined in the QAPP. Detections between the MDL and the MRL were not reported by the laboratory.

COMPLETENESS

The laboratory reported all requested analyses and the deliverable data reports were complete. Completeness is defined as the percentage of usable data out of the total amount of data generated. No qualifiers were assigned as a result of this data review. Completeness for the investigation is 100%.

REFERENCES

USEPA, April 1998. Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, Rev. 5, EPA, Office of Solid Waste, Washington, D.C.

USEPA, October 2004. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

USEPA, September 2008. EPA Contract Laboratory Program National Functional Guidelines for Organics Data Review.

URS/CH2MHill, April 2010. Quality Assurance Project Plan for the NWTC Pasco Terminal RI/FS.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-23591-1
Client Project/Site: NWTC Pasco Terminal (WA)
Revision: 2

For:
URS Corporation
10550 Richmond Avenue
Houston, Texas 77042

Attn: Staff Geologist Frances Devore

Authorized for release by:
1/25/2011 11:36 AM

Curtis Armstrong
Project Manager I
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Job ID: 580-23591-1

Laboratory: TestAmerica Nashville

NELAC Certification

NELAC certifications are not held for the following analytes included in this report:

Method	Matrix	Analyte
RSK 175 M	Water	Methane

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-23591-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
Method(s) NWTPH-Dx:
The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 77886 exceeded control limits for the following analytes: motor oil. The affected samples: 580-23591-1, 580-23591-8, and 580-23591-10, had detections for this analyte; therefore, the QC and affected samples have been re-analyzed, these analytes were biased high in the LCS and samples that were not detectedhave been reported;. The LCS/LCSD samples recovered within acceptance limits, and all samples have been reported.

For samples 580-23591-1, 580-23591-7, 580-23591-8, and 580-23591-10, the results in the C10-C24 and/or motor oil ranges are due primarily to what appears to be mineral/transformer oil, or possibly biogenic interference.

No other analytical or quality issues were noted.

Qualifier Definition/Glossary

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-23591-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

Pesticides

Qualifier	Qualifier Description
Z6	Surrogate recovery was below acceptance limits.

General Chemistry

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

Client Sample ID: C-MW-02-1210
Date Collected: 12/15/10 17:15
Date Received: 12/20/10 10:00

Lab Sample ID: 580-23591-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 18:11	1
Toluene	ND		1.0		ug/L			12/23/10 18:11	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 18:11	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 18:11	1
o-Xylene	ND		1.0		ug/L			12/23/10 18:11	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 18:11*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*12/23/10 18:11*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/23/10 18:11*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*12/23/10 18:11*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*		*12/23/10 18:11*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 18:11	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 18:11*	*1*
Trifluorotoluene (Surr)	*107*		*50 - 150*		*12/23/10 18:11*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 18:11*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 18:11*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 18:11*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**3.1**		0.12		mg/L		12/21/10 12:25	12/24/10 03:59	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*12/21/10 12:25*	*12/24/10 03:59*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil (>C24-C36)	**2.4**		0.24		mg/L		12/21/10 12:25	12/29/10 09:30	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*101*		*50 - 150*	*12/21/10 12:25*	*12/29/10 09:30*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 09:59	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*100*		*70 - 122*	*12/29/10 08:20*	*12/29/10 09:59*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 13:45	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*79*		*39 - 128*	*12/28/10 12:20*	*12/28/10 13:45*	*1*

Client Sample ID: C-MW-02-1210

Lab Sample ID: 580-23591-1

Date Collected: 12/15/10 17:15

Matrix: Water

Date Received: 12/20/10 10:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.11		0.020		mg/L		01/04/11 18:11	01/06/11 01:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	120		6.0		mg/L			01/04/11 16:46	5
Nitrate Nitrite as N	46		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	650		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-MW-04-1210

Lab Sample ID: 580-23591-2

Date Collected: 12/15/10 11:12

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 20:18	1
Toluene	ND		1.0		ug/L			12/23/10 20:18	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 20:18	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 20:18	1
o-Xylene	ND		1.0		ug/L			12/23/10 20:18	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 20:18*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 20:18*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 20:18*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/23/10 20:18*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*12/23/10 20:18*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 20:18	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 20:18*	*1*
Trifluorotoluene (Surr)	*105*		*50 - 150*		*12/23/10 20:18*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 20:18*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 20:18*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 20:18*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/21/10 12:25	12/24/10 04:23	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/21/10 12:25	12/24/10 04:23	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*12/21/10 12:25*	*12/24/10 04:23*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 10:02	1

Client Sample ID: C-MW-04-1210

Lab Sample ID: 580-23591-2

Date Collected: 12/15/10 11:12

Matrix: Water

Date Received: 12/20/10 10:00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*103*		*70 - 122*	*12/29/10 08:20*	*12/29/10 10:02*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 13:52	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*78*		*39 - 128*	*12/28/10 12:20*	*12/28/10 13:52*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/04/11 18:11	01/06/11 01:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/04/11 17:03	5
Nitrate Nitrite as N	**26**		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-MW-06-1210

Lab Sample ID: 580-23591-3

Date Collected: 12/14/10 16:47

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 20:43	1
Toluene	ND		1.0		ug/L			12/23/10 20:43	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 20:43	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 20:43	1
o-Xylene	ND		1.0		ug/L			12/23/10 20:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 20:43*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 20:43*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/23/10 20:43*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*12/23/10 20:43*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*12/23/10 20:43*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 20:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 20:43*	*1*
Trifluorotoluene (Surr)	*107*		*50 - 150*		*12/23/10 20:43*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 20:43*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 20:43*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 20:43*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/21/10 12:25	12/24/10 04:47	1

Client Sample ID: C-MW-06-1210

Lab Sample ID: 580-23591-3

Date Collected: 12/14/10 16:47

Matrix: Water

Date Received: 12/20/10 10:00

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/21/10 12:25	12/24/10 04:47	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*12/21/10 12:25*	*12/24/10 04:47*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/27/10 11:23	12/27/10 12:40	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*93*		*70 - 122*	*12/27/10 11:23*	*12/27/10 12:40*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 13:59	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*79*		*39 - 128*	*12/28/10 12:20*	*12/28/10 13:59*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/04/11 18:11	01/06/11 02:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/04/11 17:19	5
Nitrate Nitrite as N	**26**		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-MW-07-1210

Lab Sample ID: 580-23591-4

Date Collected: 12/15/10 13:35

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 21:09	1
Toluene	ND		1.0		ug/L			12/23/10 21:09	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 21:09	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 21:09	1
o-Xylene	ND		1.0		ug/L			12/23/10 21:09	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*12/23/10 21:09*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 21:09*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 21:09*	*1*
Trifluorotoluene (Surr)	*104*		*80 - 120*		*12/23/10 21:09*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*12/23/10 21:09*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 21:09	1

Client Sample ID: C-MW-07-1210

Lab Sample ID: 580-23591-4

Date Collected: 12/15/10 13:35

Matrix: Water

Date Received: 12/20/10 10:00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 21:09*	*1*
Trifluorotoluene (Surr)	*108*		*50 - 150*		*12/23/10 21:09*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 21:09*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 21:09*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 21:09*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/21/10 12:25	12/24/10 05:12	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/21/10 12:25	12/24/10 05:12	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*12/21/10 12:25*	*12/24/10 05:12*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 10:04	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*109*		*70 - 122*	*12/29/10 08:20*	*12/29/10 10:04*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 14:07	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*81*		*39 - 128*	*12/28/10 12:20*	*12/28/10 14:07*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/04/11 18:11	01/06/11 02:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/04/11 17:35	5
Nitrate Nitrite as N	**27**		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-MW-08-1210

Lab Sample ID: 580-23591-5

Date Collected: 12/15/10 08:44

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 21:34	1
Toluene	ND		1.0		ug/L			12/23/10 21:34	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 21:34	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 21:34	1
o-Xylene	ND		1.0		ug/L			12/23/10 21:34	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*98*		*80 - 120*		*12/23/10 21:34*	*1*

Client Sample ID: C-MW-08-1210

Date Collected: 12/15/10 08:44
Date Received: 12/20/10 10:00

Lab Sample ID: 580-23591-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 21:34*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/23/10 21:34*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*12/23/10 21:34*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*12/23/10 21:34*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 21:34	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 21:34*	*1*
Trifluorotoluene (Surr)	*105*		*50 - 150*		*12/23/10 21:34*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 21:34*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 21:34*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 21:34*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/21/10 12:25	12/24/10 05:36	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/21/10 12:25	12/24/10 05:36	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*12/21/10 12:25*	*12/24/10 05:36*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 10:07	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*101*		*70 - 122*	*12/29/10 08:20*	*12/29/10 10:07*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 14:14	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*80*		*39 - 128*	*12/28/10 12:20*	*12/28/10 14:14*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/04/11 18:11	01/06/11 02:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/04/11 18:25	5
Nitrate Nitrite as N	**27**		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-MW-10-1210

Lab Sample ID: 580-23591-6

Date Collected: 12/15/10 10:10

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 22:00	1
Toluene	ND		1.0		ug/L			12/23/10 22:00	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 22:00	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 22:00	1
o-Xylene	ND		1.0		ug/L			12/23/10 22:00	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/23/10 22:00*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*12/23/10 22:00*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 22:00*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*12/23/10 22:00*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/23/10 22:00*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 22:00	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 22:00*	*1*
Trifluorotoluene (Surr)	*107*		*50 - 150*		*12/23/10 22:00*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 22:00*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 22:00*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 22:00*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/21/10 12:25	12/24/10 06:49	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/21/10 12:25	12/24/10 06:49	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*12/21/10 12:25*	*12/24/10 06:49*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 10:09	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*104*		*70 - 122*	*12/29/10 08:20*	*12/29/10 10:09*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 14:21	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*80*		*39 - 128*	*12/28/10 12:20*	*12/28/10 14:21*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/04/11 18:11	01/06/11 02:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/04/11 18:41	5

Client Sample ID: C-MW-10-1210

Lab Sample ID: 580-23591-6

Date Collected: 12/15/10 10:10

Matrix: Water

Date Received: 12/20/10 10:00

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**27**		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-MW-11-1210

Lab Sample ID: 580-23591-7

Date Collected: 12/16/10 10:20

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 22:25	1
Toluene	ND		1.0		ug/L			12/23/10 22:25	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 22:25	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 22:25	1
o-Xylene	ND		1.0		ug/L			12/23/10 22:25	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*12/23/10 22:25*	*1*
Toluene-d8 (Surr)	*98*		*85 - 120*		*12/23/10 22:25*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 22:25*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*12/23/10 22:25*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*12/23/10 22:25*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 22:25	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 22:25*	*1*
Trifluorotoluene (Surr)	*103*		*50 - 150*		*12/23/10 22:25*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 22:25*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 22:25*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 22:25*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.20**		0.12		mg/L		12/21/10 12:25	12/24/10 07:13	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/21/10 12:25	12/24/10 07:13	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*12/21/10 12:25*	*12/24/10 07:13*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 11:00	12/29/10 12:47	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*81*		*70 - 122*	*12/29/10 11:00*	*12/29/10 12:47*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 14:28	1

Client Sample ID: C-MW-11-1210

Lab Sample ID: 580-23591-7

Date Collected: 12/16/10 10:20

Matrix: Water

Date Received: 12/20/10 10:00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*80*		*39 - 128*	*12/28/10 12:20*	*12/28/10 14:28*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.14**		0.020		mg/L		01/04/11 18:11	01/06/11 02:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**100**		6.0		mg/L			01/04/11 18:57	5
Nitrate Nitrite as N	**23**		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**230**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-MW-12-1210

Lab Sample ID: 580-23591-8

Date Collected: 12/16/10 11:45

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 16:54	1
Toluene	ND		1.0		ug/L			12/23/10 16:54	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 16:54	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 16:54	1
o-Xylene	ND		1.0		ug/L			12/23/10 16:54	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 16:54*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*12/23/10 16:54*	*1*
Ethylbenzene-d10	*106*		*80 - 120*		*12/23/10 16:54*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*12/23/10 16:54*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*12/23/10 16:54*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 16:54	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 16:54*	*1*
Trifluorotoluene (Surr)	*106*		*50 - 150*		*12/23/10 16:54*	*1*
Ethylbenzene-d10	*99*		*50 - 150*		*12/23/10 16:54*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 16:54*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 16:54*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.49**		0.12		mg/L		12/21/10 12:25	12/24/10 07:37	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*12/21/10 12:25*	*12/24/10 07:37*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil (>C24-C36)	**0.43**		0.24		mg/L		12/21/10 12:25	12/29/10 09:55	1

Client Sample ID: C-MW-12-1210

Lab Sample ID: 580-23591-8

Date Collected: 12/16/10 11:45

Matrix: Water

Date Received: 12/20/10 10:00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	93		50 - 150	12/21/10 12:25	12/29/10 09:55	1

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	60.9		26.0		ug/L		12/29/10 11:00	12/29/10 12:49	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Acetylene	76		70 - 122	12/29/10 11:00	12/29/10 12:49	1

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 14:35	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl Acetate	78		39 - 128	12/28/10 12:20	12/28/10 14:35	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.49		0.020		mg/L		01/04/11 18:11	01/06/11 02:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	120		6.0		mg/L			01/04/11 19:14	5
Nitrate Nitrite as N	18		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	290		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-MW-14-1210

Lab Sample ID: 580-23591-9

Date Collected: 12/15/10 15:23

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 22:51	1
Toluene	ND		1.0		ug/L			12/23/10 22:51	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 22:51	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 22:51	1
o-Xylene	ND		1.0		ug/L			12/23/10 22:51	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	99		80 - 120		12/23/10 22:51	1
Toluene-d8 (Surr)	99		85 - 120		12/23/10 22:51	1
Ethylbenzene-d10	100		80 - 120		12/23/10 22:51	1
Trifluorotoluene (Surr)	99		80 - 120		12/23/10 22:51	1
4-Bromofluorobenzene (Surr)	100		75 - 120		12/23/10 22:51	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 22:51	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		50 - 150		12/23/10 22:51	1
Trifluorotoluene (Surr)	103		50 - 150		12/23/10 22:51	1

Client Sample ID: C-MW-14-1210

Lab Sample ID: 580-23591-9

Date Collected: 12/15/10 15:23

Matrix: Water

Date Received: 12/20/10 10:00

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 22:51*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 22:51*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 22:51*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/21/10 12:25	12/24/10 08:50	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/21/10 12:25	12/24/10 08:50	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*12/21/10 12:25*	*12/24/10 08:50*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 11:00	12/29/10 12:57	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*79*		*70 - 122*	*12/29/10 11:00*	*12/29/10 12:57*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 14:42	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*76*		*39 - 128*	*12/28/10 12:20*	*12/28/10 14:42*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/04/11 18:11	01/06/11 03:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/04/11 19:47	5
Nitrate Nitrite as N	**26**		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**180**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-MW-22-1210

Lab Sample ID: 580-23591-10

Date Collected: 12/16/10 14:00

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 23:16	1
Toluene	ND		1.0		ug/L			12/23/10 23:16	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 23:16	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 23:16	1
o-Xylene	ND		1.0		ug/L			12/23/10 23:16	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*12/23/10 23:16*	*1*
Toluene-d8 (Surr)	*102*		*85 - 120*		*12/23/10 23:16*	*1*

Client Sample ID: C-MW-22-1210
Date Collected: 12/16/10 14:00
Date Received: 12/20/10 10:00

Lab Sample ID: 580-23591-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene-d10	*104*		*80 - 120*		*12/23/10 23:16*	*1*
Trifluorotoluene (Surr)	*107*		*80 - 120*		*12/23/10 23:16*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/23/10 23:16*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 23:16	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 23:16*	*1*
Trifluorotoluene (Surr)	*105*		*50 - 150*		*12/23/10 23:16*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 23:16*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 23:16*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 23:16*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.52**		0.12		mg/L		12/21/10 12:25	12/24/10 09:14	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*12/21/10 12:25*	*12/24/10 09:14*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil (>C24-C36)	**0.45**		0.24		mg/L		12/21/10 12:25	12/29/10 10:19	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*95*		*50 - 150*	*12/21/10 12:25*	*12/29/10 10:19*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**67.5**		26.0		ug/L		12/29/10 11:00	12/29/10 12:59	1
Methane	ND		26.0		ug/L		12/29/10 11:00	12/29/10 13:02	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*91*		*70 - 122*	*12/29/10 11:00*	*12/29/10 12:59*	*1*
Acetylene	*78*		*70 - 122*	*12/29/10 11:00*	*12/29/10 13:02*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 14:49	1
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 14:56	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*74*		*39 - 128*	*12/28/10 12:20*	*12/28/10 14:49*	*1*
Isopropyl Acetate	*68*		*39 - 128*	*12/28/10 12:20*	*12/28/10 14:56*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.48**		0.020		mg/L		01/04/11 18:11	01/06/11 03:24	1

Client Sample ID: C-MW-22-1210

Lab Sample ID: 580-23591-10

Date Collected: 12/16/10 14:00

Matrix: Water

Date Received: 12/20/10 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**120**		6.0		mg/L			01/04/11 20:03	5
Nitrate Nitrite as N	**19**		1.0		mg/L			12/27/10 10:14	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**290**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-RW-01-1210

Lab Sample ID: 580-23591-11

Date Collected: 12/16/10 08:48

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/24/10 00:32	1
Toluene	ND		1.0		ug/L			12/24/10 00:32	1
Ethylbenzene	ND		1.0		ug/L			12/24/10 00:32	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/24/10 00:32	1
o-Xylene	ND		1.0		ug/L			12/24/10 00:32	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*98*		*80 - 120*		*12/24/10 00:32*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*12/24/10 00:32*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/24/10 00:32*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*12/24/10 00:32*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*		*12/24/10 00:32*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/24/10 00:32	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/24/10 00:32*	*1*
Trifluorotoluene (Surr)	*107*		*50 - 150*		*12/24/10 00:32*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/24/10 00:32*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/24/10 00:32*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/24/10 00:32*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/21/10 12:25	12/24/10 09:38	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/21/10 12:25	12/24/10 09:38	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*12/21/10 12:25*	*12/24/10 09:38*	*1*

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/04/11 18:11	01/06/11 03:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/04/11 20:19	5
Nitrate Nitrite as N	**27**		1.0		mg/L			12/27/10 10:14	100

Client Sample ID: C-RW-01-1210

Lab Sample ID: 580-23591-11

Date Collected: 12/16/10 08:48

Matrix: Water

Date Received: 12/20/10 10:00

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	180		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: C-RW-02-1210

Lab Sample ID: 580-23591-12

Date Collected: 12/17/10 10:00

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/24/10 00:58	1
Toluene	ND		1.0		ug/L			12/24/10 00:58	1
Ethylbenzene	ND		1.0		ug/L			12/24/10 00:58	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/24/10 00:58	1
o-Xylene	ND		1.0		ug/L			12/24/10 00:58	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*95*		*80 - 120*		*12/24/10 00:58*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/24/10 00:58*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*12/24/10 00:58*	*1*
Trifluorotoluene (Surr)	*97*		*80 - 120*		*12/24/10 00:58*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/24/10 00:58*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/24/10 00:58	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/24/10 00:58*	*1*
Trifluorotoluene (Surr)	*108*		*50 - 150*		*12/24/10 00:58*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/24/10 00:58*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/24/10 00:58*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/24/10 00:58*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/21/10 12:25	12/24/10 10:03	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/21/10 12:25	12/24/10 10:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*12/21/10 12:25*	*12/24/10 10:03*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 11:00	12/29/10 13:04	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*91*		*70 - 122*	*12/29/10 11:00*	*12/29/10 13:04*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 15:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*69*		*39 - 128*	*12/28/10 12:20*	*12/28/10 15:03*	*1*

Client Sample ID: C-RW-02-1210

Lab Sample ID: 580-23591-12

Date Collected: 12/17/10 10:00

Matrix: Water

Date Received: 12/20/10 10:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/04/11 18:11	01/06/11 03:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.2		mg/L			01/03/11 15:24	1
Nitrate Nitrite as N	**0.045**		0.010		mg/L			12/27/10 10:14	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: Trip Blanks

Lab Sample ID: 580-23591-13

Date Collected: 12/14/10 00:00

Matrix: Water

Date Received: 12/20/10 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 16:03	1
Toluene	ND		1.0		ug/L			12/23/10 16:03	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 16:03	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 16:03	1
o-Xylene	ND		1.0		ug/L			12/23/10 16:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*102*		*80 - 120*		*12/23/10 16:03*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 16:03*	*1*
Ethylbenzene-d10	*105*		*80 - 120*		*12/23/10 16:03*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*12/23/10 16:03*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*12/23/10 16:03*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 16:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*50 - 150*		*12/23/10 16:03*	*1*
Trifluorotoluene (Surr)	*104*		*50 - 150*		*12/23/10 16:03*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 16:03*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 16:03*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 16:03*	*1*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 15:10	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*71*		*39 - 128*	*12/28/10 12:20*	*12/28/10 15:10*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-78076/4
Matrix: Water
Analysis Batch: 78076

Client Sample ID: MB 580-78076/4
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 14:47	1
Toluene	ND		1.0		ug/L			12/23/10 14:47	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 14:47	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 14:47	1
o-Xylene	ND		1.0		ug/L			12/23/10 14:47	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*12/23/10 14:47*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/23/10 14:47*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 14:47*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*12/23/10 14:47*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 120*		*12/23/10 14:47*	*1*

Lab Sample ID: LCS 580-78076/5
Matrix: Water
Analysis Batch: 78076

Client Sample ID: LCS 580-78076/5
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	25.0	27.0		ug/L		108	80 - 120
Toluene	25.0	23.6		ug/L		94	75 - 120
Ethylbenzene	25.0	24.6		ug/L		98	75 - 125
m-Xylene & p-Xylene	50.0	49.5		ug/L		99	75 - 130
o-Xylene	25.0	23.6		ug/L		94	80 - 120

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*102*		*85 - 120*
Ethylbenzene-d10	*105*		*80 - 120*
Trifluorotoluene (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*

Lab Sample ID: 580-23591-8 MS
Matrix: Water
Analysis Batch: 78076

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	ND		20.1	25.6	F	ug/L		125	80 - 120
Toluene	ND		20.1	21.2		ug/L		106	75 - 120
Ethylbenzene	ND		20.1	21.0		ug/L		105	75 - 125
m-Xylene & p-Xylene	ND		40.1	43.4		ug/L		108	75 - 130
o-Xylene	ND		20.1	20.8		ug/L		104	80 - 120

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
Fluorobenzene (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*101*		*85 - 120*
Ethylbenzene-d10	*100*		*80 - 120*
Trifluorotoluene (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-23591-8 MSD
Matrix: Water
Analysis Batch: 78076

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	ND		20.1	17.6	F	ug/L		86	80 - 120	37	30
Toluene	ND		20.1	15.7		ug/L		78	75 - 120	30	30
Ethylbenzene	ND		20.1	15.3	F	ug/L		76	75 - 125	31	30
m-Xylene & p-Xylene	ND		40.1	31.2	F	ug/L		78	75 - 130	33	30
o-Xylene	ND		20.1	15.1	F	ug/L		75	80 - 120	32	30

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*101*		*85 - 120*
Ethylbenzene-d10	*102*		*80 - 120*
Trifluorotoluene (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-78079/5
Matrix: Water
Analysis Batch: 78079

Client Sample ID: MB 580-78079/5
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 14:47	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 14:47*	*1*
Trifluorotoluene (Surr)	*106*		*50 - 150*		*12/23/10 14:47*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 14:47*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 14:47*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 14:47*	*1*

Lab Sample ID: LCS 580-78079/6
Matrix: Water
Analysis Batch: 78079

Client Sample ID: LCS 580-78079/6
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Gasoline			1.00	0.979		mg/L		98	79 - 110		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*
Trifluorotoluene (Surr)	*101*		*50 - 150*
Ethylbenzene-d10	*100*		*50 - 150*
Fluorobenzene (Surr)	*98*		*50 - 150*
Toluene-d8 (Surr)	*100*		*50 - 150*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-23591-8 MS
Matrix: Water
Analysis Batch: 78079

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline	ND		1.16	1.16		mg/L		100	50 - 150

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*
Trifluorotoluene (Surr)	*104*		*50 - 150*
Ethylbenzene-d10	*101*		*50 - 150*
Fluorobenzene (Surr)	*99*		*50 - 150*
Toluene-d8 (Surr)	*100*		*50 - 150*

Lab Sample ID: 580-23591-8 MSD
Matrix: Water
Analysis Batch: 78079

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline	ND		1.16	1.23		mg/L		106	50 - 150	5	35

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*
Trifluorotoluene (Surr)	*110*		*50 - 150*
Ethylbenzene-d10	*100*		*50 - 150*
Fluorobenzene (Surr)	*99*		*50 - 150*
Toluene-d8 (Surr)	*99*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-77886/1-A
Matrix: Water
Analysis Batch: 78051

Client Sample ID: MB 580-77886/1-A
Prep Type: Total/NA
Prep Batch: 77886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/21/10 12:25	12/24/10 01:59	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		12/21/10 12:25	12/24/10 01:59	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*12/21/10 12:25*	*12/24/10 01:59*	*1*

Lab Sample ID: MB 580-77886/1-A
Matrix: Water
Analysis Batch: 78256

Client Sample ID: MB 580-77886/1-A
Prep Type: Total/NA
Prep Batch: 77886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24) - RA	ND		0.12		mg/L		12/21/10 12:25	12/29/10 08:17	1
Motor Oil (>C24-C36) - RA	ND		0.25		mg/L		12/21/10 12:25	12/29/10 08:17	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl - RA	*88*		*50 - 150*	*12/21/10 12:25*	*12/29/10 08:17*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-77886/2-A
Matrix: Water
Analysis Batch: 78051

Client Sample ID: LCS 580-77886/2-A
Prep Type: Total/NA
Prep Batch: 77886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24)	5.00	6.06		mg/L		121	70 - 140
Motor Oil (>C24-C36)	5.00	6.29	*	mg/L		126	66 - 125

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*104*		*50 - 150*

Lab Sample ID: LCS 580-77886/2-A
Matrix: Water
Analysis Batch: 78256

Client Sample ID: LCS 580-77886/2-A
Prep Type: Total/NA
Prep Batch: 77886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24) - RA	5.00	5.62		mg/L		112	70 - 140
Motor Oil (>C24-C36) - RA	5.00	5.90		mg/L		118	66 - 125

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl - RA	*95*		*50 - 150*

Lab Sample ID: LCSD 580-77886/3-A
Matrix: Water
Analysis Batch: 78051

Client Sample ID: LCSD 580-77886/3-A
Prep Type: Total/NA
Prep Batch: 77886

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	5.00	6.22		mg/L		124	70 - 140	3	27
Motor Oil (>C24-C36)	5.00	6.49	*	mg/L		130	66 - 125	3	27

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*97*		*50 - 150*

Lab Sample ID: LCSD 580-77886/3-A
Matrix: Water
Analysis Batch: 78256

Client Sample ID: LCSD 580-77886/3-A
Prep Type: Total/NA
Prep Batch: 77886

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24) - RA	5.00	5.84		mg/L		117	70 - 140	4	27
Motor Oil (>C24-C36) - RA	5.00	6.17		mg/L		123	66 - 125	5	27

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl - RA	*94*		*50 - 150*

Lab Sample ID: 580-23591-8 MS
Matrix: Water
Analysis Batch: 78051

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA
Prep Batch: 77886

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24)	0.48		4.81	4.90		mg/L		92	70 - 140
Motor Oil (>C24-C36)	0.43		4.81	4.88		mg/L		94	66 - 125

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-23591-8 MS
Matrix: Water
Analysis Batch: 78051

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA
Prep Batch: 77886

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*92*		*50 - 150*

Lab Sample ID: 580-23591-8 MSD
Matrix: Water
Analysis Batch: 78051

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA
Prep Batch: 77886

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	0.48		4.81	5.00		mg/L		94	70 - 140	2	27
Motor Oil (>C24-C36)	0.43		4.81	5.05		mg/L		97	66 - 125	3	27

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*98*		*50 - 150*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Lab Sample ID: 10L5519-BLK1
Matrix: Water
Analysis Batch: T020734

Client Sample ID: 10L5519-BLK1
Prep Type: total
Prep Batch: 10L5519_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/27/10 11:23	12/27/10 11:23	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*113*		*70 - 122*	*12/27/10 11:23*	*12/27/10 11:23*	*1*

Lab Sample ID: 10L5519-BS1
Matrix: Water
Analysis Batch: T020734

Client Sample ID: 10L5519-BS1
Prep Type: total
Prep Batch: 10L5519_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Methane	278	259		ug/L		93	80 - 120

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Acetylene	*99*		*70 - 122*

Lab Sample ID: 10L5752-BLK1
Matrix: Water
Analysis Batch: T020844

Client Sample ID: 10L5752-BLK1
Prep Type: total
Prep Batch: 10L5752_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 08:33	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*116*		*70 - 122*	*12/29/10 08:20*	*12/29/10 08:33*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC (Continued)

Lab Sample ID: 10L5752-BS1
Matrix: Water
Analysis Batch: T020844

Client Sample ID: 10L5752-BS1
Prep Type: total
Prep Batch: 10L5752_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane			278	315		ug/L		113	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Acetylene	*77*		*70 - 122*

Lab Sample ID: 10L5752-BSD1
Matrix: Water
Analysis Batch: T020844

Client Sample ID: 10L5752-BSD1
Prep Type: total
Prep Batch: 10L5752_P

Analyte			Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane			278	314		ug/L		113	80 - 120	0.2	20

Surrogate	*LCS Dup % Recovery*	*LCS Dup Qualifier*	*Limits*
Acetylene	*109*		*70 - 122*

Lab Sample ID: 10L5953-BLK1
Matrix: Water
Analysis Batch: T020876

Client Sample ID: 10L5953-BLK1
Prep Type: total
Prep Batch: 10L5953_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 11:00	12/29/10 11:08	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*88*		*70 - 122*	*12/29/10 11:00*	*12/29/10 11:08*	*1*

Lab Sample ID: 10L5953-BS1
Matrix: Water
Analysis Batch: T020876

Client Sample ID: 10L5953-BS1
Prep Type: total
Prep Batch: 10L5953_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane			278	238		ug/L		86	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Acetylene	*82*		*70 - 122*

Lab Sample ID: 10L5953-BSD1
Matrix: Water
Analysis Batch: T020876

Client Sample ID: 10L5953-BSD1
Prep Type: total
Prep Batch: 10L5953_P

Analyte			Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane			278	248		ug/L		89	80 - 120	4	20

Surrogate	*LCS Dup % Recovery*	*LCS Dup Qualifier*	*Limits*
Acetylene	*80*		*70 - 122*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC (Continued)

Lab Sample ID: 580-23591-8 MS
Matrix: Water
Analysis Batch: T020876

Client Sample ID: C-MW-12-1210
Prep Type: total
Prep Batch: 10L5953_P

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Methane	60.9		278	268		ug/L		74	46 - 133

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
Acetylene	*52*	*Z6*	*70 - 122*

Lab Sample ID: 580-23591-8 MSD
Matrix: Water
Analysis Batch: T020876

Client Sample ID: C-MW-12-1210
Prep Type: total
Prep Batch: 10L5953_P

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane	60.9		278	266		ug/L		74	46 - 133	0.6	20

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
Acetylene	*46*	*Z6*	*70 - 122*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified

Lab Sample ID: 10L5794-BLK1
Matrix: Water
Analysis Batch: T020810

Client Sample ID: 10L5794-BLK1
Prep Type: total
Prep Batch: 10L5794_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10.0		mg/L		12/28/10 12:20	12/28/10 13:17	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl Acetate	*65*		*39 - 128*	*12/28/10 12:20*	*12/28/10 13:17*	*1*

Lab Sample ID: 10L5794-BS1
Matrix: Water
Analysis Batch: T020810

Client Sample ID: 10L5794-BS1
Prep Type: total
Prep Batch: 10L5794_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ethanol	50.0	42.5		mg/L		85	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Isopropyl Acetate	*75*		*39 - 128*

Lab Sample ID: 580-23591-8 MS
Matrix: Water
Analysis Batch: T020810

Client Sample ID: C-MW-12-1210
Prep Type: total
Prep Batch: 10L5794_P

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Ethanol	ND		50.0	43.5		mg/L		87	65 - 130

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
Isopropyl Acetate	*78*		*39 - 128*

Method: SW846 8015B - Alcohols by EPA Method 8015 modified (Continued)

Lab Sample ID: 580-23591-8 MSD — **Client Sample ID: C-MW-12-1210**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020810 — **Prep Batch: 10L5794_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ethanol	ND		50.0	42.9		mg/L		86	65 - 130	1	11

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
Isopropyl Acetate	*76*		*39 - 128*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-78591/21-A — **Client Sample ID: MB 580-78591/21-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 78676 — **Prep Batch: 78591**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/04/11 18:11	01/06/11 00:03	1

Lab Sample ID: LCS 580-78591/22-A — **Client Sample ID: LCS 580-78591/22-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 78676 — **Prep Batch: 78591**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Manganese	1.00	1.06		mg/L		106	80 - 120

Lab Sample ID: LCSD 580-78591/23-A — **Client Sample ID: LCSD 580-78591/23-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 78676 — **Prep Batch: 78591**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Manganese	1.00	1.09		mg/L		109	80 - 120	3	20

Lab Sample ID: 580-23591-8 MS — **Client Sample ID: C-MW-12-1210**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 78676 — **Prep Batch: 78591**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Manganese	0.49		1.00	1.52		mg/L		103	80 - 120

Lab Sample ID: 580-23591-8 MSD — **Client Sample ID: C-MW-12-1210**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 78676 — **Prep Batch: 78591**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Manganese	0.49		1.00	1.54		mg/L		105	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-78630/3 — **Client Sample ID: MB 580-78630/3**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 78630

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.2		mg/L			01/03/11 10:13	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 580-78630/4
Matrix: Water
Analysis Batch: 78630

Client Sample ID: LCS 580-78630/4
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Sulfate			12.0	11.3		mg/L		94	90 - 110		

Lab Sample ID: 580-23591-8 MS
Matrix: Water
Analysis Batch: 78630

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	120		40.0	157		mg/L		95	90 - 110

Lab Sample ID: 580-23591-8 MSD
Matrix: Water
Analysis Batch: 78630

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Sulfate	120		40.0	151	F	mg/L		79	90 - 110	4	15

Lab Sample ID: 580-23591-8 DU
Matrix: Water
Analysis Batch: 78630

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	130		132		mg/L		0.05	10

Lab Sample ID: 580-23591-8 DU
Matrix: Water
Analysis Batch: 78630

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	120		119		mg/L		0.2	10

Method: 310.1 - Alkalinity

Lab Sample ID: MB 580-78072/1
Matrix: Water
Analysis Batch: 78072

Client Sample ID: MB 580-78072/1
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0		mg/L			12/23/10 10:22	1

Lab Sample ID: LCS 580-78072/2
Matrix: Water
Analysis Batch: 78072

Client Sample ID: LCS 580-78072/2
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Alkalinity			100	97.7		mg/L		98	85 - 115		

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: 580-23591-1 DU
Matrix: Water
Analysis Batch: 78072

Client Sample ID: C-MW-02-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	650			628		mg/L				3	17

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 580-78149/1
Matrix: Water
Analysis Batch: 78149

Client Sample ID: MB 580-78149/1
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.010		mg/L			12/27/10 10:14	1

Lab Sample ID: LCS 580-78149/2
Matrix: Water
Analysis Batch: 78149

Client Sample ID: LCS 580-78149/2
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Nitrate Nitrite as N			1.00	1.02		mg/L		102	90 - 110		

Lab Sample ID: 580-23591-8 MS
Matrix: Water
Analysis Batch: 78149

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Nitrate Nitrite as N	18		100	18.4	F	mg/L		0.2	60 - 130		

Lab Sample ID: 580-23591-8 MSD
Matrix: Water
Analysis Batch: 78149

Client Sample ID: C-MW-12-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	18		100	18.5	F	mg/L		0.3	60 - 130	1	20

Client Sample ID: C-MW-02-1210

Lab Sample ID: 580-23591-1

Date Collected: 12/15/10 17:15

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 18:11	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 18:11	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 03:59	EK	TestAmerica Seattle
Total/NA	Prep	3520C	RA		77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx	RA	1	78256	12/29/10 09:30	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 13:45	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5752_P	12/29/10 08:20	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 09:59	ljt	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 01:48	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 16:46	AM	TestAmerica Seattle

Client Sample ID: C-MW-04-1210

Lab Sample ID: 580-23591-2

Date Collected: 12/15/10 11:12

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 20:18	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 20:18	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 04:23	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 13:52	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5752_P	12/29/10 08:20	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:02	ljt	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 01:55	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 17:03	AM	TestAmerica Seattle

Client Sample ID: C-MW-06-1210

Lab Sample ID: 580-23591-3

Date Collected: 12/14/10 16:47

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 20:43	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 20:43	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 04:47	EK	TestAmerica Seattle

Client Sample ID: C-MW-06-1210

Lab Sample ID: 580-23591-3

Date Collected: 12/14/10 16:47

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 13:59	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5519_P	12/27/10 11:23	SCS	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020734	12/27/10 12:40	ljt	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 02:03	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 17:19	AM	TestAmerica Seattle

Client Sample ID: C-MW-07-1210

Lab Sample ID: 580-23591-4

Date Collected: 12/15/10 13:35

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 21:09	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 21:09	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 05:12	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 14:07	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5752_P	12/29/10 08:20	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:04	ljt	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 02:11	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 17:35	AM	TestAmerica Seattle

Client Sample ID: C-MW-08-1210

Lab Sample ID: 580-23591-5

Date Collected: 12/15/10 08:44

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 21:34	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 21:34	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 05:36	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 14:14	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5752_P	12/29/10 08:20	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:07	ljt	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 02:19	SP	TestAmerica Seattle

Client Sample ID: C-MW-08-1210

Lab Sample ID: 580-23591-5

Date Collected: 12/15/10 08:44

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 18:25	AM	TestAmerica Seattle

Client Sample ID: C-MW-10-1210

Lab Sample ID: 580-23591-6

Date Collected: 12/15/10 10:10

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 22:00	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 22:00	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 06:49	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 14:21	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5752_P	12/29/10 08:20	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:09	ljt	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 02:27	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 18:41	AM	TestAmerica Seattle

Client Sample ID: C-MW-11-1210

Lab Sample ID: 580-23591-7

Date Collected: 12/16/10 10:20

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 22:25	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 22:25	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 07:13	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 14:28	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5953_P	12/29/10 11:00	WAM	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020876	12/29/10 12:47	WAM	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 02:35	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 18:57	AM	TestAmerica Seattle

Client Sample ID: C-MW-12-1210

Lab Sample ID: 580-23591-8

Date Collected: 12/16/10 11:45

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 16:54	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 16:54	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 07:37	EK	TestAmerica Seattle
Total/NA	Prep	3520C	RA		77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx	RA	1	78256	12/29/10 09:55	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 14:35	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5953_P	12/29/10 11:00	WAM	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020876	12/29/10 12:49	WAM	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 02:57	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 19:14	AM	TestAmerica Seattle

Client Sample ID: C-MW-14-1210

Lab Sample ID: 580-23591-9

Date Collected: 12/15/10 15:23

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 22:51	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 22:51	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 08:50	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 14:42	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5953_P	12/29/10 11:00	WAM	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020876	12/29/10 12:57	WAM	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 03:16	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 19:47	AM	TestAmerica Seattle

Client Sample ID: C-MW-22-1210

Lab Sample ID: 580-23591-10

Date Collected: 12/16/10 14:00

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 23:16	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 23:16	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 09:14	EK	TestAmerica Seattle

Lab Chronicle

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-23591-1

Client Sample ID: C-MW-22-1210

Lab Sample ID: 580-23591-10

Date Collected: 12/16/10 14:00

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C	RA		77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx	RA	1	78256	12/29/10 10:19	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 14:49	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5953_P	12/29/10 11:00	WAM	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020876	12/29/10 12:59	WAM	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 14:56	WAM	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020876	12/29/10 13:02	WAM	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 03:24	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 20:03	AM	TestAmerica Seattle

Client Sample ID: C-RW-01-1210

Lab Sample ID: 580-23591-11

Date Collected: 12/16/10 08:48

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/24/10 00:32	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/24/10 00:32	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 09:38	EK	TestAmerica Seattle
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 03:33	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78630	01/04/11 20:19	AM	TestAmerica Seattle

Client Sample ID: C-RW-02-1210

Lab Sample ID: 580-23591-12

Date Collected: 12/17/10 10:00

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/24/10 00:58	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/24/10 00:58	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			77886	12/21/10 12:25	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78051	12/24/10 10:03	EK	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 15:03	WAM	TestAmerica Nashville
total	Prep	RSK 175/3810		1.00	10L5953_P	12/29/10 11:00	WAM	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020876	12/29/10 13:04	WAM	TestAmerica Nashville
Total Recoverable	Prep	3005A			78591	01/04/11 18:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	78676	01/06/11 03:41	SP	TestAmerica Seattle

Lab Chronicle

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-23591-1

Client Sample ID: C-RW-02-1210

Lab Sample ID: 580-23591-12

Date Collected: 12/17/10 10:00

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		1	78149	12/27/10 10:14	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		1	78630	01/03/11 15:24	AM	TestAmerica Seattle

Client Sample ID: Trip Blanks

Lab Sample ID: 580-23591-13

Date Collected: 12/14/10 00:00

Matrix: Water

Date Received: 12/20/10 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78076	12/23/10 16:03	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78079	12/23/10 16:03	JMB	TestAmerica Seattle
total	Prep	NO PREP-PEST		1.00	10L5794_P	12/28/10 12:20	SCS	TestAmerica Nashville
total	Analysis	SW846 8015B		1	T020810	12/28/10 15:10	WAM	TestAmerica Nashville

Certification Summary

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-23591-1

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica Seattle		USDA		P330-08-00099	05/22/11
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022	03/04/11
TestAmerica Seattle	California	NELAC	9	1115CA	01/31/11
TestAmerica Seattle	Florida	NELAC	4	E871074	06/30/11
TestAmerica Seattle	L-A-B	DoD ELAP	0	L2236	01/19/13
TestAmerica Seattle	L-A-B	ISO/IEC 17025	0	L2236	01/19/13
TestAmerica Seattle	Montana	State Program	8		04/30/20
TestAmerica Seattle	Oregon	NELAC	10	WA100007	11/06/11
TestAmerica Seattle	Washington	State Program	10	C553	02/17/11
TestAmerica Nashville		AIHA		100790	08/31/11
TestAmerica Nashville		USDA		S-48469	01/21/11
TestAmerica Nashville	A2LA	A2LA	0	0453.07	12/31/11
TestAmerica Nashville	A2LA	WY UST	0	453.07	12/30/11
TestAmerica Nashville	Alabama	State Program	4	41150	10/30/10
TestAmerica Nashville	Alaska	Alaska UST	10	UST-087	07/24/11
TestAmerica Nashville	Arizona	State Program	9	AZ0473	05/04/11
TestAmerica Nashville	Arkansas	State Program	6	88-0737	04/24/11
TestAmerica Nashville	California	NELAC	9	1168CA	10/30/11
TestAmerica Nashville	Colorado	State Program	8	N/A	02/27/11
TestAmerica Nashville	Connecticut	State Program	1	PH-0220	12/30/11
TestAmerica Nashville	Florida	NELAC	4	E87358	06/29/11
TestAmerica Nashville	Illinois	NELAC	5	200010	12/08/11
TestAmerica Nashville	Iowa	State Program	7	131	05/01/12
TestAmerica Nashville	Kansas	NELAC	7	E-10229	10/30/11
TestAmerica Nashville	Kentucky	Kentucky UST	4	19	07/12/12
TestAmerica Nashville	Kentucky	State Program	4	90038	02/15/11
TestAmerica Nashville	Louisiana	NELAC	6	LA100011	12/31/11
TestAmerica Nashville	Louisiana	NELAC	6	30613	06/29/11
TestAmerica Nashville	Maryland	State Program	3	316	03/30/11
TestAmerica Nashville	Massachusetts	State Program	1	M-TN032	06/29/11
TestAmerica Nashville	Minnesota	State Program	5	047-999-345	12/31/11
TestAmerica Nashville	Mississippi	State Program	4	N/A	06/29/11
TestAmerica Nashville	Montana	State Program	8	NA	01/01/15
TestAmerica Nashville	Nevada	State Program	9	TN00032	07/31/11
TestAmerica Nashville	New Hampshire	NELAC	1	2963	10/08/11
TestAmerica Nashville	New Jersey	NELAC	2	TN965	06/29/11
TestAmerica Nashville	New York	NELAC	2	11342	04/01/11
TestAmerica Nashville	North Carolina	State Program	4	387	12/31/11
TestAmerica Nashville	North Dakota	State Program	8	R-146	06/29/11
TestAmerica Nashville	Ohio	VAP	5	CL0033	04/01/12
TestAmerica Nashville	Oklahoma	State Program	6	9412	08/30/11
TestAmerica Nashville	Oregon	NELAC	10	TN200001	04/29/11
TestAmerica Nashville	Pennsylvania	NELAC	3	68-00585	06/29/11
TestAmerica Nashville	Rhode Island	State Program	1	LAO00268	12/29/11
TestAmerica Nashville	South Carolina	State Program	4	84009	02/27/11
TestAmerica Nashville	South Carolina	State Program	4	84009	03/18/11
TestAmerica Nashville	Tennessee	State Program	4	2008	03/18/11
TestAmerica Nashville	Texas	NELAC	6	T104704077-09-TX	08/30/11
TestAmerica Nashville	Utah	NELAC	8	TAN	06/29/11
TestAmerica Nashville	Virginia	State Program	3	00323	06/30/11
TestAmerica Nashville	Washington	State Program	10	C789	07/18/11
TestAmerica Nashville	West Virginia	State Program	3	219	02/27/11
TestAmerica Nashville	Wisconsin	State Program	5	998020430	08/30/11

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Summary

Client: URS Corporation
Project/Site: NWTC Pasco Terminal (WA)

TestAmerica Job ID: 580-23591-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-23591-1	C-MW-02-1210	Water	12/15/10 17:15	12/20/10 10:00
580-23591-2	C-MW-04-1210	Water	12/15/10 11:12	12/20/10 10:00
580-23591-3	C-MW-06-1210	Water	12/14/10 16:47	12/20/10 10:00
580-23591-4	C-MW-07-1210	Water	12/15/10 13:35	12/20/10 10:00
580-23591-5	C-MW-08-1210	Water	12/15/10 08:44	12/20/10 10:00
580-23591-6	C-MW-10-1210	Water	12/15/10 10:10	12/20/10 10:00
580-23591-7	C-MW-11-1210	Water	12/16/10 10:20	12/20/10 10:00
580-23591-8	C-MW-12-1210	Water	12/16/10 11:45	12/20/10 10:00
580-23591-9	C-MW-14-1210	Water	12/15/10 15:23	12/20/10 10:00
580-23591-10	C-MW-22-1210	Water	12/16/10 14:00	12/20/10 10:00
580-23591-11	C-RW-01-1210	Water	12/16/10 08:48	12/20/10 10:00
580-23591-12	C-RW-02-1210	Water	12/17/10 10:00	12/20/10 10:00
580-23591-13	Trip Blanks	Water	12/14/10 00:00	12/20/10 10:00

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush
☐ Short Hold

Chain of Custody Record

Client: URS Corp	Client Contact: Annette Brewster	Date: 12/17/10	Chain of Custody Number: 8601
Address: 10550 Richmond Ave Ste 155	Telephone Number (Area Code)/Fax Number: 713-914-6485	Lab Number: 23591	Page ____ of ____
City: Houston / State: TX / Zip Code: 77042	Sampler: Z. Ormland	Lab Contact: C. Armstrong	
Project Name and Location (State): NWTC Pasco Terminal (WA)	Billing Contact:		
Contract/Purchase Order/Quote No.:			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: BTEX	NWTPH-GX	NWTPH-Dx	Ethanol	Methane	Alkalinity	Nitrate/Nitrite	Sulfate	Manganese	Special Instructions/ Conditions of Receipt
-1 C-MW-02-1210	12/15/10	1712		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-2 C-MW-04-1210	12/15/10	1112		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-3 C-MW-06-1210	12/14/10	1647		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-4 C-MW-07-1210	12/15/10	1335		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-5 C-MW-08-1210	12/15/10	844		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-6 C-MW-10-1210	12/15/10	1010		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-7 C-MW-11-1210	12/16/10	1020		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-8 C-MW-12-1210	12/16/10	1145		X			3	3	3	42			X	X	X	X	X	X	X	X	X	MS/MSD
-9 C-MW-14-1210	12/15/10	1523		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-10 C-MW-22-1210	12/16/10	1400		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-11 C-RW-01-1210	12/16/10	848		X			1	1	1	14			X	X	X	X	X	X	X	X	X	
-12 C-RW-02-1210	12/17/10	1000		X			1	1	1	14			X	X	X	X	X	X	X	X	X	

Cooler: ☒ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other STANDARD

QC Requirements (Specify): MS/MSD on C-MW-12-1210. Trip Blanks for Volatiles

1. Relinquished By Sign/Print	Zack Ormland	Date: 12/17/10	Time: 1300	1. Received By Sign/Print	Tom Blankenship/Blankinship	Date: 12/20/10	Time: 1000
2. Relinquished By Sign/Print		Date	Time	2. Received By Sign/Print		Date	Time
3. Relinquished By Sign/Print		Date	Time	3. Received By Sign/Print		Date	Time

-13 Comments: TRIP_BLANKS provided for Lab QC

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

Login Sample Receipt Check List

Client: URS Corporation

Job Number: 580-23591-1

Login Number: 23591

List Source: TestAmerica Seattle

Creator: Blankinship, Tom

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

TIDEWATER MONITOR WELLS

JUNE 2010 SAMPLING EVENT

Data Usability Summary Report

To:	Bob Martin	**Date:**	September 12, 2010
From:	Reuben Greer	**File:**	DQRR Final_Tidewater
RE:	Review of Groundwater Data RI/FS Pasco	**cc:**	

This Data Usability Summary Report (DUSR) assesses the laboratory results for groundwater samples collected during the Remedial Investigation and Feasibility Study at the Northwest Terminaling Company (NWTC) Pasco Terminal in Pasco Washington. CH2M HILL collected thirteen primary groundwater samples, one duplicate groundwater sample, and four trip blanks on June 28 and 29, 2010. The samples were submitted to TestAmerica (TA) Inc., located in Tacoma, Washington. All samples were analyzed for one or more of the following parameters in general accordance with the methods indicated in the table below. The results were reported in one TA data package, 580-20300.

Method	Analytical Parameter
EPA 8260B	Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
NWTPH-Dx	Semi-volatile Petroleum Products-Dx
NWTPH-Gx	Volatile Petroleum Products-Gx
EPA 6010	Dissolved Manganese
EPA 300.0	Sulfate
EPA 310.1	Alkalinity
EPA 353.2	Nitrate-Nitrite as Nitrogen
RSK 175	Dissolved Gases (Methane, Ethane, Ethene)

The analytical results for all samples were reviewed using guidance from the EPA Contract Laboratory Program National Functional Guidelines (NFGs) for Organic Data Review (EPA, 2008), EPA Contract Laboratory Program NFGs for Inorganic Data Review (EPA, 2004), laboratory quality control (QC) criteria (as applicable for each analytical method used), and the Quality Assurance Project Plan (QAPP) for NWTC Pasco Terminal RI/FS (URS/CH2MHILL, 2010). Raw data information was not provided by the laboratory, therefore initial and diluted results were not compared as part of this review. The DUSR included verification of the following:

Representativeness

- Chain of custody (COC) records
- Case narrative
- Proper sample collection and handling procedures
- Holding times
- Method / laboratory blank analysis
- Trip blank analysis

Accuracy

- Surrogate compound recoveries
- Laboratory control spike (LCS) recoveries
- Matrix spike (MS) recoveries

Precision

- Laboratory duplicate (laboratory duplicate, matrix spike duplicate (MSD), or LCS duplicate) precision
- Field duplicate precision

Comparability

- Compound identification
- Method detection (MDL) and method reporting limits (RL)

Completeness

- Data completeness and format

No additional qualifiers were applied as a result of this review. Final sample results and qualifiers are presented in analytical summary tables in the associated report.

REPRESENTATIVENESS

Chain-of-Custody and Holding Times

It was indicated on the COC form that samples were maintained under custody and the forms were signed upon release and receipt. All coolers were received by the laboratory within the recommended temperature range of 4ºC ± 2ºC.

Four trip blanks were provided for volatile analysis and were included on the COC. No target analytes were detected in the trip blank. Sample qualification is not necessary.

All samples were analyzed within their applicable holding times at the laboratory. No sample qualification of the data is necessary.

Case Narrative

All items discussed in the TA case narratives are discussed in the following sections.

Review of Blanks

Method Blanks

Method blanks were used to check for laboratory contamination and instrument bias. The laboratory analyzed at least one method blank for each analysis and for each batch, per method requirements. Target analytes were not reported as detected in the associated method blanks.

Trip Blanks

Trip blanks were used to check for contamination during transportation and are required for volatile analysis. Target analytes were not reported as detected in the trip blanks.

ACCURACY

Surrogate Recovery Review

Each sample analyzed for organic compounds was spiked with surrogates (system monitoring compounds). Surrogate recoveries are a measure of accuracy for the overall analysis of each individual sample. All surrogate recoveries met the project's acceptance criteria as listed in the QAPP.

Laboratory Control Samples/Laboratory Control Sample Duplicates

Laboratory control samples (LCS) are used to monitor the laboratory's day-to-day performance of routine analytical methods, independent of matrix effects, and to assess accuracy for the target compounds. All LCS or LCS/LCSD percent recoveries met the project's acceptance criteria.

Matrix Spike/Matrix Spike Duplicate Review

Matrix spike/matrix spike duplicate (MS/MSD) samples are analyzed to assess the ability of the laboratory to recover the target compounds from the sample matrix. Additional volume from sample T-AR8-0610 was submitted to the laboratory for MS/MSD analysis of BTEX, gasoline, diesel, sulfate, manganese, and nitrate/nitrite. All MS/MSD recoveries were acceptable.

PRECISION

Duplicate Review

Field Duplicate Results

A field duplicate was collected and submitted to the laboratory to verify sampling techniques and assess laboratory procedures. T-MW11-0610 was collected as a field duplicate for sample T-AR4-0610, and submitted to the laboratory as a blind sample. The relative percent difference (RPD) was calculated when sample results were greater than five times the reporting limit and compared to the QAPP criterion of ≤30%. TPH-D (motor oil) RPD was calculated at 32%. All field duplicate data were acceptable.

Laboratory Duplicate Results

TA performed a laboratory duplicate on all batches in accordance to method criteria. In addition to MS/MSD analysis mentioned above the laboratory performed a duplicate analysis on sample T-AR8-0610 for manganese, BTEX, and gasoline. All laboratory duplicate data were acceptable.

LCS/LCSD Duplicate Results

LCS/LCSD RPDs were acceptable for all LCS/LCSD duplicates performed in this data package.

COMPARABILITY

Reporting Limits

The sensitivity (i.e., reporting limits) of the analytical methods is driven by the project-specific objectives. Detections between the MDL and the RL were not reported by the laboratory. Additional qualifiers were not added during the data review process.

COMPLETENESS

The laboratory reported all requested analyses and the deliverable data reports were complete. Completeness is defined as the percentage of usable data out of the total amount of data generated. No qualifiers were assigned as a result of this data review. Completeness for the investigation is 100%.

REFERENCES

USEPA, April 1998. Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, Rev. 5, EPA, Office of Solid Waste, Washington, D.C.

USEPA, October 2004. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

USEPA, September 2008. EPA Contract Laboratory Program National Functional Guidelines for Organics Data Review.

URS/CH2MHill, April 2010. Quality Assurance Project Plan for NWTC Pasco Terminals RI/FS.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-20300-1
Client Project/Site: Tidewater, Pasco, WA

For:
CH2M Hill, Inc.
9 S Washington Street
Suite 400
Spokane, Washington 99210-3709

Attn: Reuben S Greer

Authorized for release by:
8/4/2010 3:21 PM

Curtis Armstrong
Project Manager I
curtis.armstrong@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-20300-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

GC Semi VOA

Qualifier	Qualifier Description
Y	The chromatographic response resembles a typical fuel pattern.

GC VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

Job Narrative
580-20300-1

Comments
No additional comments.

Receipt
All other samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 8260B:
The continuing calibration verification (CCV) for analytical batch 67408 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 67408 exceeded control limits for the following analytes: Benzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No other analytical or quality issues were noted.

GC Semi VOA
Method(s) NWTPH-Dx:
For samples 580-20300-9, 580-20300-10, and 580-20300-17, the results in the Diesel range are due to a complex mixture of overlap from a gasoline range product and heavily weathered diesel fuel and/or biogenics.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Subcontract non-Sister
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-20300-1

Client Sample ID: T - MW3 - 0610

Date Collected: 06/29/10 08:05
Date Received: 07/01/10 09:50

Lab Sample ID: 580-20300-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*	1.0		ug/L			07/09/10 10:09	1
Toluene	ND		1.0		ug/L			07/09/10 10:09	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 10:09	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 10:09	1
o-Xylene	ND		1.0		ug/L			07/09/10 10:09	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*07/09/10 10:09*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/09/10 10:09*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/09/10 10:09*	*1*
Trifluorotoluene (Surr)	*108*		*80 - 120*		*07/09/10 10:09*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*07/09/10 10:09*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.14		mg/L		07/10/10 19:18	07/13/10 04:43	1
Motor Oil (>C24-C36)	ND		0.27		mg/L		07/10/10 19:18	07/13/10 04:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*07/10/10 19:18*	*07/13/10 04:43*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**26**		0.50		mg/L			07/13/10 17:36	50
Sulfate	**110**		6.0		mg/L			07/15/10 00:51	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**190**		5.0		mg/L			07/08/10 13:50	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 10:09	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/09/10 10:09*	*1*
Trifluorotoluene (Surr)	*112*		*50 - 150*		*07/09/10 10:09*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 14:23	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*111*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:23*	*1*

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-20300-1

Client Sample ID: T - MW4 - 0610

Lab Sample ID: 580-20300-2

Date Collected: 06/29/10 09:05

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*	1.0		ug/L			07/09/10 10:34	1
Toluene	ND		1.0		ug/L			07/09/10 10:34	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 10:34	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 10:34	1
o-Xylene	ND		1.0		ug/L			07/09/10 10:34	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/09/10 10:34*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/09/10 10:34*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*07/09/10 10:34*	*1*
Trifluorotoluene (Surr)	*104*		*80 - 120*		*07/09/10 10:34*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*07/09/10 10:34*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 05:01	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		07/10/10 19:18	07/13/10 05:01	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*07/10/10 19:18*	*07/13/10 05:01*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 16:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**24**		0.50		mg/L			07/14/10 13:32	50
Sulfate	**110**		6.0		mg/L			07/15/10 01:24	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**180**		5.0		mg/L			07/08/10 13:50	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 10:34	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/09/10 10:34*	*1*
Trifluorotoluene (Surr)	*109*		*50 - 150*		*07/09/10 10:34*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 14:26	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*100*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:26*	*1*

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-20300-1

Client Sample ID: T - AR9 - 0610

Date Collected: 06/29/10 10:05
Date Received: 07/01/10 09:50

Lab Sample ID: 580-20300-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*	1.0		ug/L			07/09/10 11:00	1
Toluene	ND		1.0		ug/L			07/09/10 11:00	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 11:00	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 11:00	1
o-Xylene	ND		1.0		ug/L			07/09/10 11:00	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*07/09/10 11:00*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*07/09/10 11:00*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/09/10 11:00*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*07/09/10 11:00*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*07/09/10 11:00*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 05:19	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/10/10 19:18	07/13/10 05:19	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*07/10/10 19:18*	*07/13/10 05:19*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 16:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**24**		0.50		mg/L			07/14/10 13:33	50
Sulfate	**110**		6.0		mg/L			07/15/10 01:40	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**190**		5.0		mg/L			07/08/10 13:50	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 11:00	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/09/10 11:00*	*1*
Trifluorotoluene (Surr)	*108*		*50 - 150*		*07/09/10 11:00*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 14:29	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*106*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:29*	*1*

Client Sample ID: T - AR10 - 0610

Lab Sample ID: 580-20300-4

Date Collected: 06/29/10 11:20

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*	1.0		ug/L			07/09/10 11:25	1
Toluene	ND		1.0		ug/L			07/09/10 11:25	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 11:25	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 11:25	1
o-Xylene	ND		1.0		ug/L			07/09/10 11:25	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*07/09/10 11:25*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*07/09/10 11:25*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/09/10 11:25*	*1*
Trifluorotoluene (Surr)	*104*		*80 - 120*		*07/09/10 11:25*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*07/09/10 11:25*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 05:37	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/10/10 19:18	07/13/10 05:37	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*07/10/10 19:18*	*07/13/10 05:37*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 16:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**10**		0.50		mg/L			07/14/10 13:34	50
Sulfate	**98**		6.0		mg/L			07/15/10 01:56	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**250**		5.0		mg/L			07/08/10 13:50	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 11:25	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*50 - 150*		*07/09/10 11:25*	*1*
Trifluorotoluene (Surr)	*107*		*50 - 150*		*07/09/10 11:25*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 14:35	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*107*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:35*	*1*

Client Sample ID: T - MW2 - 0610

Lab Sample ID: 580-20300-5

Date Collected: 06/29/10 12:05

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*	1.0		ug/L			07/09/10 11:51	1
Toluene	ND		1.0		ug/L			07/09/10 11:51	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 11:51	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 11:51	1
o-Xylene	ND		1.0		ug/L			07/09/10 11:51	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*07/09/10 11:51*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/09/10 11:51*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/09/10 11:51*	*1*
Trifluorotoluene (Surr)	*109*		*80 - 120*		*07/09/10 11:51*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*07/09/10 11:51*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 05:54	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		07/10/10 19:18	07/13/10 05:54	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*07/10/10 19:18*	*07/13/10 05:54*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 16:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**23**		0.50		mg/L			07/14/10 13:35	50
Sulfate	**110**		6.0		mg/L			07/15/10 02:13	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**200**		5.0		mg/L			07/08/10 16:08	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 11:51	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/09/10 11:51*	*1*
Trifluorotoluene (Surr)	*112*		*50 - 150*		*07/09/10 11:51*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 14:38	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*98*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:38*	*1*

Client Sample ID: T - MW5 - 0610

Lab Sample ID: 580-20300-6

Date Collected: 06/29/10 13:25

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*	1.0		ug/L			07/09/10 12:16	1
Toluene	ND		1.0		ug/L			07/09/10 12:16	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 12:16	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 12:16	1
o-Xylene	ND		1.0		ug/L			07/09/10 12:16	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*07/09/10 12:16*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*07/09/10 12:16*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/09/10 12:16*	*1*
Trifluorotoluene (Surr)	*104*		*80 - 120*		*07/09/10 12:16*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*07/09/10 12:16*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		07/10/10 19:18	07/13/10 06:12	1
Motor Oil (>C24-C36)	ND		0.26		mg/L		07/10/10 19:18	07/13/10 06:12	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*95*		*50 - 150*	*07/10/10 19:18*	*07/13/10 06:12*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 16:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**24**		0.50		mg/L			07/14/10 13:37	50
Sulfate	**110**		6.0		mg/L			07/15/10 02:29	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			07/08/10 16:08	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 12:16	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/09/10 12:16*	*1*
Trifluorotoluene (Surr)	*109*		*50 - 150*		*07/09/10 12:16*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 14:48	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*98*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:48*	*1*

Client Sample ID: T - AR5 - 0610

Lab Sample ID: 580-20300-7

Date Collected: 06/29/10 15:10

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*	1.0		ug/L			07/09/10 16:32	1
Toluene	ND		1.0		ug/L			07/09/10 16:32	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 16:32	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 16:32	1
o-Xylene	ND		1.0		ug/L			07/09/10 16:32	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*07/09/10 16:32*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*07/09/10 16:32*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/09/10 16:32*	*1*
Trifluorotoluene (Surr)	*107*		*80 - 120*		*07/09/10 16:32*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*07/09/10 16:32*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 06:30	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		07/10/10 19:18	07/13/10 06:30	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*07/10/10 19:18*	*07/13/10 06:30*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 16:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**25**		0.50		mg/L			07/14/10 13:38	50
Sulfate	**110**		6.0		mg/L			07/15/10 03:18	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			07/08/10 16:08	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/12/10 16:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*50 - 150*		*07/12/10 16:03*	*1*
Trifluorotoluene (Surr)	*115*		*50 - 150*		*07/12/10 16:03*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 14:51	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*105*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:51*	*1*

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-20300-1

Client Sample ID: T - AR6 - 0610

Lab Sample ID: 580-20300-8

Date Collected: 06/29/10 16:05

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*	1.0		ug/L			07/09/10 16:57	1
Toluene	ND		1.0		ug/L			07/09/10 16:57	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 16:57	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 16:57	1
o-Xylene	**2.4**		1.0		ug/L			07/09/10 16:57	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*07/09/10 16:57*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*07/09/10 16:57*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*07/09/10 16:57*	*1*
Trifluorotoluene (Surr)	*107*		*80 - 120*		*07/09/10 16:57*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*07/09/10 16:57*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 06:48	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		07/10/10 19:18	07/13/10 06:48	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*07/10/10 19:18*	*07/13/10 06:48*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.042**		0.020		mg/L		07/13/10 11:15	07/13/10 16:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**22**		0.50		mg/L			07/14/10 13:39	50
Sulfate	**110**		6.0		mg/L			07/15/10 03:35	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**190**		5.0		mg/L			07/08/10 16:08	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 16:57	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/09/10 16:57*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*07/09/10 16:57*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 14:53	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*101*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:53*	*1*

Client Sample ID: T - AR4 - 0610

Lab Sample ID: 580-20300-9

Date Collected: 06/29/10 16:55

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	380		50		ug/L			07/12/10 17:20	50
Toluene	1900		50		ug/L			07/12/10 17:20	50
Ethylbenzene	270		50		ug/L			07/12/10 17:20	50
m-Xylene & p-Xylene	2700		100		ug/L			07/12/10 17:20	50
o-Xylene	1700		50		ug/L			07/12/10 17:20	50

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/12/10 17:20*	*50*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/12/10 17:20*	*50*
Ethylbenzene-d10	*102*		*80 - 120*		*07/12/10 17:20*	*50*
Trifluorotoluene (Surr)	*112*		*80 - 120*		*07/12/10 17:20*	*50*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*07/12/10 17:20*	*50*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	5.3	Y	0.12		mg/L		07/10/10 19:18	07/13/10 07:42	1
Motor Oil (>C24-C36)	0.65		0.25		mg/L		07/10/10 19:18	07/13/10 07:42	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*07/10/10 19:18*	*07/13/10 07:42*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.4		0.020		mg/L		07/13/10 11:15	07/13/10 16:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	5.4		0.50		mg/L			07/14/10 13:40	50
Sulfate	49		1.2		mg/L			07/13/10 20:27	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	290		5.0		mg/L			07/08/10 16:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	21		0.050		mg/L			07/09/10 17:23	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*		*07/09/10 17:23*	*1*
Trifluorotoluene (Surr)	*116*		*50 - 150*		*07/09/10 17:23*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	77.3		26.0		ug/L		07/12/10 12:00	07/12/10 14:56	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*100*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:56*	*1*

Client Sample ID: T - MW-11 - 0610

Lab Sample ID: 580-20300-10

Date Collected: 06/29/10 07:00

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	370		50		ug/L			07/12/10 17:45	50
Toluene	1800		50		ug/L			07/12/10 17:45	50
Ethylbenzene	250		50		ug/L			07/12/10 17:45	50
m-Xylene & p-Xylene	2400		100		ug/L			07/12/10 17:45	50
o-Xylene	1600		50		ug/L			07/12/10 17:45	50

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/12/10 17:45*	*50*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/12/10 17:45*	*50*
Ethylbenzene-d10	*101*		*80 - 120*		*07/12/10 17:45*	*50*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*07/12/10 17:45*	*50*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*		*07/12/10 17:45*	*50*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	3.7	Y	0.12		mg/L		07/10/10 19:18	07/13/10 07:59	1
Motor Oil (>C24-C36)	0.44		0.24		mg/L		07/10/10 19:18	07/13/10 07:59	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*99*		*50 - 150*	*07/10/10 19:18*	*07/13/10 07:59*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.4		0.020		mg/L		07/13/10 11:15	07/13/10 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	6.0		0.50		mg/L			07/14/10 13:42	50
Sulfate	52		6.0		mg/L			07/15/10 03:51	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	340		5.0		mg/L			07/08/10 16:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	20		0.050		mg/L			07/09/10 18:40	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*		*07/09/10 18:40*	*1*
Trifluorotoluene (Surr)	*115*		*50 - 150*		*07/09/10 18:40*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	77.8		26.0		ug/L		07/12/10 12:00	07/12/10 14:59	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*96*		*70 - 122*	*07/12/10 12:00*	*07/12/10 14:59*	*1*

Client Sample ID: Trip Blank

Lab Sample ID: 580-20300-11

Date Collected: 06/29/10 00:00

Matrix: Water

Date Received: 07/01/10 09:50

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 13:33	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*		*07/09/10 13:33*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*07/09/10 13:33*	*1*

Client Sample ID: Trip Blank

Lab Sample ID: 580-20300-12

Date Collected: 06/29/10 00:00

Matrix: Water

Date Received: 07/01/10 09:50

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 13:58	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/09/10 13:58*	*1*
Trifluorotoluene (Surr)	*108*		*50 - 150*		*07/09/10 13:58*	*1*

Client Sample ID: T - AR11 - 0610

Lab Sample ID: 580-20300-13

Date Collected: 06/28/10 15:45

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/12/10 16:29	1
Toluene	ND		1.0		ug/L			07/12/10 16:29	1
Ethylbenzene	ND		1.0		ug/L			07/12/10 16:29	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/12/10 16:29	1
o-Xylene	ND		1.0		ug/L			07/12/10 16:29	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/12/10 16:29*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/12/10 16:29*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*07/12/10 16:29*	*1*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*07/12/10 16:29*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*07/12/10 16:29*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 08:17	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/10/10 19:18	07/13/10 08:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*07/10/10 19:18*	*07/13/10 08:17*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 17:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**25**		0.50		mg/L			07/14/10 13:45	50

Client Sample ID: T - AR11 - 0610

Lab Sample ID: 580-20300-13

Date Collected: 06/28/10 15:45

Matrix: Water

Date Received: 07/01/10 09:50

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			07/15/10 04:08	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			07/08/10 16:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/12/10 16:29	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*50 - 150*		*07/12/10 16:29*	*1*
Trifluorotoluene (Surr)	*114*		*50 - 150*		*07/12/10 16:29*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 15:21	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*110*		*70 - 122*	*07/12/10 12:00*	*07/12/10 15:21*	*1*

Client Sample ID: T - MW1 - 0610

Lab Sample ID: 580-20300-14

Date Collected: 06/28/10 17:10

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/12/10 16:54	1
Toluene	ND		1.0		ug/L			07/12/10 16:54	1
Ethylbenzene	ND		1.0		ug/L			07/12/10 16:54	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/12/10 16:54	1
o-Xylene	ND		1.0		ug/L			07/12/10 16:54	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/12/10 16:54*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*07/12/10 16:54*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/12/10 16:54*	*1*
Trifluorotoluene (Surr)	*113*		*80 - 120*		*07/12/10 16:54*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*07/12/10 16:54*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 08:35	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/10/10 19:18	07/13/10 08:35	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*07/10/10 19:18*	*07/13/10 08:35*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.041**		0.020		mg/L		07/13/10 11:15	07/13/10 17:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**20**		0.50		mg/L			07/14/10 13:46	50

Client Sample ID: T - MW1 - 0610

Lab Sample ID: 580-20300-14

Date Collected: 06/28/10 17:10

Matrix: Water

Date Received: 07/01/10 09:50

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**120**		6.0		mg/L			07/15/10 04:24	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**200**		5.0		mg/L			07/08/10 16:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 19:31	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*		*07/09/10 19:31*	*1*
Trifluorotoluene (Surr)	*112*		*50 - 150*		*07/09/10 19:31*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 15:26	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*110*		*70 - 122*	*07/12/10 12:00*	*07/12/10 15:26*	*1*

Client Sample ID: T - MW6 - 0610

Lab Sample ID: 580-20300-15

Date Collected: 06/28/10 18:50

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*	1.0		ug/L			07/09/10 19:57	1
Toluene	ND		1.0		ug/L			07/09/10 19:57	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 19:57	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 19:57	1
o-Xylene	ND		1.0		ug/L			07/09/10 19:57	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*07/09/10 19:57*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*07/09/10 19:57*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*07/09/10 19:57*	*1*
Trifluorotoluene (Surr)	*107*		*80 - 120*		*07/09/10 19:57*	*1*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*		*07/09/10 19:57*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 08:53	1
Motor Oil (>C24-C36)	ND		0.24		mg/L		07/10/10 19:18	07/13/10 08:53	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*07/10/10 19:18*	*07/13/10 08:53*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 17:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**26**		0.50		mg/L			07/14/10 13:48	50

Client Sample ID: T - MW6 - 0610

Lab Sample ID: 580-20300-15

Date Collected: 06/28/10 18:50

Matrix: Water

Date Received: 07/01/10 09:50

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	110		6.0		mg/L			07/15/10 04:40	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	170		5.0		mg/L			07/08/10 16:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 19:57	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*		*07/09/10 19:57*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*07/09/10 19:57*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 15:28	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*115*		*70 - 122*	*07/12/10 12:00*	*07/12/10 15:28*	*1*

Client Sample ID: Trip Blank

Lab Sample ID: 580-20300-16

Date Collected: 06/28/10 00:00

Matrix: Water

Date Received: 07/01/10 09:50

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 14:24	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*		*07/09/10 14:24*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*07/09/10 14:24*	*1*

Client Sample ID: T - AR8 - 0610

Lab Sample ID: 580-20300-17

Date Collected: 06/28/10 19:45

Matrix: Water

Date Received: 07/01/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.0		1.0		ug/L			07/12/10 19:01	1
Toluene	15		1.0		ug/L			07/12/10 19:01	1
Ethylbenzene	99		1.0		ug/L			07/12/10 19:01	1
m-Xylene & p-Xylene	280		2.0		ug/L			07/12/10 19:01	1
o-Xylene	140		1.0		ug/L			07/12/10 19:01	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/12/10 19:01*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*07/12/10 19:01*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/12/10 19:01*	*1*
Trifluorotoluene (Surr)	*111*		*80 - 120*		*07/12/10 19:01*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*07/12/10 19:01*	*1*

Client Sample ID: T - AR8 - 0610

Lab Sample ID: 580-20300-17

Date Collected: 06/28/10 19:45

Matrix: Water

Date Received: 07/01/10 09:50

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	2.0	Y	0.12		mg/L		07/10/10 19:18	07/13/10 09:11	1
Motor Oil (>C24-C36)	0.25		0.24		mg/L		07/10/10 19:18	07/13/10 09:11	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*07/10/10 19:18*	*07/13/10 09:11*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.4		0.020		mg/L		07/13/10 11:15	07/13/10 15:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	3.6		0.50		mg/L			07/14/10 13:49	50
Sulfate	43		1.2		mg/L			07/13/10 21:49	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	410		5.0		mg/L			07/08/10 16:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	3.3		0.050		mg/L			07/09/10 15:15	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*50 - 150*		*07/09/10 15:15*	*1*
Trifluorotoluene (Surr)	*113*		*50 - 150*		*07/09/10 15:15*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 15:32	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*96*		*70 - 122*	*07/12/10 12:00*	*07/12/10 15:32*	*1*

Client Sample ID: Trip Blank

Lab Sample ID: 580-20300-18

Date Collected: 06/28/10 00:00

Matrix: Water

Date Received: 07/01/10 09:50

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 14:49	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*		*07/09/10 14:49*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*07/09/10 14:49*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-67408/25
Matrix: Water
Analysis Batch: 67408

Client Sample ID: MB 580-67408/25
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/09/10 08:53	1
Toluene	ND		1.0		ug/L			07/09/10 08:53	1
Ethylbenzene	ND		1.0		ug/L			07/09/10 08:53	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/09/10 08:53	1
o-Xylene	ND		1.0		ug/L			07/09/10 08:53	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/09/10 08:53*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/09/10 08:53*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/09/10 08:53*	*1*
Trifluorotoluene (Surr)	*108*		*80 - 120*		*07/09/10 08:53*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*07/09/10 08:53*	*1*

Lab Sample ID: LCS 580-67408/26
Matrix: Water
Analysis Batch: 67408

Client Sample ID: LCS 580-67408/26
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	25.0	34.1	*	ug/L		136	80 - 120
Toluene	25.1	24.7		ug/L		98	75 - 120
Ethylbenzene	25.0	24.6		ug/L		99	75 - 125
m-Xylene & p-Xylene	50.1	49.9		ug/L		100	75 - 130
o-Xylene	25.0	24.2		ug/L		97	80 - 120

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*100*		*85 - 120*
Ethylbenzene-d10	*102*		*80 - 120*
Trifluorotoluene (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*

Lab Sample ID: MB 580-67544/4
Matrix: Water
Analysis Batch: 67544

Client Sample ID: MB 580-67544/4
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/12/10 10:58	1
Toluene	ND		1.0		ug/L			07/12/10 10:58	1
Ethylbenzene	ND		1.0		ug/L			07/12/10 10:58	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/12/10 10:58	1
o-Xylene	ND		1.0		ug/L			07/12/10 10:58	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*07/12/10 10:58*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/12/10 10:58*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/12/10 10:58*	*1*
Trifluorotoluene (Surr)	*109*		*80 - 120*		*07/12/10 10:58*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*		*07/12/10 10:58*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-67544/5
Matrix: Water
Analysis Batch: 67544

Client Sample ID: LCS 580-67544/5
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Benzene			25.0	22.8		ug/L		91	80 - 120		
Toluene			25.0	26.7		ug/L		107	75 - 120		
Ethylbenzene			25.0	27.3		ug/L		109	75 - 125		
m-Xylene & p-Xylene			50.0	53.7		ug/L		108	75 - 130		
o-Xylene			24.8	25.7		ug/L		104	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*102*		*85 - 120*
Ethylbenzene-d10	*102*		*80 - 120*
Trifluorotoluene (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*

Lab Sample ID: LCSD 580-67544/6
Matrix: Water
Analysis Batch: 67544

Client Sample ID: LCSD 580-67544/6
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene			25.0	22.5		ug/L		90	80 - 120	1	30
Toluene			25.0	25.4		ug/L		101	75 - 120	5	30
Ethylbenzene			25.0	27.1		ug/L		108	75 - 125	1	30
m-Xylene & p-Xylene			50.0	53.0		ug/L		106	75 - 130	1	30
o-Xylene			24.8	25.6		ug/L		103	80 - 120	0	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*100*		*85 - 120*
Ethylbenzene-d10	*101*		*80 - 120*
Trifluorotoluene (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*

Lab Sample ID: 580-20300-17 MS
Matrix: Water
Analysis Batch: 67544

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Benzene - RA	2.0		20.1	21.6		ug/L		98	80 - 120		
Toluene - RA	15		20.1	36.9		ug/L		110	75 - 120		
Ethylbenzene - RA	99		20.1	122	4	ug/L		116	75 - 125		
m-Xylene & p-Xylene - RA	280		40.1	331	4	ug/L		131	75 - 130		
o-Xylene - RA	140		19.9	159	4	ug/L		92	80 - 120		

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
Fluorobenzene (Surr) - RA	*101*		*80 - 120*
Toluene-d8 (Surr) - RA	*101*		*85 - 120*
Ethylbenzene-d10 - RA	*103*		*80 - 120*
Trifluorotoluene (Surr) - RA	*112*		*80 - 120*
4-Bromofluorobenzene (Surr) - RA	*91*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA (Continued)

Lab Sample ID: 580-20300-17 MSD
Matrix: Water
Analysis Batch: 67544

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene - RA	2.0		20.1	21.5		ug/L		97	80 - 120	1	30
Toluene - RA	15		20.1	36.3		ug/L		107	75 - 120	1	30
Ethylbenzene - RA	99		20.1	119	4	ug/L		102	75 - 125	2	30
m-Xylene & p-Xylene - RA	280		40.1	316	4	ug/L		94	75 - 130	5	30
o-Xylene - RA	140		19.9	153	4	ug/L		64	80 - 120	4	30

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
Fluorobenzene (Surr) - RA	*100*		*80 - 120*
Toluene-d8 (Surr) - RA	*101*		*85 - 120*
Ethylbenzene-d10 - RA	*102*		*80 - 120*
Trifluorotoluene (Surr) - RA	*112*		*80 - 120*
4-Bromofluorobenzene (Surr) - RA	*90*		*75 - 120*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-67506/1-A
Matrix: Water
Analysis Batch: 67533

Client Sample ID: MB 580-67506/1-A
Prep Type: Total/NA
Prep Batch: 67506

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		07/10/10 19:18	07/13/10 04:07	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		07/10/10 19:18	07/13/10 04:07	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*07/10/10 19:18*	*07/13/10 04:07*	*1*

Lab Sample ID: LCS 580-67506/2-A
Matrix: Water
Analysis Batch: 67533

Client Sample ID: LCS 580-67506/2-A
Prep Type: Total/NA
Prep Batch: 67506

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24)	5.00	5.34		mg/L		107	70 - 140
Motor Oil (>C24-C36)	5.00	6.12		mg/L		122	66 - 125

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*103*		*50 - 150*

Lab Sample ID: 580-20300-17 MS
Matrix: Water
Analysis Batch: 67533

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA
Prep Batch: 67506

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24)	2.0	Y	4.85	6.30		mg/L		89	70 - 140
Motor Oil (>C24-C36)	0.25		4.85	4.88		mg/L		95	66 - 125

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*108*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-20300-17 MSD — **Client Sample ID: T - AR8 - 0610**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 67533 — **Prep Batch: 67506**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2.0	Y	4.85	6.41		mg/L		91	70 - 140	2	27
Motor Oil (>C24-C36)	0.25		4.85	5.16		mg/L		101	66 - 125	5	27

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*110*		*50 - 150*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-67644/18-A — **Client Sample ID: MB 580-67644/18-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 67718 — **Prep Batch: 67644**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		07/13/10 11:15	07/13/10 15:32	1

Lab Sample ID: LCS 580-67644/19-A — **Client Sample ID: LCS 580-67644/19-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 67718 — **Prep Batch: 67644**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Manganese	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: LCSD 580-67644/20-A — **Client Sample ID: LCSD 580-67644/20-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 67718 — **Prep Batch: 67644**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Manganese	1.00	1.04		mg/L		104	80 - 120	0	20

Lab Sample ID: 580-20300-17 MS — **Client Sample ID: T - AR8 - 0610**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 67718 — **Prep Batch: 67644**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Manganese	1.4		1.00	2.52		mg/L		108	75 - 125

Lab Sample ID: 580-20300-17 MSD — **Client Sample ID: T - AR8 - 0610**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 67718 — **Prep Batch: 67644**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Manganese	1.4		1.00	2.41		mg/L		98	75 - 125	4	20

Lab Sample ID: 580-20300-17 DU — **Client Sample ID: T - AR8 - 0610**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 67718 — **Prep Batch: 67644**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	1.4		1.41		mg/L		2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-67782/4
Matrix: Water
Analysis Batch: 67782

Client Sample ID: MB 580-67782/4
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.2		mg/L			07/13/10 16:04	1

Lab Sample ID: LCS 580-67782/5
Matrix: Water
Analysis Batch: 67782

Client Sample ID: LCS 580-67782/5
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Sulfate			15.0	14.4		mg/L		96	90 - 110		

Lab Sample ID: 580-20300-1 MS
Matrix: Water
Analysis Batch: 67782

Client Sample ID: T - MW3 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Sulfate	110		40.0	146		mg/L		92	80 - 120		

Lab Sample ID: 580-20300-17 MS
Matrix: Water
Analysis Batch: 67782

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Sulfate	43		40.0	87.5		mg/L		112	80 - 120		

Lab Sample ID: 580-20300-17 MSD
Matrix: Water
Analysis Batch: 67782

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Sulfate	43		40.0	85.9		mg/L		108	80 - 120	2	20

Lab Sample ID: 580-20300-1 DU
Matrix: Water
Analysis Batch: 67782

Client Sample ID: T - MW3 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfate	110			109		mg/L				0	20

Lab Sample ID: 580-20300-17 DU
Matrix: Water
Analysis Batch: 67782

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfate	43			42.7		mg/L				0	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 580-67394/17
Matrix: Water
Analysis Batch: 67394

Client Sample ID: MB 580-67394/17
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0		mg/L			07/08/10 16:08	1

Lab Sample ID: MB 580-67394/3
Matrix: Water
Analysis Batch: 67394

Client Sample ID: MB 580-67394/3
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0		mg/L			07/08/10 13:50	1

Lab Sample ID: LCS 580-67394/18
Matrix: Water
Analysis Batch: 67394

Client Sample ID: LCS 580-67394/18
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Alkalinity			100	100		mg/L		100	85 - 115		

Lab Sample ID: LCS 580-67394/4
Matrix: Water
Analysis Batch: 67394

Client Sample ID: LCS 580-67394/4
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Alkalinity			100	102		mg/L		102	85 - 115		

Lab Sample ID: 580-20300-17 DU
Matrix: Water
Analysis Batch: 67394

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	410			417		mg/L				1	17

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 580-67784/3
Matrix: Water
Analysis Batch: 67784

Client Sample ID: MB 580-67784/3
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.010		mg/L			07/13/10 17:17	1

Lab Sample ID: LCS 580-67784/4
Matrix: Water
Analysis Batch: 67784

Client Sample ID: LCS 580-67784/4
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Nitrate Nitrite as N			1.00	1.01		mg/L		101	90 - 110		

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: 580-20300-17 MS
Matrix: Water
Analysis Batch: 67784

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate Nitrite as N	3.6		1.00	4.47		mg/L		84	60 - 130

Lab Sample ID: 580-20300-17 MSD
Matrix: Water
Analysis Batch: 67784

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	3.6		1.00	4.51		mg/L		88	60 - 130	1	20

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-67401/33
Matrix: Water
Analysis Batch: 67401

Client Sample ID: MB 580-67401/33
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/09/10 08:53	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*		*07/09/10 08:53*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*07/09/10 08:53*	*1*

Lab Sample ID: LCS 580-67401/34
Matrix: Water
Analysis Batch: 67401

Client Sample ID: LCS 580-67401/34
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline	1.00	0.793		mg/L		79	79 - 110

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*
Trifluorotoluene (Surr)	*100*		*50 - 150*

Lab Sample ID: 580-20300-17 MS
Matrix: Water
Analysis Batch: 67401

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline	3.3		1.16	4.18		mg/L		75	50 - 150

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*
Trifluorotoluene (Surr)	*110*		*50 - 150*

Lab Sample ID: 580-20300-17 MSD
Matrix: Water
Analysis Batch: 67401

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline	3.3		1.16	3.50	F	mg/L		16	50 - 150	18	35

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-20300-17 MSD
Matrix: Water
Analysis Batch: 67401

Client Sample ID: T - AR8 - 0610
Prep Type: Total/NA

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*
Trifluorotoluene (Surr)	*111*		*50 - 150*

Lab Sample ID: MB 580-67632/5
Matrix: Water
Analysis Batch: 67632

Client Sample ID: MB 580-67632/5
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			07/12/10 10:58	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*		*07/12/10 10:58*	*1*
Trifluorotoluene (Surr)	*114*		*50 - 150*		*07/12/10 10:58*	*1*

Lab Sample ID: LCS 580-67632/6
Matrix: Water
Analysis Batch: 67632

Client Sample ID: LCS 580-67632/6
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline	1.00	0.863		mg/L		86	79 - 110

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*
Trifluorotoluene (Surr)	*108*		*50 - 150*

Lab Sample ID: LCSD 580-67632/7
Matrix: Water
Analysis Batch: 67632

Client Sample ID: LCSD 580-67632/7
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.834		mg/L		83	79 - 110	3	20

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*
Trifluorotoluene (Surr)	*104*		*50 - 150*

Method: RSK 175 - Methane, Ethane, and Ethene by GC

Lab Sample ID: 10G1276-BLK1
Matrix: Water
Analysis Batch: T010385

Client Sample ID: 10G1276-BLK1
Prep Type: total
Prep Batch: 10G1276_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		07/12/10 12:00	07/12/10 13:18	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*114*		*70 - 122*	*07/12/10 12:00*	*07/12/10 13:18*	*1*

Method: RSK 175 - Methane, Ethane, and Ethene by GC (Continued)

Lab Sample ID: 10G1276-BS1 — **Client Sample ID: 10G1276-BS1**
Matrix: Water — **Prep Type: total**
Analysis Batch: T010385 — **Prep Batch: 10G1276_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane			278	283		ug/L		102	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Acetylene	*96*		*70 - 122*

Lab Sample ID: 10G1276-BSD1 — **Client Sample ID: 10G1276-BSD1**
Matrix: Water — **Prep Type: total**
Analysis Batch: T010385 — **Prep Batch: 10G1276_P**

Analyte			Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane			278	276		ug/L		99	80 - 120	3	20

Surrogate	*LCS Dup % Recovery*	*LCS Dup Qualifier*	*Limits*
Acetylene	*86*		*70 - 122*

Lab Sample ID: 10G1276-MS1 — **Client Sample ID: T - AR8 - 0610**
Matrix: Water — **Prep Type: total**
Analysis Batch: T010385 — **Prep Batch: 10G1276_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane	ND		278	252		ug/L		91	46 - 133		

Surrogate	*Matrix Spike % Recovery*	*Matrix Spike Qualifier*	*Limits*
Acetylene	*96*		*70 - 122*

Lab Sample ID: 10G1276-MSD1 — **Client Sample ID: T - AR8 - 0610**
Matrix: Water — **Prep Type: total**
Analysis Batch: T010385 — **Prep Batch: 10G1276_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane	ND		278	252		ug/L		91	46 - 133	0.1	20

Surrogate	*Matrix Spike Dup % Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
Acetylene	*89*		*70 - 122*

Client Sample ID: T - MW3 - 0610

Lab Sample ID: 580-20300-1

Date Collected: 06/29/10 08:05

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67408	07/09/10 10:09	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 04:43	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:16	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 00:51	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 13:50	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/13/10 17:36	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 10:09	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:23	ljt	TestAmerica Nashville

Client Sample ID: T - MW4 - 0610

Lab Sample ID: 580-20300-2

Date Collected: 06/29/10 09:05

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67408	07/09/10 10:34	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 05:01	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:20	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 01:24	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 13:50	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:32	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 10:34	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:26	ljt	TestAmerica Nashville

Client Sample ID: T - AR9 - 0610

Lab Sample ID: 580-20300-3

Date Collected: 06/29/10 10:05

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67408	07/09/10 11:00	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 05:19	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:24	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 01:40	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 13:50	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:33	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 11:00	JMB	TestAmerica Seattle

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-20300-1

Client Sample ID: T - AR9 - 0610

Lab Sample ID: 580-20300-3

Date Collected: 06/29/10 10:05

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:29	ljt	TestAmerica Nashville

Client Sample ID: T - AR10 - 0610

Lab Sample ID: 580-20300-4

Date Collected: 06/29/10 11:20

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67408	07/09/10 11:25	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 05:37	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:29	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 01:56	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 13:50	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:34	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 11:25	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:35	ljt	TestAmerica Nashville

Client Sample ID: T - MW2 - 0610

Lab Sample ID: 580-20300-5

Date Collected: 06/29/10 12:05

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67408	07/09/10 11:51	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 05:54	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:33	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 02:13	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:08	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:35	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 11:51	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:38	ljt	TestAmerica Nashville

Client Sample ID: T - MW5 - 0610

Lab Sample ID: 580-20300-6

Date Collected: 06/29/10 13:25

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67408	07/09/10 12:16	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle

Client Sample ID: T - MW5 - 0610

Lab Sample ID: 580-20300-6

Date Collected: 06/29/10 13:25

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 06:12	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:37	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 02:29	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:08	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:37	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 12:16	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:48	ljt	TestAmerica Nashville

Client Sample ID: T - AR5 - 0610

Lab Sample ID: 580-20300-7

Date Collected: 06/29/10 15:10

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67408	07/09/10 16:32	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 06:30	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:42	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 03:18	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:08	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:38	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx	RA	1	67632	07/12/10 16:03	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:51	ljt	TestAmerica Nashville

Client Sample ID: T - AR6 - 0610

Lab Sample ID: 580-20300-8

Date Collected: 06/29/10 16:05

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67408	07/09/10 16:57	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 06:48	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:46	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 03:35	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:08	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:39	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 16:57	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:53	ljt	TestAmerica Nashville

Client Sample ID: T - AR4 - 0610

Lab Sample ID: 580-20300-9

Date Collected: 06/29/10 16:55

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	50	67544	07/12/10 17:20	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 07:42	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:50	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		1	67782	07/13/10 20:27	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:09	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:40	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 17:23	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:56	ljt	TestAmerica Nashville

Client Sample ID: T - MW-11 - 0610

Lab Sample ID: 580-20300-10

Date Collected: 06/29/10 07:00

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	50	67544	07/12/10 17:45	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 07:59	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 16:55	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 03:51	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:09	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:42	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 18:40	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 14:59	ljt	TestAmerica Nashville

Client Sample ID: Trip Blank

Lab Sample ID: 580-20300-11

Date Collected: 06/29/10 00:00

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 13:33	JMB	TestAmerica Seattle

Client Sample ID: Trip Blank

Lab Sample ID: 580-20300-12

Date Collected: 06/29/10 00:00

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 13:58	JMB	TestAmerica Seattle

Client Sample ID: T - AR11 - 0610

Lab Sample ID: 580-20300-13

Date Collected: 06/28/10 15:45

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	67544	07/12/10 16:29	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 08:17	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 17:07	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 04:08	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:09	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:45	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx	RA	1	67632	07/12/10 16:29	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 15:21	ljt	TestAmerica Nashville

Client Sample ID: T - MW1 - 0610

Lab Sample ID: 580-20300-14

Date Collected: 06/28/10 17:10

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	67544	07/12/10 16:54	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 08:35	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 17:11	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 04:24	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:09	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:46	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 19:31	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 15:26	ljt	TestAmerica Nashville

Client Sample ID: T - MW6 - 0610

Lab Sample ID: 580-20300-15

Date Collected: 06/28/10 18:50

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	67408	07/09/10 19:57	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 08:53	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 17:15	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		5	67782	07/15/10 04:40	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:09	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:48	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 19:57	JMB	TestAmerica Seattle

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-20300-1

Client Sample ID: T - MW6 - 0610

Lab Sample ID: 580-20300-15

Date Collected: 06/28/10 18:50

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 15:28	ljt	TestAmerica Nashville

Client Sample ID: Trip Blank

Lab Sample ID: 580-20300-16

Date Collected: 06/28/10 00:00

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 14:24	JMB	TestAmerica Seattle

Client Sample ID: T - AR8 - 0610

Lab Sample ID: 580-20300-17

Date Collected: 06/28/10 19:45

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	67544	07/12/10 19:01	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			67506	07/10/10 19:18	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	67533	07/13/10 09:11	EK	TestAmerica Seattle
Dissolved	Prep	3005A			67644	07/13/10 11:15	PAB	TestAmerica Seattle
Dissolved	Analysis	6010B		1	67718	07/13/10 15:48	SP	TestAmerica Seattle
Total/NA	Analysis	300.0		1	67782	07/13/10 21:49	AM	TestAmerica Seattle
Total/NA	Analysis	310.1		1	67394	07/08/10 16:09	KT	TestAmerica Seattle
Total/NA	Analysis	353.2		50	67784	07/14/10 13:49	KT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 15:15	JMB	TestAmerica Seattle
total	Prep	RSK 175/3810		1	10G1276_P	07/12/10 12:00	ljt	TestAmerica Nashville
total	Analysis	RSK 175		1	T010385	07/12/10 15:32	ljt	TestAmerica Nashville

Client Sample ID: Trip Blank

Lab Sample ID: 580-20300-18

Date Collected: 06/28/10 00:00

Matrix: Water

Date Received: 07/01/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	67401	07/09/10 14:49	JMB	TestAmerica Seattle

Certification Summary

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-20300-1

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica Seattle		USDA		P330-08-00099	05/22/11
TestAmerica Seattle	Alaska	State Program	10	UST-022	03/04/11
TestAmerica Seattle	California	NELAC Secondary AB	9	1115CA	01/31/11
TestAmerica Seattle	Florida	NELAC Secondary AB	4	E871074	06/30/11
TestAmerica Seattle	L-A-B	DoD ELAP	0	L2236	01/19/13
TestAmerica Seattle	L-A-B	ISO/IEC 17025	0	L2236	01/19/13
TestAmerica Seattle	Montana	State Program	8		04/30/20
TestAmerica Seattle	Oregon	NELAC Primary AB	10	WA100007	11/06/10
TestAmerica Seattle	Washington	State Program	10	C1226	02/17/11
TestAmerica Nashville		AIHA		100790	09/01/11
TestAmerica Nashville		USDA		S-48469	09/30/10
TestAmerica Nashville	A2LA	A2LA	0	0453.07	12/31/11
TestAmerica Nashville	A2LA	WY UST	0	453.07	12/31/11
TestAmerica Nashville	Alabama	State Program	4	41150	10/31/10
TestAmerica Nashville	Alaska	State Program	10	UST-087	07/24/11
TestAmerica Nashville	Arizona	State Program	9	AZ0473	05/05/11
TestAmerica Nashville	Arkansas	State Program	6	88-0737	04/25/11
TestAmerica Nashville	California	NELAC Secondary AB	9	1168CA	10/31/10
TestAmerica Nashville	Colorado	State Program	8	N/A	02/28/11
TestAmerica Nashville	Connecticut	State Program	1	PH-0220	12/31/11
TestAmerica Nashville	Florida	NELAC Primary AB	4	E87358	06/30/11
TestAmerica Nashville	Illinois	NELAC Secondary AB	5	200010	12/09/10
TestAmerica Nashville	Iowa	State Program	7	131	05/01/12
TestAmerica Nashville	Kansas	NELAC Secondary AB	7	E-10229	10/31/10
TestAmerica Nashville	Kentucky	State Program	4	90038	12/31/10
TestAmerica Nashville	Kentucky	State Program	4	2	07/13/12
TestAmerica Nashville	Louisiana	NELAC Secondary AB	6	LA100011	12/31/10
TestAmerica Nashville	Louisiana	NELAC Secondary AB	6	30613	06/30/11
TestAmerica Nashville	Maryland	State Program	3	316	03/31/11
TestAmerica Nashville	Massachusetts	State Program	1	M-TN032	06/30/11
TestAmerica Nashville	Minnesota	State Program	5	047-999-345	12/31/10
TestAmerica Nashville	Mississippi	State Program	4	N/A	06/30/11
TestAmerica Nashville	Montana	State Program	8	NA	01/01/15
TestAmerica Nashville	Nevada	State Program	9	TN00032	07/31/11
TestAmerica Nashville	New Hampshire	NELAC Secondary AB	1	2963	10/09/10
TestAmerica Nashville	New Jersey	NELAC Secondary AB	2	TN965	06/30/11
TestAmerica Nashville	New York	NELAC Secondary AB	2	11342	04/01/11
TestAmerica Nashville	North Carolina	State Program	4	387	12/31/10
TestAmerica Nashville	North Dakota	State Program	8	R-146	06/30/11
TestAmerica Nashville	Ohio	VAP	5	CL0033	04/01/12
TestAmerica Nashville	Oklahoma	State Program	6	9412	08/31/10
TestAmerica Nashville	Oregon	NELAC Secondary AB	10	TN200001	04/30/11
TestAmerica Nashville	Pennsylvania	NELAC Secondary AB	3	68-00585	06/30/11
TestAmerica Nashville	Rhode Island	State Program	1	LAO00268	12/30/10
TestAmerica Nashville	South Carolina	State Program	4	84009	03/19/11
TestAmerica Nashville	South Carolina	State Program	4	84009	02/28/11
TestAmerica Nashville	Tennessee	State Program	4	10598	06/30/12
TestAmerica Nashville	Tennessee	State Program	4	2008	03/19/11
TestAmerica Nashville	Texas	NELAC Secondary AB	6	T104704077-09-TX	08/31/10
TestAmerica Nashville	Utah	NELAC Secondary AB	8	TAN	06/30/10
TestAmerica Nashville	Virginia	State Program	3	00323	06/30/11
TestAmerica Nashville	Washington	State Program	10	C1712	07/19/10
TestAmerica Nashville	West Virginia	State Program	3	219	02/28/11
TestAmerica Nashville	Wisconsin	State Program	5	998020430	08/31/10

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Summary

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-20300-1

Lab Sample ID	Client Sample ID	Matrix	Sampled	Received
580-20300-1	T - MW3 - 0610	Water	06/29/10 08:05	07/01/10 09:50
580-20300-2	T - MW4 - 0610	Water	06/29/10 09:05	07/01/10 09:50
580-20300-3	T - AR9 - 0610	Water	06/29/10 10:05	07/01/10 09:50
580-20300-4	T - AR10 - 0610	Water	06/29/10 11:20	07/01/10 09:50
580-20300-5	T - MW2 - 0610	Water	06/29/10 12:05	07/01/10 09:50
580-20300-6	T - MW5 - 0610	Water	06/29/10 13:25	07/01/10 09:50
580-20300-7	T - AR5 - 0610	Water	06/29/10 15:10	07/01/10 09:50
580-20300-8	T - AR6 - 0610	Water	06/29/10 16:05	07/01/10 09:50
580-20300-9	T - AR4 - 0610	Water	06/29/10 16:55	07/01/10 09:50
580-20300-10	T - MW-11 - 0610	Water	06/29/10 07:00	07/01/10 09:50
580-20300-11	Trip Blank	Water	06/29/10 00:00	07/01/10 09:50
580-20300-12	Trip Blank	Water	06/29/10 00:00	07/01/10 09:50
580-20300-13	T - AR11 - 0610	Water	06/28/10 15:45	07/01/10 09:50
580-20300-14	T - MW1 - 0610	Water	06/28/10 17:10	07/01/10 09:50
580-20300-15	T - MW6 - 0610	Water	06/28/10 18:50	07/01/10 09:50
580-20300-16	Trip Blank	Water	06/28/10 00:00	07/01/10 09:50
580-20300-17	T - AR8 - 0610	Water	06/28/10 19:45	07/01/10 09:50
580-20300-18	Trip Blank	Water	06/28/10 00:00	07/01/10 09:50

TestAmerica

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TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush
☐ Short Hold

Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
CH2M HILL	BOB MARTIN	6-30-10	6208
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 2
717 W SPRAGUE AVE SUITE 800	509-747	20300	
City / State / Zip Code	**Sampler / Lab Contact**		
SPOKANE / WA / 99201	REUBEN GREER / CURTIS ARMSTRONG		
Project Name and Location (State)	**Billing Contact**		
TIDEWATER, PASCO, WA			
Contract/Purchase Order/Quote No.			
940289			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: TPH-GX	TPH-Dx	VOCs by 8260	RSK-175	SO4/NO3/Alk	Diss Mn
-1 T-MW3-0610	6/29/10	805		X			1		1	10			X	X	X	X	X	X
-2 T-MW4-0610	6/29/10	905		X			1		1	10			X	X	X	X	X	X
-3 T-AR9-0610	6/29/10	1005		X			1		1	10			X	X	X	X	X	X
-4 T-AR10-0610	6/29/10	1120		X			1		1	10			X	X	X	X	X	X
-5 T-MW2-0610	6/29/10	1205		X			1		1	10			X	X	X	X	X	X
-6 T-MW5-0610	6/29/10	1325		X			1		1	10			X	X	X	X	X	X
-7 T-AR5-0610	6/29/10	1510		X			1		1	10			X	X	X	X	X	X
-8 T-AR6-0610	6/29/10	1605		X			1		1	10			X	X	X	X	X	X
-9 T-AR4-0610	6/29/10	1655		X			1		1	10			X	X	X	X	X	X
-10 T-MW-11-0610	6/29/10	0700		X			1		1	10			X	X	X	X	X	X
-11 TRIP BLANK	-	-		X									X					
-12 TRIP BLANK	-	-		X									X					

Special Instructions/ Conditions of Receipt

Cooler: ☒ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other STANDARD

QC Requirements (Specify)

	Date	Time
1. Relinquished By Sign/Print: REUBEN GREER	6-30-10	15:30
2. Relinquished By Sign/Print:		
3. Relinquished By Sign/Print:		

	Date	Time
1. Received By Sign/Print: FED EX	6-30-10	15:30
2. Received By Sign/Print: Cathy Cumble	7/1/10	9:50
3. Received By Sign/Print:		

Comments: * SAMPLES SHIPPED IN FIVE COOLERS - ONE SET TRIP BLANKS PER COOLER w/ VOCs + ALL DISS. Mn FIELD FILTERED

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

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☐ Rush
☐ Short Hold

Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
CH2M HILL	BOB MARTIN	6-30-10	6207
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 2 of 2
	509-747-2000	20300	
City / State / Zip Code	Sampler	Lab Contact	
Project Name and Location (State)	Billing Contact		
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	8260B	TPH-Gx	TPH-Dx	RSK-175	DISS. Mn (6010)	NO3/NO4 (300.0)	SO4 (300.0)	ALK (310.1)	Special Instructions/ Conditions of Receipt
13 T-AR11-0610	6-28-10	15:45		X			1		1	9			X	X	X	X	X	X	X	X	*ONLY 1 TPH DX
14 T-MW1-0610	6-28-10	17:10		X			1		1	10			X	X	X	X	X	X	X	X	
15 T-MW6-0610	6-28-10	18:50		X			1		1	10			X	X	X	X	X	X	X	X	
16 TRIP BLANK	-	-		X						2			X								
17 T-AR8-0610	6-28-10	19:45		X			3		3	30			X	X	XX	X	X	X	X	X	MS/MSD
18 TRIP BLANK	-	-		X									X								

Page 37 of 38

Cooler: ☑ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other STANDARD

QC Requirements (Specify)

	Date	Time
1. Relinquished By Sign/Print: REUBEN GREER	6-30-10	15:30
2. Relinquished By Sign/Print:		
3. Relinquished By Sign/Print:		

	Date	Time
1. Received By Sign/Print: FED EX Cathy Crumble Cathy Crumble	6-30-10	15:30
2. Received By Sign/Print:	7/1/10	9:50
3. Received By Sign/Print:		

Comments: * ALL DISSOLVED Mn FIELD FILTERED - ALL SAMPLES SHIPPED IN FIVE COOLERS

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0210)

08/04/2010

Login Sample Receipt Check List

Client: CH2M Hill, Inc.

Job Number: 580-20300-1

Login Number: 20300

List Source: TestAmerica Seattle

Creator: Gamble, Cathy

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	no sulfuric acid preserved containers were provided.
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	False	split into H2SO4 (G35026) for NO2/NO3

TIDEWATER MONITOR WELLS

DECEMBER 2010 SAMPLING EVENT

Data Usability Summary Report

To:	Bob Martin	**Date:**	January 26, 2011
From:	Reuben Greer	**File:**	12-10_DQRR_Tidewater
RE:	Review of Groundwater Data for Supplemental Investigation for RI/FS Pasco	**cc:**	

This Data Usability Summary Report (DUSR) assesses the laboratory results for groundwater samples collected during the Supplemental Investigation for the Remedial Investigation and Feasibility Study at the Northwest Terminaling Company (NWTC) Pasco Terminal in Pasco Washington. CH2M HILL collected fifteen primary groundwater samples, one duplicate groundwater sample, and six trip blanks on December 14 through 16, 2010. The samples were submitted to TestAmerica (TA) Inc., located in Tacoma, Washington. All samples were analyzed for one or more of the following parameters in general accordance with the methods indicated in the table below. The results were reported in one TA data package, 580-23599.

Method	Analytical Parameter
EPA 8260B	Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
NWTPH-Dx	Semi-volatile Petroleum Products-Dx
NWTPH-Gx	Volatile Petroleum Products-Gx
EPA 6010B	Dissolved Manganese
EPA 300.0	Sulfate
EPA 310.1	Alkalinity
EPA 353.2	Nitrate-Nitrite as Nitrogen
RSK 175	Dissolved Gases (Methane, Ethane, Ethene)

The analytical results for all samples were reviewed using guidance from the EPA Contract Laboratory Program National Functional Guidelines (NFGs) for Organic Data Review (EPA, 2008), EPA Contract Laboratory Program NFGs for Inorganic Data Review (EPA, 2004), laboratory quality control (QC) criteria (as applicable for each analytical method used), and the Quality Assurance Project Plan (QAPP) for NWTC Pasco Terminal RI/FS (URS/CH2MHILL, 2010). Raw data information was not provided by the laboratory, therefore initial and diluted results were not compared as part of this review. The DUSR included verification of the following:

Representativeness

- Chain of custody (COC) records
- Case narrative
- Proper sample collection and handling procedures
- Holding times
- Method / laboratory blank analysis
- Trip blank analysis

Accuracy

- Surrogate compound recoveries
- Laboratory control spike (LCS) recoveries
- Matrix spike (MS) recoveries

Precision

- Laboratory duplicate (laboratory duplicate, matrix spike duplicate (MSD), or LCS duplicate) precision
- Field duplicate precision

Comparability

- Compound identification
- Method detection (MDL) and method reporting limits (RL)

Completeness

- Data completeness and format

No additional qualifiers were applied as a result of this review. Final sample results and qualifiers are presented in analytical summary tables in the associated report.

REPRESENTATIVENESS

Chain-of-Custody and Holding Times

It was indicated on the COC form that samples were maintained under custody and the forms were signed upon release and receipt. All coolers were received by the laboratory with all samples intact and within the recommended temperature range of 4ºC ± 2ºC.

Six trip blanks were provided for volatile analysis and were included on the COC. No target analytes were detected in the trip blank. Sample qualification is not necessary.

All samples were analyzed within their applicable holding times at the laboratory. No sample qualification of the data is necessary.

Case Narrative

All items discussed in the TA case narratives are discussed in the following sections.

Review of Blanks

Method Blanks

Method blanks were used to check for laboratory contamination and instrument bias. The laboratory analyzed at least one method blank for each analysis and for each batch, per method requirements. Target analytes were not reported as detected in the associated method blanks.

Trip Blanks

Trip blanks were used to check for contamination during transportation and are required for volatile analysis. Target analytes were not reported as detected in the trip blanks.

ACCURACY

Surrogate Recovery Review

Each sample analyzed for organic compounds was spiked with surrogates (system monitoring compounds). Surrogate recoveries are a measure of accuracy for the overall analysis of each individual sample. All surrogate recoveries met the project's acceptance criteria as listed in the QAPP.

Laboratory Control Samples/Laboratory Control Sample Duplicates

Laboratory control samples (LCS) are used to monitor the laboratory's day-to-day performance of routine analytical methods, independent of matrix effects, and to assess accuracy for the target compounds.

The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) exceeded control limits for the following analytes: motor oil. The affected analyte range was biased high, and sample 580-23599-13 (T-AR4-1210) had a detection above the RL; therefore, the QC and client samples were re-analyzed on a different column with passing QC recoveries and reported. All other LCS or LCS/LCSD percent recoveries met the project's acceptance criteria. No sample qualification of the data is necessary.

Matrix Spike/Matrix Spike Duplicate Review

Matrix spike/matrix spike duplicate (MS/MSD) samples are analyzed to assess the ability of the laboratory to recover the target compounds from the sample matrix. Additional volume from sample T-MW3-1210 was submitted to the laboratory for MS/MSD analysis of BTEX, gasoline, diesel, sulfate, manganese, and nitrate/nitrite. All MS/MSD recoveries were acceptable.

PRECISION

Duplicate Review

Field Duplicate Results

A field duplicate was collected and submitted to the laboratory to verify sampling techniques and assess laboratory procedures. T-FD1-1210 was collected as a field duplicate for sample T-AR8-1210, and submitted to the laboratory as a blind sample. The relative percent difference (RPD) was calculated when sample results were greater than five times the reporting limit and compared to the QAPP criterion of ≤30%. The RPD for m-xylene and p xlyene was calculated at 58%. All field duplicate data were acceptable.

Laboratory Duplicate Results

TA performed a laboratory duplicate on all batches in accordance to method criteria. In addition to MS/MSD analysis mentioned above the laboratory performed a duplicate analysis on sample T-AR8-0610 for manganese, BTEX, and gasoline. All laboratory duplicate data were acceptable.

LCS/LCSD Duplicate Results

LCS/LCSD RPDs were acceptable for all LCS/LCSD duplicates performed in this data package.

COMPARABILITY

Reporting Limits

The sensitivity (i.e., reporting limits) of the analytical methods is driven by the project-specific objectives. Detections between the MDL and the RL were not reported by the laboratory. Additional qualifiers were not added during the data review process.

COMPLETENESS

The laboratory reported all requested analyses and the deliverable data reports were complete. Completeness is defined as the percentage of usable data out of the total amount of data generated. No qualifiers were assigned as a result of this data review. Completeness for the investigation is 100%.

REFERENCES

USEPA, April 1998. Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, Rev. 5, EPA, Office of Solid Waste, Washington, D.C.

USEPA, October 2004. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

USEPA, September 2008. EPA Contract Laboratory Program National Functional Guidelines for Organics Data Review.

URS/CH2MHill, April 2010. Quality Assurance Project Plan for NWTC Pasco Terminals RI/FS.

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-23599-1
Client Project/Site: Tidewater, Pasco, WA
Revision: 2

For:
CH2M Hill, Inc.
9 S Washington Street
Suite 400
Spokane, Washington 99210-3709

Attn: Reuben S Greer

Authorized for release by:
1/21/2011 1:49 PM

Curtis Armstrong
Project Manager I
curtis.armstrong@testamericainc.com

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Job ID: 580-23599-1

Laboratory: TestAmerica Nashville

NELAC Certification

NELAC certifications are not held for the following analytes included in this report:

Method	Matrix	Analyte
RSK 175 M	Water	Methane

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-23599-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
Method(s) NWTPH-Dx:
The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 78029 exceeded control limits for the following analytes: motor oil. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 78029 exceeded control limits for the following analytes: motor oil. The affected analyte range is biased high, and sample 580-23599-13 had a detection above the RL; therefore, the QC and client samples have been re-analyzed on a different column with passing QC recoveries and reported.

For sample 580-23599-10, the results in the C10-C24 range are due primarily to overlapping results from the gasoline range.

For samples 580-23599-12, 580-23599-13, 580-23599-14, and 580-23599-15, the results in the C10-C24 range are due to a complex mixture of overlapping results from the gasoline range and heavily weathered diesel fuel, and/or possibly biogenic interference.

All affected analyte ranges are qualified with the "Y" qualifier and reported.

No other analytical or quality issues were noted.

Qualifier Definition/Glossary

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-23599-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
F	MS or MSD exceeds the control limits
Y	The chromatographic response resembles a typical fuel pattern.

General Chemistry

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-23599-1

Client Sample ID: T-AR11-1210

Date Collected: 12/14/10 13:40
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 04:45	1
Toluene	ND		1.0		ug/L			12/23/10 04:45	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 04:45	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 04:45	1
o-Xylene	ND		1.0		ug/L			12/23/10 04:45	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 04:45*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 04:45*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/23/10 04:45*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/23/10 04:45*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*12/23/10 04:45*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 04:45	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 04:45*	*1*
Trifluorotoluene (Surr)	*106*		*50 - 150*		*12/23/10 04:45*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 04:45*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 04:45*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 04:45*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		12/22/10 15:47	12/28/10 15:16	1
Motor Oil (>C24-C36)	ND	*	0.26		mg/L		12/22/10 15:47	12/28/10 15:16	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*12/22/10 15:47*	*12/28/10 15:16*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/27/10 11:23	12/27/10 12:42	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*90*		*70 - 122*	*12/27/10 11:23*	*12/27/10 12:42*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 20:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/03/11 17:36	5
Nitrate Nitrite as N	**24**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			12/22/10 07:00	1

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-23599-1

Client Sample ID: T-MW1-1210

Date Collected: 12/14/10 15:30
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 05:10	1
Toluene	ND		1.0		ug/L			12/23/10 05:10	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 05:10	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 05:10	1
o-Xylene	ND		1.0		ug/L			12/23/10 05:10	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/23/10 05:10*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 05:10*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/23/10 05:10*	*1*
Trifluorotoluene (Surr)	*98*		*80 - 120*		*12/23/10 05:10*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/23/10 05:10*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 05:10	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 05:10*	*1*
Trifluorotoluene (Surr)	*103*		*50 - 150*		*12/23/10 05:10*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 05:10*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 05:10*	*1*
Toluene-d8 (Surr)	*104*		*50 - 150*		*12/23/10 05:10*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/22/10 15:47	12/28/10 15:39	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/22/10 15:47	12/28/10 15:39	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*12/22/10 15:47*	*12/28/10 15:39*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/27/10 11:23	12/27/10 12:45	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*85*		*70 - 122*	*12/27/10 11:23*	*12/27/10 12:45*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.14**		0.020		mg/L		01/03/11 08:54	01/10/11 20:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/03/11 17:52	5
Nitrate Nitrite as N	**26**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			12/22/10 07:00	1

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-23599-1

Client Sample ID: T-MW6-1210

Date Collected: 12/14/10 16:50
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 05:36	1
Toluene	ND		1.0		ug/L			12/23/10 05:36	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 05:36	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 05:36	1
o-Xylene	ND		1.0		ug/L			12/23/10 05:36	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 05:36*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/23/10 05:36*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 05:36*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/23/10 05:36*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/23/10 05:36*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 05:36	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 05:36*	*1*
Trifluorotoluene (Surr)	*105*		*50 - 150*		*12/23/10 05:36*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 05:36*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 05:36*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 05:36*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/22/10 15:47	12/28/10 15:59	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/22/10 15:47	12/28/10 15:59	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*12/22/10 15:47*	*12/28/10 15:59*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/27/10 11:23	12/27/10 12:47	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*93*		*70 - 122*	*12/27/10 11:23*	*12/27/10 12:47*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 20:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/03/11 18:08	5
Nitrate Nitrite as N	**27**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**160**		5.0		mg/L			12/22/10 07:00	1

Client Sample ID: T-AR10-1210

Date Collected: 12/14/10 17:45
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 06:01	1
Toluene	ND		1.0		ug/L			12/23/10 06:01	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 06:01	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 06:01	1
o-Xylene	ND		1.0		ug/L			12/23/10 06:01	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 06:01*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/23/10 06:01*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 06:01*	*1*
Trifluorotoluene (Surr)	*99*		*80 - 120*		*12/23/10 06:01*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/23/10 06:01*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 06:01	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 06:01*	*1*
Trifluorotoluene (Surr)	*104*		*50 - 150*		*12/23/10 06:01*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 06:01*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 06:01*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 06:01*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/22/10 15:47	12/28/10 16:18	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/22/10 15:47	12/28/10 16:18	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*86*		*50 - 150*	*12/22/10 15:47*	*12/28/10 16:18*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/27/10 11:23	12/27/10 12:50	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*92*		*70 - 122*	*12/27/10 11:23*	*12/27/10 12:50*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 20:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**100**		6.0		mg/L			01/03/11 18:25	5
Nitrate Nitrite as N	**22**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**180**		5.0		mg/L			12/22/10 07:00	1

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-23599-1

Client Sample ID: T-MW3-1210

Date Collected: 12/15/10 08:30
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 01:21	1
Toluene	ND		1.0		ug/L			12/23/10 01:21	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 01:21	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 01:21	1
o-Xylene	ND		1.0		ug/L			12/23/10 01:21	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 01:21*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/23/10 01:21*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 01:21*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*12/23/10 01:21*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/23/10 01:21*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 01:21	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 01:21*	*1*
Trifluorotoluene (Surr)	*106*		*50 - 150*		*12/23/10 01:21*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 01:21*	*1*
Fluorobenzene (Surr)	*104*		*50 - 150*		*12/23/10 01:21*	*1*
Toluene-d8 (Surr)	*104*		*50 - 150*		*12/23/10 01:21*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/22/10 15:47	12/28/10 16:38	1
Motor Oil (>C24-C36)	ND	*	0.25		mg/L		12/22/10 15:47	12/28/10 16:38	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*12/22/10 15:47*	*12/28/10 16:38*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 10:12	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*108*		*70 - 122*	*12/29/10 08:20*	*12/29/10 10:12*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 19:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/03/11 18:41	5
Nitrate Nitrite as N	**25**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**180**		5.0		mg/L			12/22/10 07:00	1

Client Sample ID: T-MW2-1210

Lab Sample ID: 580-23599-6

Date Collected: 12/15/10 09:30

Matrix: Water

Date Received: 12/17/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 04:19	1
Toluene	ND		1.0		ug/L			12/23/10 04:19	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 04:19	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 04:19	1
o-Xylene	ND		1.0		ug/L			12/23/10 04:19	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 04:19*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/23/10 04:19*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/23/10 04:19*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/23/10 04:19*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/23/10 04:19*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 04:19	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 04:19*	*1*
Trifluorotoluene (Surr)	*106*		*50 - 150*		*12/23/10 04:19*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 04:19*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 04:19*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 04:19*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		12/22/10 15:47	12/28/10 17:37	1
Motor Oil (>C24-C36)	ND	*	0.26		mg/L		12/22/10 15:47	12/28/10 17:37	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*12/22/10 15:47*	*12/28/10 17:37*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 10:14	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*98*		*70 - 122*	*12/29/10 08:20*	*12/29/10 10:14*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 20:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**96**		6.0		mg/L			01/03/11 19:14	5
Nitrate Nitrite as N	**20**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**270**		5.0		mg/L			12/22/10 07:00	1

Client Sample ID: T-MW4-1210

Date Collected: 12/15/10 10:30
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 06:27	1
Toluene	ND		1.0		ug/L			12/23/10 06:27	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 06:27	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 06:27	1
o-Xylene	ND		1.0		ug/L			12/23/10 06:27	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/23/10 06:27*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 06:27*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/23/10 06:27*	*1*
Trifluorotoluene (Surr)	*99*		*80 - 120*		*12/23/10 06:27*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*12/23/10 06:27*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 06:27	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 06:27*	*1*
Trifluorotoluene (Surr)	*104*		*50 - 150*		*12/23/10 06:27*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 06:27*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 06:27*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 06:27*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.14		mg/L		12/22/10 15:47	12/28/10 18:37	1
Motor Oil (>C24-C36)	ND	*	0.28		mg/L		12/22/10 15:47	12/28/10 18:37	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*12/22/10 15:47*	*12/28/10 18:37*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 10:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*103*		*70 - 122*	*12/29/10 08:20*	*12/29/10 10:17*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 20:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/03/11 20:03	5
Nitrate Nitrite as N	**26**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			12/22/10 07:00	1

Client Sample ID: T-AR9-1210

Date Collected: 12/15/10 11:45
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 06:52	1
Toluene	ND		1.0		ug/L			12/23/10 06:52	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 06:52	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 06:52	1
o-Xylene	ND		1.0		ug/L			12/23/10 06:52	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 06:52*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 06:52*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 06:52*	*1*
Trifluorotoluene (Surr)	*97*		*80 - 120*		*12/23/10 06:52*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/23/10 06:52*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 06:52	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 06:52*	*1*
Trifluorotoluene (Surr)	*101*		*50 - 150*		*12/23/10 06:52*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 06:52*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 06:52*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 06:52*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		12/22/10 15:47	12/28/10 18:56	1
Motor Oil (>C24-C36)	ND	*	0.27		mg/L		12/22/10 15:47	12/28/10 18:56	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*12/22/10 15:47*	*12/28/10 18:56*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:45	12/29/10 10:41	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*103*		*70 - 122*	*12/29/10 08:45*	*12/29/10 10:41*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 20:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**100**		6.0		mg/L			01/03/11 20:20	5
Nitrate Nitrite as N	**23**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**180**		5.0		mg/L			12/23/10 10:22	1

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-23599-1

Client Sample ID: T-MW5-1210

Date Collected: 12/15/10 13:20
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 07:17	1
Toluene	ND		1.0		ug/L			12/23/10 07:17	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 07:17	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 07:17	1
o-Xylene	ND		1.0		ug/L			12/23/10 07:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 07:17*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/23/10 07:17*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 07:17*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*12/23/10 07:17*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/23/10 07:17*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/23/10 07:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 07:17*	*1*
Trifluorotoluene (Surr)	*105*		*50 - 150*		*12/23/10 07:17*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 07:17*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 07:17*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/23/10 07:17*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13		mg/L		12/22/10 15:47	12/28/10 19:16	1
Motor Oil (>C24-C36)	ND	*	0.26		mg/L		12/22/10 15:47	12/28/10 19:16	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*12/22/10 15:47*	*12/28/10 19:16*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:45	12/29/10 10:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*89*		*70 - 122*	*12/29/10 08:45*	*12/29/10 10:43*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 20:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/03/11 20:36	5
Nitrate Nitrite as N	**26**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**160**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: T-AR5-1210

Date Collected: 12/15/10 14:20
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 07:43	1
Toluene	ND		1.0		ug/L			12/23/10 07:43	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 07:43	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 07:43	1
o-Xylene	ND		1.0		ug/L			12/23/10 07:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/23/10 07:43*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/23/10 07:43*	*1*
Ethylbenzene-d10	*103*		*80 - 120*		*12/23/10 07:43*	*1*
Trifluorotoluene (Surr)	*103*		*80 - 120*		*12/23/10 07:43*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 120*		*12/23/10 07:43*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.26**		0.050		mg/L			12/23/10 07:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*50 - 150*		*12/23/10 07:43*	*1*
Trifluorotoluene (Surr)	*109*		*50 - 150*		*12/23/10 07:43*	*1*
Ethylbenzene-d10	*99*		*50 - 150*		*12/23/10 07:43*	*1*
Fluorobenzene (Surr)	*99*		*50 - 150*		*12/23/10 07:43*	*1*
Toluene-d8 (Surr)	*101*		*50 - 150*		*12/23/10 07:43*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**0.73**	**Y**	0.13		mg/L		12/22/10 15:47	12/28/10 19:36	1
Motor Oil (>C24-C36)	ND	*	0.27		mg/L		12/22/10 15:47	12/28/10 19:36	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*12/22/10 15:47*	*12/28/10 19:36*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:45	12/29/10 10:46	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*99*		*70 - 122*	*12/29/10 08:45*	*12/29/10 10:46*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.11**		0.020		mg/L		01/03/11 08:54	01/10/11 21:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/03/11 20:53	5
Nitrate Nitrite as N	**25**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**170**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: T-AR6-1210

Date Collected: 12/15/10 15:00
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 08:08	1
Toluene	ND		1.0		ug/L			12/23/10 08:08	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 08:08	1
m-Xylene & p-Xylene	**3.5**		2.0		ug/L			12/23/10 08:08	1
o-Xylene	**5.1**		1.0		ug/L			12/23/10 08:08	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/23/10 08:08*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/23/10 08:08*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/23/10 08:08*	*1*
Trifluorotoluene (Surr)	*97*		*80 - 120*		*12/23/10 08:08*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/23/10 08:08*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.081**		0.050		mg/L			12/23/10 08:08	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 08:08*	*1*
Trifluorotoluene (Surr)	*102*		*50 - 150*		*12/23/10 08:08*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 08:08*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 08:08*	*1*
Toluene-d8 (Surr)	*104*		*50 - 150*		*12/23/10 08:08*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/22/10 15:47	12/28/10 19:55	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/22/10 15:47	12/28/10 19:55	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*12/22/10 15:47*	*12/28/10 19:55*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:45	12/29/10 10:48	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*102*		*70 - 122*	*12/29/10 08:45*	*12/29/10 10:48*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.045**		0.020		mg/L		01/03/11 08:54	01/10/11 21:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**100**		6.0		mg/L			01/03/11 21:09	5
Nitrate Nitrite as N	**22**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**190**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: T-AR8-1210

Date Collected: 12/15/10 16:00
Date Received: 12/17/10 09:50

Lab Sample ID: 580-23599-12

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.7		1.0		ug/L			12/23/10 09:24	1
Toluene	26		1.0		ug/L			12/23/10 09:24	1
Ethylbenzene	100		1.0		ug/L			12/23/10 09:24	1
m-Xylene & p-Xylene	190		2.0		ug/L			12/23/10 09:24	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/23/10 09:24*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/23/10 09:24*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 09:24*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/23/10 09:24*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 120*		*12/23/10 09:24*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	270		20		ug/L			12/28/10 12:25	20

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/28/10 12:25*	*20*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/28/10 12:25*	*20*
Ethylbenzene-d10	*100*		*80 - 120*		*12/28/10 12:25*	*20*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*12/28/10 12:25*	*20*
4-Bromofluorobenzene (Surr)	*101*		*75 - 120*		*12/28/10 12:25*	*20*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	3.7		0.050		mg/L			12/23/10 09:24	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 09:24*	*1*
Trifluorotoluene (Surr)	*107*		*50 - 150*		*12/23/10 09:24*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 09:24*	*1*
Fluorobenzene (Surr)	*102*		*50 - 150*		*12/23/10 09:24*	*1*
Toluene-d8 (Surr)	*101*		*50 - 150*		*12/23/10 09:24*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	1.5	Y	0.13		mg/L		12/22/10 15:47	12/28/10 20:15	1
Motor Oil (>C24-C36)	ND	*	0.26		mg/L		12/22/10 15:47	12/28/10 20:15	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*12/22/10 15:47*	*12/28/10 20:15*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:45	12/29/10 10:50	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*89*		*70 - 122*	*12/29/10 08:45*	*12/29/10 10:50*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.8		0.020		mg/L		01/03/11 08:54	01/10/11 21:25	1

Client Sample ID: T-AR8-1210

Lab Sample ID: 580-23599-12

Date Collected: 12/15/10 16:00

Matrix: Water

Date Received: 12/17/10 09:50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	62		6.0		mg/L			01/03/11 21:25	5
Nitrate Nitrite as N	6.6		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	350		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: T-AR4-1210

Lab Sample ID: 580-23599-13

Date Collected: 12/15/10 17:00

Matrix: Water

Date Received: 12/17/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	350		20		ug/L			12/28/10 13:33	20
Toluene	1400		20		ug/L			12/28/10 13:33	20
Ethylbenzene	230		20		ug/L			12/28/10 13:33	20
m-Xylene & p-Xylene	2300		40		ug/L			12/28/10 13:33	20
o-Xylene	1300		20		ug/L			12/28/10 13:33	20

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/28/10 13:33*	*20*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/28/10 13:33*	*20*
Ethylbenzene-d10	*100*		*80 - 120*		*12/28/10 13:33*	*20*
Trifluorotoluene (Surr)	*103*		*80 - 120*		*12/28/10 13:33*	*20*
4-Bromofluorobenzene (Surr)	*101*		*75 - 120*		*12/28/10 13:33*	*20*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	17		0.050		mg/L			12/23/10 09:50	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 09:50*	*1*
Trifluorotoluene (Surr)	*108*		*50 - 150*		*12/23/10 09:50*	*1*
Ethylbenzene-d10	*101*		*50 - 150*		*12/23/10 09:50*	*1*
Fluorobenzene (Surr)	*100*		*50 - 150*		*12/23/10 09:50*	*1*
Toluene-d8 (Surr)	*98*		*50 - 150*		*12/23/10 09:50*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	2.9	Y	0.13		mg/L		12/22/10 15:47	12/28/10 20:35	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*12/22/10 15:47*	*12/28/10 20:35*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil (>C24-C36)	ND	*	0.26		mg/L		12/22/10 15:47	12/29/10 11:33	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*95*		*50 - 150*	*12/22/10 15:47*	*12/29/10 11:33*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	133		26.0		ug/L		12/29/10 08:45	12/29/10 10:53	1

Client Sample ID: T-AR4-1210

Lab Sample ID: 580-23599-13

Date Collected: 12/15/10 17:00

Matrix: Water

Date Received: 12/17/10 09:50

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*110*		*70 - 122*	*12/29/10 08:45*	*12/29/10 10:53*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**1.5**		0.020		mg/L		01/03/11 08:54	01/10/11 21:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**62**		6.0		mg/L			01/03/11 21:42	5
Nitrate Nitrite as N	**8.9**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**310**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: T-FD1-1210

Lab Sample ID: 580-23599-14

Date Collected: 12/15/10 07:00

Matrix: Water

Date Received: 12/17/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.7**		1.0		ug/L			12/29/10 21:08	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*98*		*80 - 120*		*12/29/10 21:08*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/29/10 21:08*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/29/10 21:08*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*12/29/10 21:08*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/29/10 21:08*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**36**		10		ug/L			12/28/10 13:55	10
Ethylbenzene	**100**		10		ug/L			12/28/10 13:55	10
m-Xylene & p-Xylene	**300**		20		ug/L			12/28/10 13:55	10
o-Xylene	**290**		10		ug/L			12/28/10 13:55	10

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**3.5**		0.050		mg/L			12/23/10 10:15	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 10:15*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*		*12/23/10 10:15*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 10:15*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/23/10 10:15*	*1*
Toluene-d8 (Surr)	*102*		*50 - 150*		*12/23/10 10:15*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**1.5**	**Y**	0.14		mg/L		12/22/10 15:47	12/28/10 20:55	1
Motor Oil (>C24-C36)	ND	*	0.28		mg/L		12/22/10 15:47	12/28/10 20:55	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*12/22/10 15:47*	*12/28/10 20:55*	*1*

Client Sample ID: T-FD1-1210

Lab Sample ID: 580-23599-14

Date Collected: 12/15/10 07:00

Matrix: Water

Date Received: 12/17/10 09:50

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:45	12/29/10 10:55	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*102*		*70 - 122*	*12/29/10 08:45*	*12/29/10 10:55*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**1.7**		0.020		mg/L		01/03/11 08:54	01/10/11 21:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**64**		6.0		mg/L			01/03/11 21:58	5
Nitrate Nitrite as N	**7.2**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**340**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: T-MW8-1210

Lab Sample ID: 580-23599-15

Date Collected: 12/16/10 08:40

Matrix: Water

Date Received: 12/17/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2.4**		1.0		ug/L			12/29/10 21:31	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/29/10 21:31*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/29/10 21:31*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/29/10 21:31*	*1*
Trifluorotoluene (Surr)	*103*		*80 - 120*		*12/29/10 21:31*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/29/10 21:31*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**500**		20		ug/L			12/28/10 14:18	20
Ethylbenzene	**210**		20		ug/L			12/28/10 14:18	20
m-Xylene & p-Xylene	**1300**		40		ug/L			12/28/10 14:18	20
o-Xylene	**700**		20		ug/L			12/28/10 14:18	20

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**9.9**		0.050		mg/L			12/23/10 10:41	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/23/10 10:41*	*1*
Trifluorotoluene (Surr)	*109*		*50 - 150*		*12/23/10 10:41*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/23/10 10:41*	*1*
Fluorobenzene (Surr)	*100*		*50 - 150*		*12/23/10 10:41*	*1*
Toluene-d8 (Surr)	*101*		*50 - 150*		*12/23/10 10:41*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**2.5**	**Y**	0.13		mg/L		12/22/10 15:47	12/28/10 21:14	1

Client Sample ID: T-MW8-1210

Lab Sample ID: 580-23599-15

Date Collected: 12/16/10 08:40

Matrix: Water

Date Received: 12/17/10 09:50

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil (>C24-C36)	ND	*	0.26		mg/L		12/22/10 15:47	12/28/10 21:14	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*12/22/10 15:47*	*12/28/10 21:14*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 11:00	12/29/10 13:07	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*84*		*70 - 122*	*12/29/10 11:00*	*12/29/10 13:07*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.41**		0.020		mg/L		01/03/11 08:54	01/10/11 21:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**85**		6.0		mg/L			01/03/11 22:15	5
Nitrate Nitrite as N	**19**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**200**		5.0		mg/L			12/23/10 10:22	1

Client Sample ID: T-MW7-1210

Lab Sample ID: 580-23599-16

Date Collected: 12/16/10 09:20

Matrix: Water

Date Received: 12/17/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/28/10 12:03	1
Toluene	**4.1**		1.0		ug/L			12/28/10 12:03	1
Ethylbenzene	ND		1.0		ug/L			12/28/10 12:03	1
m-Xylene & p-Xylene	**19**		2.0		ug/L			12/28/10 12:03	1
o-Xylene	**8.1**		1.0		ug/L			12/28/10 12:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/28/10 12:03*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/28/10 12:03*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/28/10 12:03*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*12/28/10 12:03*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/28/10 12:03*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**0.35**		0.050		mg/L			12/28/10 12:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/28/10 12:03*	*1*
Trifluorotoluene (Surr)	*119*		*50 - 150*		*12/28/10 12:03*	*1*
Ethylbenzene-d10	*102*		*50 - 150*		*12/28/10 12:03*	*1*
Fluorobenzene (Surr)	*102*		*50 - 150*		*12/28/10 12:03*	*1*
Toluene-d8 (Surr)	*111*		*50 - 150*		*12/28/10 12:03*	*1*

Client Sample ID: T-MW7-1210

Lab Sample ID: 580-23599-16

Date Collected: 12/16/10 09:20

Matrix: Water

Date Received: 12/17/10 09:50

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/22/10 15:47	12/28/10 21:34	1
Motor Oil (>C24-C36)	ND	*	0.24		mg/L		12/22/10 15:47	12/28/10 21:34	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*12/22/10 15:47*	*12/28/10 21:34*	*1*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 11:00	12/29/10 13:09	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*87*		*70 - 122*	*12/29/10 11:00*	*12/29/10 13:09*	*1*

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 21:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		6.0		mg/L			01/03/11 22:31	5
Nitrate Nitrite as N	**26**		1.0		mg/L			12/27/10 10:28	100

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**160**		5.0		mg/L			12/24/10 08:15	1

Client Sample ID: 6 Trip Blanks

Lab Sample ID: 580-23599-17

Date Collected: 12/14/10 00:00

Matrix: Water

Date Received: 12/17/10 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/23/10 00:56	1
Toluene	ND		1.0		ug/L			12/23/10 00:56	1
Ethylbenzene	ND		1.0		ug/L			12/23/10 00:56	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/23/10 00:56	1
o-Xylene	ND		1.0		ug/L			12/23/10 00:56	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*101*		*80 - 120*		*12/23/10 00:56*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/23/10 00:56*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/23/10 00:56*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/23/10 00:56*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*12/23/10 00:56*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-78047/4
Matrix: Water
Analysis Batch: 78047

Client Sample ID: MB 580-78047/4
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/22/10 23:40	1
Toluene	ND		1.0		ug/L			12/22/10 23:40	1
Ethylbenzene	ND		1.0		ug/L			12/22/10 23:40	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/22/10 23:40	1
o-Xylene	ND		1.0		ug/L			12/22/10 23:40	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*		*12/22/10 23:40*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/22/10 23:40*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*12/22/10 23:40*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*12/22/10 23:40*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/22/10 23:40*	*1*

Lab Sample ID: LCS 580-78047/5
Matrix: Water
Analysis Batch: 78047

Client Sample ID: LCS 580-78047/5
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	25.0	27.8		ug/L		111	80 - 120
Toluene	25.0	24.9		ug/L		100	75 - 120
Ethylbenzene	25.0	24.8		ug/L		99	75 - 125
m-Xylene & p-Xylene	50.0	50.4		ug/L		101	75 - 130
o-Xylene	25.0	25.2		ug/L		101	80 - 120

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*101*		*85 - 120*
Ethylbenzene-d10	*101*		*80 - 120*
Trifluorotoluene (Surr)	*92*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*

Lab Sample ID: 580-23599-5 MS
Matrix: Water
Analysis Batch: 78047

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	ND		20.1	23.9		ug/L		119	80 - 120
Toluene	ND		20.1	21.4		ug/L		106	75 - 120
Ethylbenzene	ND		20.1	21.5		ug/L		107	75 - 125
m-Xylene & p-Xylene	ND		40.1	43.8		ug/L		109	75 - 130
o-Xylene	ND		20.1	21.5		ug/L		107	80 - 120

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
Fluorobenzene (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*101*		*85 - 120*
Ethylbenzene-d10	*100*		*80 - 120*
Trifluorotoluene (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-23599-5 MSD
Matrix: Water
Analysis Batch: 78047

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	ND		20.1	23.8		ug/L		118	80 - 120	1	30
Toluene	ND		20.1	21.2		ug/L		105	75 - 120	1	30
Ethylbenzene	ND		20.1	21.5		ug/L		107	75 - 125	0	30
m-Xylene & p-Xylene	ND		40.1	43.9		ug/L		109	75 - 130	0	30
o-Xylene	ND		20.1	21.6		ug/L		108	80 - 120	0	30

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*101*		*85 - 120*
Ethylbenzene-d10	*100*		*80 - 120*
Trifluorotoluene (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*

Lab Sample ID: MB 580-78159/4
Matrix: Water
Analysis Batch: 78159

Client Sample ID: MB 580-78159/4
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/28/10 08:58	1
Toluene	ND		1.0		ug/L			12/28/10 08:58	1
Ethylbenzene	ND		1.0		ug/L			12/28/10 08:58	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/28/10 08:58	1
o-Xylene	ND		1.0		ug/L			12/28/10 08:58	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/28/10 08:58*	*1*
Toluene-d8 (Surr)	*100*		*85 - 120*		*12/28/10 08:58*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/28/10 08:58*	*1*
Trifluorotoluene (Surr)	*104*		*80 - 120*		*12/28/10 08:58*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*12/28/10 08:58*	*1*

Lab Sample ID: LCS 580-78159/5
Matrix: Water
Analysis Batch: 78159

Client Sample ID: LCS 580-78159/5
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Benzene			25.0	24.9		ug/L		100	80 - 120		
Toluene			25.0	25.0		ug/L		100	75 - 120		
Ethylbenzene			25.0	23.4		ug/L		94	75 - 125		
m-Xylene & p-Xylene			50.0	49.0		ug/L		98	75 - 130		
o-Xylene			25.0	24.2		ug/L		97	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*100*		*85 - 120*
Ethylbenzene-d10	*100*		*80 - 120*
Trifluorotoluene (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-78159/30
Matrix: Water
Analysis Batch: 78159

Client Sample ID: LCSD 580-78159/30
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene			25.0	25.3		ug/L		101	80 - 120	2	30
Toluene			25.0	25.4		ug/L		102	75 - 120	2	30
Ethylbenzene			25.0	23.8		ug/L		95	75 - 125	1	30
m-Xylene & p-Xylene			50.0	49.6		ug/L		99	75 - 130	1	30
o-Xylene			25.0	24.4		ug/L		98	80 - 120	1	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*99*		*85 - 120*
Ethylbenzene-d10	*100*		*80 - 120*
Trifluorotoluene (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*

Lab Sample ID: MB 580-78273/6
Matrix: Water
Analysis Batch: 78273

Client Sample ID: MB 580-78273/6
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			12/29/10 11:02	1
Toluene	ND		1.0		ug/L			12/29/10 11:02	1
Ethylbenzene	ND		1.0		ug/L			12/29/10 11:02	1
m-Xylene & p-Xylene	ND		2.0		ug/L			12/29/10 11:02	1
o-Xylene	ND		1.0		ug/L			12/29/10 11:02	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*12/29/10 11:02*	*1*
Toluene-d8 (Surr)	*101*		*85 - 120*		*12/29/10 11:02*	*1*
Ethylbenzene-d10	*100*		*80 - 120*		*12/29/10 11:02*	*1*
Trifluorotoluene (Surr)	*104*		*80 - 120*		*12/29/10 11:02*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*12/29/10 11:02*	*1*

Lab Sample ID: LCS 580-78273/7
Matrix: Water
Analysis Batch: 78273

Client Sample ID: LCS 580-78273/7
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene			25.0	25.1		ug/L		100	80 - 120
Toluene			25.0	25.0		ug/L		100	75 - 120
Ethylbenzene			25.0	23.5		ug/L		94	75 - 125
m-Xylene & p-Xylene			50.0	48.7		ug/L		97	75 - 130
o-Xylene			25.0	24.2		ug/L		97	80 - 120

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*101*		*85 - 120*
Ethylbenzene-d10	*100*		*80 - 120*
Trifluorotoluene (Surr)	*94*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-78048/5
Matrix: Water
Analysis Batch: 78048

Client Sample ID: MB 580-78048/5
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/22/10 23:40	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*		*12/22/10 23:40*	*1*
Trifluorotoluene (Surr)	*105*		*50 - 150*		*12/22/10 23:40*	*1*
Ethylbenzene-d10	*100*		*50 - 150*		*12/22/10 23:40*	*1*
Fluorobenzene (Surr)	*103*		*50 - 150*		*12/22/10 23:40*	*1*
Toluene-d8 (Surr)	*103*		*50 - 150*		*12/22/10 23:40*	*1*

Lab Sample ID: LCS 580-78048/6
Matrix: Water
Analysis Batch: 78048

Client Sample ID: LCS 580-78048/6
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Gasoline			1.00	0.924		mg/L		92	79 - 110		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*
Trifluorotoluene (Surr)	*96*		*50 - 150*
Ethylbenzene-d10	*100*		*50 - 150*
Fluorobenzene (Surr)	*98*		*50 - 150*
Toluene-d8 (Surr)	*100*		*50 - 150*

Lab Sample ID: 580-23599-5 MS
Matrix: Water
Analysis Batch: 78048

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Gasoline	ND		1.16	1.16		mg/L		100	50 - 150		

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*
Trifluorotoluene (Surr)	*104*		*50 - 150*
Ethylbenzene-d10	*100*		*50 - 150*
Fluorobenzene (Surr)	*98*		*50 - 150*
Toluene-d8 (Surr)	*100*		*50 - 150*

Lab Sample ID: 580-23599-5 MSD
Matrix: Water
Analysis Batch: 78048

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline	ND		1.16	1.21		mg/L		104	50 - 150	5	35

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*
Trifluorotoluene (Surr)	*108*		*50 - 150*
Ethylbenzene-d10	*100*		*50 - 150*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-23599-5 MSD
Matrix: Water
Analysis Batch: 78048

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*98*		*50 - 150*
Toluene-d8 (Surr)	*100*		*50 - 150*

Lab Sample ID: MB 580-78160/5
Matrix: Water
Analysis Batch: 78160

Client Sample ID: MB 580-78160/5
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			12/28/10 08:58	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*50 - 150*		*12/28/10 08:58*	*1*
Trifluorotoluene (Surr)	*113*		*50 - 150*		*12/28/10 08:58*	*1*
Ethylbenzene-d10	*101*		*50 - 150*		*12/28/10 08:58*	*1*
Fluorobenzene (Surr)	*99*		*50 - 150*		*12/28/10 08:58*	*1*
Toluene-d8 (Surr)	*107*		*50 - 150*		*12/28/10 08:58*	*1*

Lab Sample ID: LCS 580-78160/6
Matrix: Water
Analysis Batch: 78160

Client Sample ID: LCS 580-78160/6
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline	1.00	1.06		mg/L		106	79 - 110

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*
Trifluorotoluene (Surr)	*110*		*50 - 150*
Ethylbenzene-d10	*99*		*50 - 150*
Fluorobenzene (Surr)	*110*		*50 - 150*
Toluene-d8 (Surr)	*101*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-78029/1-A
Matrix: Water
Analysis Batch: 78169

Client Sample ID: MB 580-78029/1-A
Prep Type: Total/NA
Prep Batch: 78029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12		mg/L		12/22/10 15:47	12/28/10 14:36	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		12/22/10 15:47	12/28/10 14:36	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*12/22/10 15:47*	*12/28/10 14:36*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RA (Continued)

Lab Sample ID: MB 580-78029/1-A
Matrix: Water
Analysis Batch: 78256

Client Sample ID: MB 580-78029/1-A
Prep Type: Total/NA
Prep Batch: 78029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24) - RA	ND		0.12		mg/L		12/22/10 15:47	12/29/10 10:44	1
Motor Oil (>C24-C36) - RA	ND		0.25		mg/L		12/22/10 15:47	12/29/10 10:44	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl - RA	*92*		*50 - 150*	*12/22/10 15:47*	*12/29/10 10:44*	*1*

Lab Sample ID: LCS 580-78029/2-A
Matrix: Water
Analysis Batch: 78169

Client Sample ID: LCS 580-78029/2-A
Prep Type: Total/NA
Prep Batch: 78029

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24)	5.00	6.38		mg/L		128	70 - 140
Motor Oil (>C24-C36)	5.00	6.70	*	mg/L		134	66 - 125

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*99*		*50 - 150*

Lab Sample ID: LCS 580-78029/2-A
Matrix: Water
Analysis Batch: 78256

Client Sample ID: LCS 580-78029/2-A
Prep Type: Total/NA
Prep Batch: 78029

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24) - RA	5.00	6.40		mg/L		128	70 - 140
Motor Oil (>C24-C36) - RA	5.00	6.79	*	mg/L		136	66 - 125

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl - RA	*92*		*50 - 150*

Lab Sample ID: 580-23599-5 MS
Matrix: Water
Analysis Batch: 78169

Client Sample ID: T-MW3-1210
Prep Type: Total/NA
Prep Batch: 78029

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
#2 Diesel (C10-C24)	ND		4.81	5.83		mg/L		121	70 - 140
Motor Oil (>C24-C36)	ND	*	4.81	6.12		mg/L		125	66 - 125

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*94*		*50 - 150*

Lab Sample ID: 580-23599-5 MSD
Matrix: Water
Analysis Batch: 78169

Client Sample ID: T-MW3-1210
Prep Type: Total/NA
Prep Batch: 78029

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	ND		4.72	5.91		mg/L		125	70 - 140	1	27
Motor Oil (>C24-C36)	ND	*	4.72	6.19	F	mg/L		129	66 - 125	1	27

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-23599-5 MSD
Matrix: Water
Analysis Batch: 78169

Client Sample ID: T-MW3-1210
Prep Type: Total/NA
Prep Batch: 78029

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*95*		*50 - 150*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC

Lab Sample ID: 10L5519-BLK1
Matrix: Water
Analysis Batch: T020734

Client Sample ID: 10L5519-BLK1
Prep Type: total
Prep Batch: 10L5519_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/27/10 11:23	12/27/10 11:23	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*113*		*70 - 122*	*12/27/10 11:23*	*12/27/10 11:23*	*1*

Lab Sample ID: 10L5519-BS1
Matrix: Water
Analysis Batch: T020734

Client Sample ID: 10L5519-BS1
Prep Type: total
Prep Batch: 10L5519_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane			278	259		ug/L		93	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Acetylene	*99*		*70 - 122*

Lab Sample ID: 10L5752-BLK1
Matrix: Water
Analysis Batch: T020844

Client Sample ID: 10L5752-BLK1
Prep Type: total
Prep Batch: 10L5752_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:20	12/29/10 08:33	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*116*		*70 - 122*	*12/29/10 08:20*	*12/29/10 08:33*	*1*

Lab Sample ID: 10L5752-BS1
Matrix: Water
Analysis Batch: T020844

Client Sample ID: 10L5752-BS1
Prep Type: total
Prep Batch: 10L5752_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane			278	315		ug/L		113	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Acetylene	*77*		*70 - 122*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC (Continued)

Lab Sample ID: 10L5752-BSD1 — **Client Sample ID: 10L5752-BSD1**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020844 — **Prep Batch: 10L5752_P**

Analyte			Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane			278	314		ug/L		113	80 - 120	0.2	20

Surrogate	*LCS Dup % Recovery*	*LCS Dup Qualifier*	*Limits*
Acetylene	*109*		*70 - 122*

Lab Sample ID: 580-23599-5 MS — **Client Sample ID: T-MW3-1210**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020844 — **Prep Batch: 10L5752_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane	ND		278	302		ug/L		109	46 - 133		

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
Acetylene	*104*		*70 - 122*

Lab Sample ID: 580-23599-5 MSD — **Client Sample ID: T-MW3-1210**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020844 — **Prep Batch: 10L5752_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane	ND		278	306		ug/L		110	46 - 133	2	20

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
Acetylene	*100*		*70 - 122*

Lab Sample ID: 10L5816-BLK1 — **Client Sample ID: 10L5816-BLK1**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020844 — **Prep Batch: 10L5816_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 08:45	12/29/10 10:27	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*112*		*70 - 122*	*12/29/10 08:45*	*12/29/10 10:27*	*1*

Lab Sample ID: 10L5816-BS1 — **Client Sample ID: 10L5816-BS1**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020844 — **Prep Batch: 10L5816_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane			278	307		ug/L		111	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Acetylene	*83*		*70 - 122*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC (Continued)

Lab Sample ID: 10L5816-BSD1 — **Client Sample ID: 10L5816-BSD1**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020844 — **Prep Batch: 10L5816_P**

Analyte			Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane			278	307		ug/L		110	80 - 120	0.3	20

Surrogate	*LCS Dup % Recovery*	*LCS Dup Qualifier*	*Limits*
Acetylene	*76*		*70 - 122*

Lab Sample ID: 10L5816-MS1 — **Client Sample ID: T-AR9-1210**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020844 — **Prep Batch: 10L5816_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane	ND		278	301		ug/L		108	46 - 133		

Surrogate	*Matrix Spike % Recovery*	*Matrix Spike Qualifier*	*Limits*
Acetylene	*102*		*70 - 122*

Lab Sample ID: 10L5816-MSD1 — **Client Sample ID: T-AR9-1210**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020844 — **Prep Batch: 10L5816_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane	ND		278	295		ug/L		106	46 - 133	2	20

Surrogate	*Matrix Spike Dup % Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
Acetylene	*90*		*70 - 122*

Lab Sample ID: 10L5953-BLK1 — **Client Sample ID: 10L5953-BLK1**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020876 — **Prep Batch: 10L5953_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		26.0		ug/L		12/29/10 11:00	12/29/10 11:08	1

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene	*88*		*70 - 122*	*12/29/10 11:00*	*12/29/10 11:08*	*1*

Lab Sample ID: 10L5953-BS1 — **Client Sample ID: 10L5953-BS1**
Matrix: Water — **Prep Type: total**
Analysis Batch: T020876 — **Prep Batch: 10L5953_P**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Methane			278	238		ug/L		86	80 - 120		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Acetylene	*82*		*70 - 122*

Method: RSK 175 M - Methane, Ethane, and Ethene by GC (Continued)

Lab Sample ID: 10L5953-BSD1
Matrix: Water
Analysis Batch: T020876

Client Sample ID: 10L5953-BSD1
Prep Type: total
Prep Batch: 10L5953_P

Analyte			Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methane			278	248		ug/L		89	80 - 120	4	20

Surrogate	*LCS Dup % Recovery*	*LCS Dup Qualifier*	*Limits*
Acetylene	*80*		*70 - 122*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-78434/20-A
Matrix: Water
Analysis Batch: 78952

Client Sample ID: MB 580-78434/20-A
Prep Type: Total Recoverable
Prep Batch: 78434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		01/03/11 08:54	01/10/11 19:05	1

Lab Sample ID: LCS 580-78434/21-A
Matrix: Water
Analysis Batch: 78952

Client Sample ID: LCS 580-78434/21-A
Prep Type: Total Recoverable
Prep Batch: 78434

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Manganese			1.00	1.04		mg/L		104	80 - 120		

Lab Sample ID: LCSD 580-78434/22-A
Matrix: Water
Analysis Batch: 78952

Client Sample ID: LCSD 580-78434/22-A
Prep Type: Total Recoverable
Prep Batch: 78434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Manganese			1.00	1.06		mg/L		106	80 - 120	1	20

Lab Sample ID: 580-23599-5 MS
Matrix: Water
Analysis Batch: 78952

Client Sample ID: T-MW3-1210
Prep Type: Dissolved
Prep Batch: 78434

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Manganese	ND		1.00	1.02		mg/L		102	80 - 120		

Lab Sample ID: 580-23599-5 MSD
Matrix: Water
Analysis Batch: 78952

Client Sample ID: T-MW3-1210
Prep Type: Dissolved
Prep Batch: 78434

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Manganese	ND		1.00	1.02		mg/L		102	80 - 120	1	20

Lab Sample ID: 580-23599-5 DU
Matrix: Water
Analysis Batch: 78952

Client Sample ID: T-MW3-1210
Prep Type: Dissolved
Prep Batch: 78434

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	ND		ND		mg/L		NC	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-78476/18
Matrix: Water
Analysis Batch: 78476

Client Sample ID: MB 580-78476/18
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.2		mg/L			12/30/10 22:58	1

Lab Sample ID: LCS 580-78476/19
Matrix: Water
Analysis Batch: 78476

Client Sample ID: LCS 580-78476/19
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	15.0	14.4		mg/L		96	90 - 110

Lab Sample ID: 580-23599-5 MS
Matrix: Water
Analysis Batch: 78476

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	110		40.0	146		mg/L		96	90 - 110

Lab Sample ID: 580-23599-5 MSD
Matrix: Water
Analysis Batch: 78476

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Sulfate	110		40.0	139	F	mg/L		78	90 - 110	5	15

Lab Sample ID: 580-23599-16 MS
Matrix: Water
Analysis Batch: 78476

Client Sample ID: T-MW7-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	110		40.0	147		mg/L		95	90 - 110

Lab Sample ID: 580-23599-16 MSD
Matrix: Water
Analysis Batch: 78476

Client Sample ID: T-MW7-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Sulfate	110		40.0	142	F	mg/L		83	90 - 110	3	15

Lab Sample ID: 580-23599-5 DU
Matrix: Water
Analysis Batch: 78476

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	110		119		mg/L		0.3	10

Lab Sample ID: 580-23599-5 DU
Matrix: Water
Analysis Batch: 78476

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	110		108		mg/L		0	10

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 580-23599-16 DU — **Client Sample ID: T-MW7-1210**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 78476

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	110		120		mg/L		0.4	10

Lab Sample ID: 580-23599-16 DU — **Client Sample ID: T-MW7-1210**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 78476

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	110		110		mg/L		0.5	10

Method: 310.1 - Alkalinity

Lab Sample ID: MB 580-77993/1 — **Client Sample ID: MB 580-77993/1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 77993

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0		mg/L			12/22/10 07:00	1

Lab Sample ID: LCS 580-77993/2 — **Client Sample ID: LCS 580-77993/2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 77993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity	100	99.1		mg/L		99	85 - 115

Lab Sample ID: MB 580-78072/1 — **Client Sample ID: MB 580-78072/1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 78072

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0		mg/L			12/23/10 10:22	1

Lab Sample ID: LCS 580-78072/2 — **Client Sample ID: LCS 580-78072/2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 78072

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity	100	97.7		mg/L		98	85 - 115

Lab Sample ID: MB 580-78123/1 — **Client Sample ID: MB 580-78123/1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 78123

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0		mg/L			12/24/10 08:15	1

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCS 580-78123/2
Matrix: Water
Analysis Batch: 78123

Client Sample ID: LCS 580-78123/2
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity	100	97.8		mg/L		98	85 - 115

Lab Sample ID: 580-23599-16 DU
Matrix: Water
Analysis Batch: 78123

Client Sample ID: T-MW7-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	160		168		mg/L		10	17

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 580-78150/1
Matrix: Water
Analysis Batch: 78150

Client Sample ID: MB 580-78150/1
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.010		mg/L			12/27/10 10:28	1

Lab Sample ID: LCS 580-78150/2
Matrix: Water
Analysis Batch: 78150

Client Sample ID: LCS 580-78150/2
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate Nitrite as N	1.00	1.04		mg/L		104	90 - 110

Lab Sample ID: 580-23599-5 MS
Matrix: Water
Analysis Batch: 78150

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate Nitrite as N	25		100	25.0	F	mg/L		0	60 - 130

Lab Sample ID: 580-23599-5 MSD
Matrix: Water
Analysis Batch: 78150

Client Sample ID: T-MW3-1210
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	25		100	24.5	F	mg/L		-0.5	60 - 130	2	20

Client Sample ID: T-AR11-1210

Lab Sample ID: 580-23599-1

Date Collected: 12/14/10 13:40

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 04:45	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 04:45	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 15:16	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5519_P	12/27/10 11:23	SCS	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020734	12/27/10 12:42	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 20:07	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	77993	12/22/10 07:00	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 17:36	AM	TestAmerica Seattle

Client Sample ID: T-MW1-1210

Lab Sample ID: 580-23599-2

Date Collected: 12/14/10 15:30

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 05:10	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 05:10	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 15:39	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5519_P	12/27/10 11:23	SCS	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020734	12/27/10 12:45	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 20:13	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	77993	12/22/10 07:00	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 17:52	AM	TestAmerica Seattle

Client Sample ID: T-MW6-1210

Lab Sample ID: 580-23599-3

Date Collected: 12/14/10 16:50

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 05:36	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 05:36	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 15:59	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5519_P	12/27/10 11:23	SCS	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020734	12/27/10 12:47	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 20:20	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	77993	12/22/10 07:00	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle

Client Sample ID: T-MW6-1210

Lab Sample ID: 580-23599-3

Date Collected: 12/14/10 16:50

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	78476	01/03/11 18:08	AM	TestAmerica Seattle

Client Sample ID: T-AR10-1210

Lab Sample ID: 580-23599-4

Date Collected: 12/14/10 17:45

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 06:01	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 06:01	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 16:18	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5519_P	12/27/10 11:23	SCS	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020734	12/27/10 12:50	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 20:27	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	77993	12/22/10 07:00	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 18:25	AM	TestAmerica Seattle

Client Sample ID: T-MW3-1210

Lab Sample ID: 580-23599-5

Date Collected: 12/15/10 08:30

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 01:21	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 01:21	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 16:38	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5752_P	12/29/10 08:20	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:12	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 19:28	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	77993	12/22/10 07:00	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 18:41	AM	TestAmerica Seattle

Client Sample ID: T-MW2-1210

Lab Sample ID: 580-23599-6

Date Collected: 12/15/10 09:30

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 04:19	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 04:19	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle

Client Sample ID: T-MW2-1210

Lab Sample ID: 580-23599-6

Date Collected: 12/15/10 09:30

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 17:37	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5752_P	12/29/10 08:20	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:14	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 20:33	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	77993	12/22/10 07:00	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 19:14	AM	TestAmerica Seattle

Client Sample ID: T-MW4-1210

Lab Sample ID: 580-23599-7

Date Collected: 12/15/10 10:30

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 06:27	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 06:27	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 18:37	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5752_P	12/29/10 08:20	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:17	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 20:40	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	77993	12/22/10 07:00	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 20:03	AM	TestAmerica Seattle

Client Sample ID: T-AR9-1210

Lab Sample ID: 580-23599-8

Date Collected: 12/15/10 11:45

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 06:52	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 06:52	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 18:56	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5816_P	12/29/10 08:45	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:41	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 20:47	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 20:20	AM	TestAmerica Seattle

Client Sample ID: T-MW5-1210

Lab Sample ID: 580-23599-9

Date Collected: 12/15/10 13:20

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 07:17	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 07:17	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 19:16	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5816_P	12/29/10 08:45	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:43	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 20:54	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 20:36	AM	TestAmerica Seattle

Client Sample ID: T-AR5-1210

Lab Sample ID: 580-23599-10

Date Collected: 12/15/10 14:20

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 07:43	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 07:43	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 19:36	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5816_P	12/29/10 08:45	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:46	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 21:11	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 20:53	AM	TestAmerica Seattle

Client Sample ID: T-AR6-1210

Lab Sample ID: 580-23599-11

Date Collected: 12/15/10 15:00

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 08:08	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 08:08	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 19:55	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5816_P	12/29/10 08:45	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:48	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 21:18	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle

Client Sample ID: T-AR6-1210

Lab Sample ID: 580-23599-11

Date Collected: 12/15/10 15:00

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	78476	01/03/11 21:09	AM	TestAmerica Seattle

Client Sample ID: T-AR8-1210

Lab Sample ID: 580-23599-12

Date Collected: 12/15/10 16:00

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 09:24	JMB	TestAmerica Seattle
Total/NA	Analysis	8260B	DL	20	78159	12/28/10 12:25	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 09:24	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 20:15	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5816_P	12/29/10 08:45	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:50	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 21:25	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 21:25	AM	TestAmerica Seattle

Client Sample ID: T-AR4-1210

Lab Sample ID: 580-23599-13

Date Collected: 12/15/10 17:00

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	20	78159	12/28/10 13:33	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 09:50	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 20:35	EK	TestAmerica Seattle
Total/NA	Prep	3520C	RA		78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx	RA	1	78256	12/29/10 11:33	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5816_P	12/29/10 08:45	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:53	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 21:30	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 21:42	AM	TestAmerica Seattle

Client Sample ID: T-FD1-1210

Lab Sample ID: 580-23599-14

Date Collected: 12/15/10 07:00

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	10	78159	12/28/10 13:55	JMB	TestAmerica Seattle
Total/NA	Analysis	8260B		1	78273	12/29/10 21:08	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 10:15	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 20:55	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5816_P	12/29/10 08:45	ljt	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020844	12/29/10 10:55	ljt	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 21:37	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 21:58	AM	TestAmerica Seattle

Client Sample ID: T-MW8-1210

Lab Sample ID: 580-23599-15

Date Collected: 12/16/10 08:40

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	20	78159	12/28/10 14:18	JMB	TestAmerica Seattle
Total/NA	Analysis	8260B		1	78273	12/29/10 21:31	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx		1	78048	12/23/10 10:41	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 21:14	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5953_P	12/29/10 11:00	WAM	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020876	12/29/10 13:07	WAM	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 21:42	SP	TestAmerica Seattle
Total/NA	Analysis	310.1		1	78072	12/23/10 10:22	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 22:15	AM	TestAmerica Seattle

Client Sample ID: T-MW7-1210

Lab Sample ID: 580-23599-16

Date Collected: 12/16/10 09:20

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78159	12/28/10 12:03	JMB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Gx	RA	1	78160	12/28/10 12:03	JMB	TestAmerica Seattle
Total/NA	Prep	3520C			78029	12/22/10 15:47	MT	TestAmerica Seattle
Total/NA	Analysis	NWTPH-Dx		1	78169	12/28/10 21:34	EK	TestAmerica Seattle
total	Prep	RSK 175/3810		1.00	10L5953_P	12/29/10 11:00	WAM	TestAmerica Nashville
total	Analysis	RSK 175 M		1	T020876	12/29/10 13:09	WAM	TestAmerica Nashville
Dissolved	Prep	3005A			78434	01/03/11 08:54	ZF	TestAmerica Seattle
Dissolved	Analysis	6010B		1	78952	01/10/11 21:49	SP	TestAmerica Seattle

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-23599-1

Client Sample ID: T-MW7-1210

Lab Sample ID: 580-23599-16

Date Collected: 12/16/10 09:20

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	310.1		1	78123	12/24/10 08:15	AO	TestAmerica Seattle
Total/NA	Analysis	353.2		100	78150	12/27/10 10:28	AO	TestAmerica Seattle
Total/NA	Analysis	300.0		5	78476	01/03/11 22:31	AM	TestAmerica Seattle

Client Sample ID: 6 Trip Blanks

Lab Sample ID: 580-23599-17

Date Collected: 12/14/10 00:00

Matrix: Water

Date Received: 12/17/10 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	78047	12/23/10 00:56	JMB	TestAmerica Seattle

Certification Summary

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-23599-1

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica Seattle		USDA		P330-08-00099	05/22/11
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022	03/04/11
TestAmerica Seattle	California	NELAC	9	1115CA	01/31/11
TestAmerica Seattle	Florida	NELAC	4	E871074	06/30/11
TestAmerica Seattle	L-A-B	DoD ELAP	0	L2236	01/19/13
TestAmerica Seattle	L-A-B	ISO/IEC 17025	0	L2236	01/19/13
TestAmerica Seattle	Montana	State Program	8		04/30/20
TestAmerica Seattle	Oregon	NELAC	10	WA100007	11/06/11
TestAmerica Seattle	Washington	State Program	10	C553	02/17/11
TestAmerica Nashville		AIHA		100790	08/31/11
TestAmerica Nashville		USDA		S-48469	01/21/11
TestAmerica Nashville	A2LA	A2LA	0	0453.07	12/31/11
TestAmerica Nashville	A2LA	WY UST	0	453.07	12/30/11
TestAmerica Nashville	Alabama	State Program	4	41150	10/30/10
TestAmerica Nashville	Alaska	Alaska UST	10	UST-087	07/24/11
TestAmerica Nashville	Arizona	State Program	9	AZ0473	05/04/11
TestAmerica Nashville	Arkansas	State Program	6	88-0737	04/24/11
TestAmerica Nashville	California	NELAC	9	1168CA	10/30/11
TestAmerica Nashville	Colorado	State Program	8	N/A	02/27/11
TestAmerica Nashville	Connecticut	State Program	1	PH-0220	12/30/11
TestAmerica Nashville	Florida	NELAC	4	E87358	06/29/11
TestAmerica Nashville	Illinois	NELAC	5	200010	12/08/11
TestAmerica Nashville	Iowa	State Program	7	131	05/01/12
TestAmerica Nashville	Kansas	NELAC	7	E-10229	10/30/11
TestAmerica Nashville	Kentucky	Kentucky UST	4	19	07/12/12
TestAmerica Nashville	Kentucky	State Program	4	90038	02/15/11
TestAmerica Nashville	Louisiana	NELAC	6	LA100011	12/31/11
TestAmerica Nashville	Louisiana	NELAC	6	30613	06/29/11
TestAmerica Nashville	Maryland	State Program	3	316	03/30/11
TestAmerica Nashville	Massachusetts	State Program	1	M-TN032	06/29/11
TestAmerica Nashville	Minnesota	State Program	5	047-999-345	12/31/11
TestAmerica Nashville	Mississippi	State Program	4	N/A	06/29/11
TestAmerica Nashville	Montana	State Program	8	NA	01/01/15
TestAmerica Nashville	Nevada	State Program	9	TN00032	07/31/11
TestAmerica Nashville	New Hampshire	NELAC	1	2963	10/08/11
TestAmerica Nashville	New Jersey	NELAC	2	TN965	06/29/11
TestAmerica Nashville	New York	NELAC	2	11342	04/01/11
TestAmerica Nashville	North Carolina	State Program	4	387	12/31/11
TestAmerica Nashville	North Dakota	State Program	8	R-146	06/29/11
TestAmerica Nashville	Ohio	VAP	5	CL0033	04/01/12
TestAmerica Nashville	Oklahoma	State Program	6	9412	08/30/11
TestAmerica Nashville	Oregon	NELAC	10	TN200001	04/29/11
TestAmerica Nashville	Pennsylvania	NELAC	3	68-00585	06/29/11
TestAmerica Nashville	Rhode Island	State Program	1	LAO00268	12/29/11
TestAmerica Nashville	South Carolina	State Program	4	84009	02/27/11
TestAmerica Nashville	South Carolina	State Program	4	84009	03/18/11
TestAmerica Nashville	Tennessee	State Program	4	2008	03/18/11
TestAmerica Nashville	Texas	NELAC	6	T104704077-09-TX	08/30/11
TestAmerica Nashville	Utah	NELAC	8	TAN	06/29/11
TestAmerica Nashville	Virginia	State Program	3	00323	06/30/11
TestAmerica Nashville	Washington	State Program	10	C789	07/18/11
TestAmerica Nashville	West Virginia	State Program	3	219	02/27/11
TestAmerica Nashville	Wisconsin	State Program	5	998020430	08/30/11

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Summary

Client: CH2M Hill, Inc.
Project/Site: Tidewater, Pasco, WA

TestAmerica Job ID: 580-23599-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-23599-1	T-AR11-1210	Water	12/14/10 13:40	12/17/10 09:50
580-23599-2	T-MW1-1210	Water	12/14/10 15:30	12/17/10 09:50
580-23599-3	T-MW6-1210	Water	12/14/10 16:50	12/17/10 09:50
580-23599-4	T-AR10-1210	Water	12/14/10 17:45	12/17/10 09:50
580-23599-5	T-MW3-1210	Water	12/15/10 08:30	12/17/10 09:50
580-23599-6	T-MW2-1210	Water	12/15/10 09:30	12/17/10 09:50
580-23599-7	T-MW4-1210	Water	12/15/10 10:30	12/17/10 09:50
580-23599-8	T-AR9-1210	Water	12/15/10 11:45	12/17/10 09:50
580-23599-9	T-MW5-1210	Water	12/15/10 13:20	12/17/10 09:50
580-23599-10	T-AR5-1210	Water	12/15/10 14:20	12/17/10 09:50
580-23599-11	T-AR6-1210	Water	12/15/10 15:00	12/17/10 09:50
580-23599-12	T-AR8-1210	Water	12/15/10 16:00	12/17/10 09:50
580-23599-13	T-AR4-1210	Water	12/15/10 17:00	12/17/10 09:50
580-23599-14	T-FD1-1210	Water	12/15/10 07:00	12/17/10 09:50
580-23599-15	T-MW8-1210	Water	12/16/10 08:40	12/17/10 09:50
580-23599-16	T-MW7-1210	Water	12/16/10 09:20	12/17/10 09:50
580-23599-17	6 Trip Blanks	Water	12/14/10 00:00	12/17/10 09:50

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush
☐ Short Hold

Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
CH2M HILL	REUBEN GREER	12-16-2010	9186
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 2**
717 W SPRAGUE AVE SUITE 800	509-464-7215		
City / State / Zip Code	**Sampler**	**Lab Contact**	
SPOKANE / W / 99201	R GREER	C. ARMSTRONG	
Project Name and Location (State)	**Billing Contact**		
TIDEWATER, WA (390624.T1.20.04)			
Contract/Purchase Order/Quote No.			

	Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: BTEX-8260B	NWTPH-GX	NWTPH-DX	DISS Mn 6010B	ALK 310.1	NO2/NO3 3000	SULFATE 300.0	RSK-175	Special Instructions/ Conditions of Receipt
1	T-AR11-1210	12-14-10	13:40		X			1	1	1	11			X	X	X	X	X	X	X	X	COOLER 1
2	T-MW1-1210	12-14-10	15:30		X			1	1	1	11			X	X	X	X	X	X	X	X	COOLER 1
3	T-MW6-1210	12-14-10	16:50		X			1	1	1	11			X								COOLER 1
4	T-AR10-1210	12-14-10	17:45		X			1	1	1	11			X								COOLER 2
5	T-MW3-1210	12-15-10	8:30		X			3	3	3	31			X								MS/MSD (4 TOTAL TPH D) COOLER 2
6	T-MW2-1210	12-15-10	9:30		X			1	1	1	11			X								COOLER 3
7	T-MW4-1210	12-15-10	10:30		X			1	1	1	11			X								COOLER 3
8	T-AR9-1210	12-15-10	11:45		X			1	1	1	11			X								COOLER 3
9	T-MW5-1210	12-15-10	13:20		X			1	1	1	11			X								COOLER 4
10	T-AR5-1210	12-15-10	14:20		X			1	1	1	11			X								COOLER 4
11	T-AR6-1210	12-15-10	15:00		X			1	1	1	11			X								COOLER 4
12	T-AR8-1210	12-15-10	16:00		X			1	1	1	11			X								COOLER 5

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other STANDARD

QC Requirements (Specify)

	Date	Time
1. Relinquished By Sign/Print: REUBEN GREER	12-16-10	16:30
2. Relinquished By Sign/Print:		
3. Relinquished By Sign/Print:		

	Date	Time
1. Received By Sign/Print: FED EX	12-16-10	16:30
2. Received By Sign/Print: Tom Blankinship	12/17/10	0950
3. Received By Sign/Print:		

Comments
* ALL DISS Mn FIELD FILTERED * RETURNED IRON FIELD TEST KITS (2) IN COOLER *

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TestAmerica
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TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush
☐ Short Hold

Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
CH2M HILL	REUBEN GREER	12-16-10	9187
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 2**
717 W SPRAGUE AVE SUITE 800	509-464-7215		
City / State / Zip Code	**Sampler**	**Lab Contact**	
SPOKANE / WA / 99201	R GREER	~~K.~~ C. ARMSTRONG	
Project Name and Location (State)	**Billing Contact**		
TIDEWATER, WA (390624.T1.20.04)			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: BTEX 8260B	NWTPH - GX	NWTPH - DX	DISS Mn - 6010B	ALK 310.1	NO2/NO3 300.0	SULFATE 300.0	RSK 175	Special Instructions/ Conditions of Receipt
13 T-ARH-1210	12-15-10	17:00		X			1	1	1	11			X	X	X	X	X	X	X	X	COOLER 5
14 T-FD1-1210	12-15-10	07:00		X			1	1	1	11			X	X	X	X	X	X	X	X	COOLER 5
15 T-MW8-1210	12-16-10	08:40		X			1	1	1	11			X	X	X	X	X	X	X	X	COOLER 6
16 T-MW7-1210	12-16-10	09:20		X			1	1	1	11			X	X	X	X	X	X	X	X	COOLER 6
17 6 TRIP BLANKS	-	-		X						12			X								TWO VOAS ONE IN EACH COOLER

Cooler ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other STANDARD

QC Requirements (Specify)

1. Relinquished By Sign/Print	Date	Time	1. Received By Sign/Print	Date	Time
REUBEN GREER	12-16-10	16:30	FED EX	12-16-10	16:30
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
			Tom Blankinship	12/17/10	0950
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments
* ALL DISS. Mn FIELD FILTERED * ALL SAMPLES SHIPED IN 6 COOLERS

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

Login Sample Receipt Check List

Client: CH2M Hill, Inc.

Job Number: 580-23599-1

Login Number: 23599

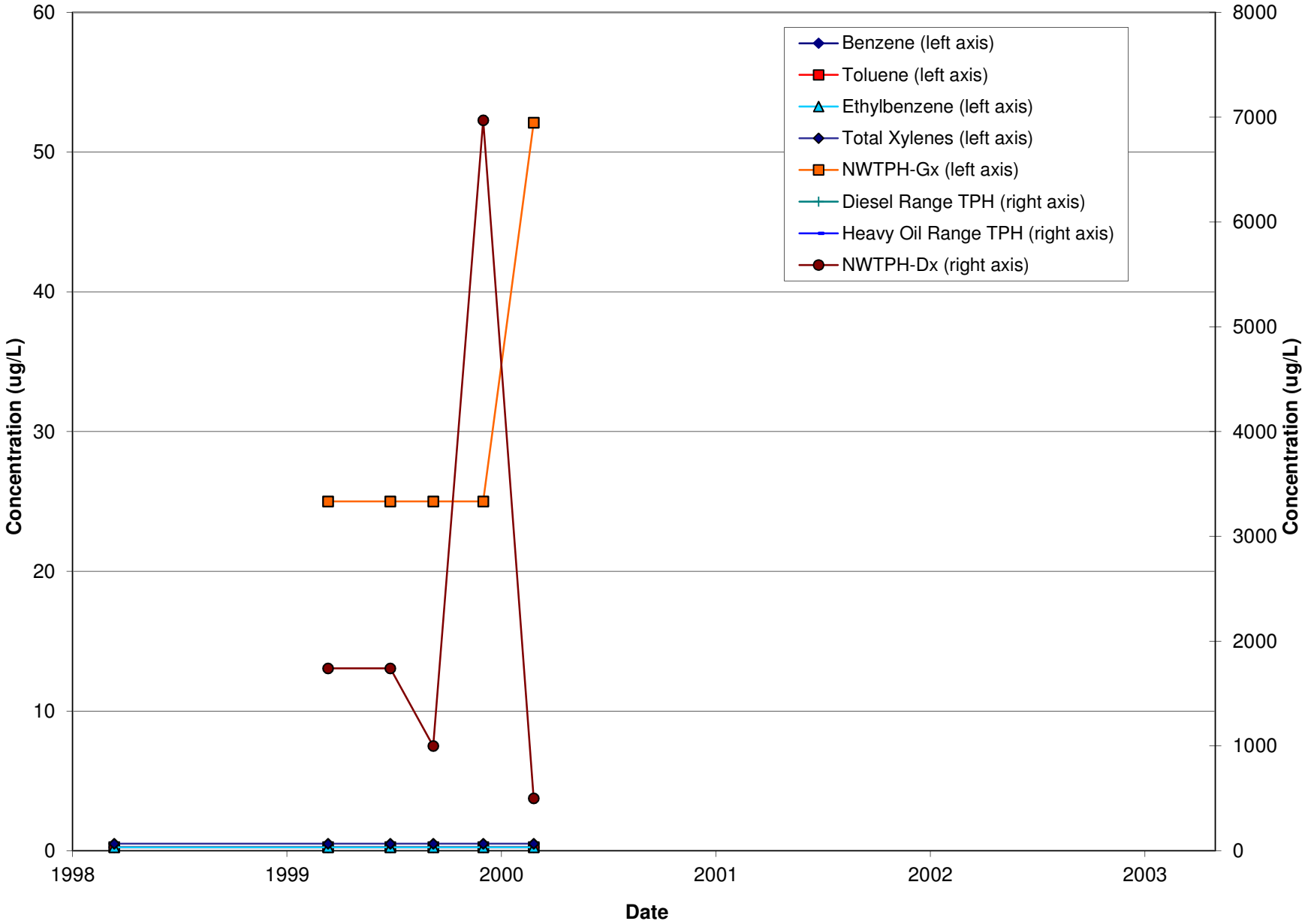
List Source: TestAmerica Seattle

Creator: Blankinship, Tom

List Number: 1

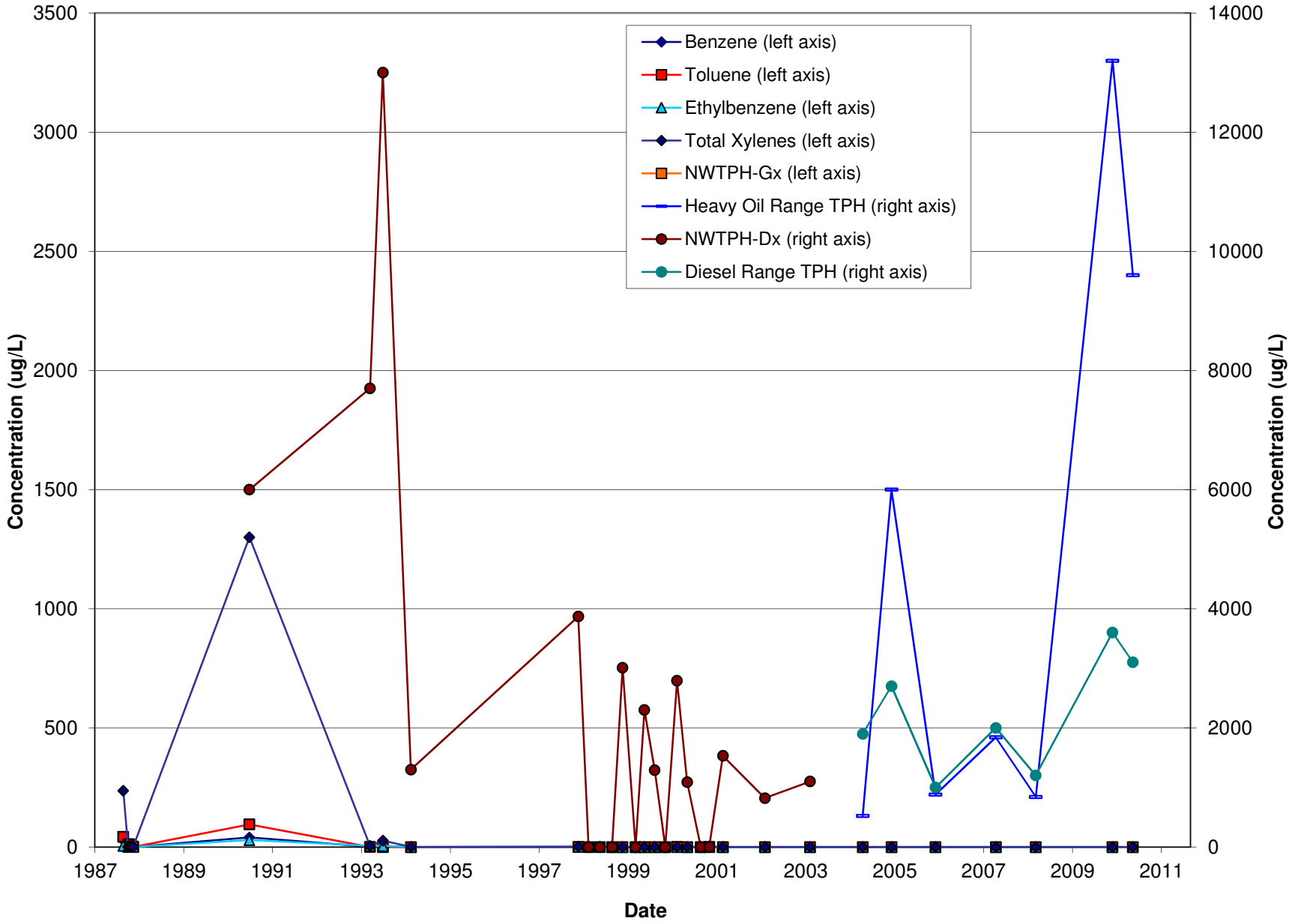
Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Appendix F
BTEX and TPH Concentration versus Time for MW-1



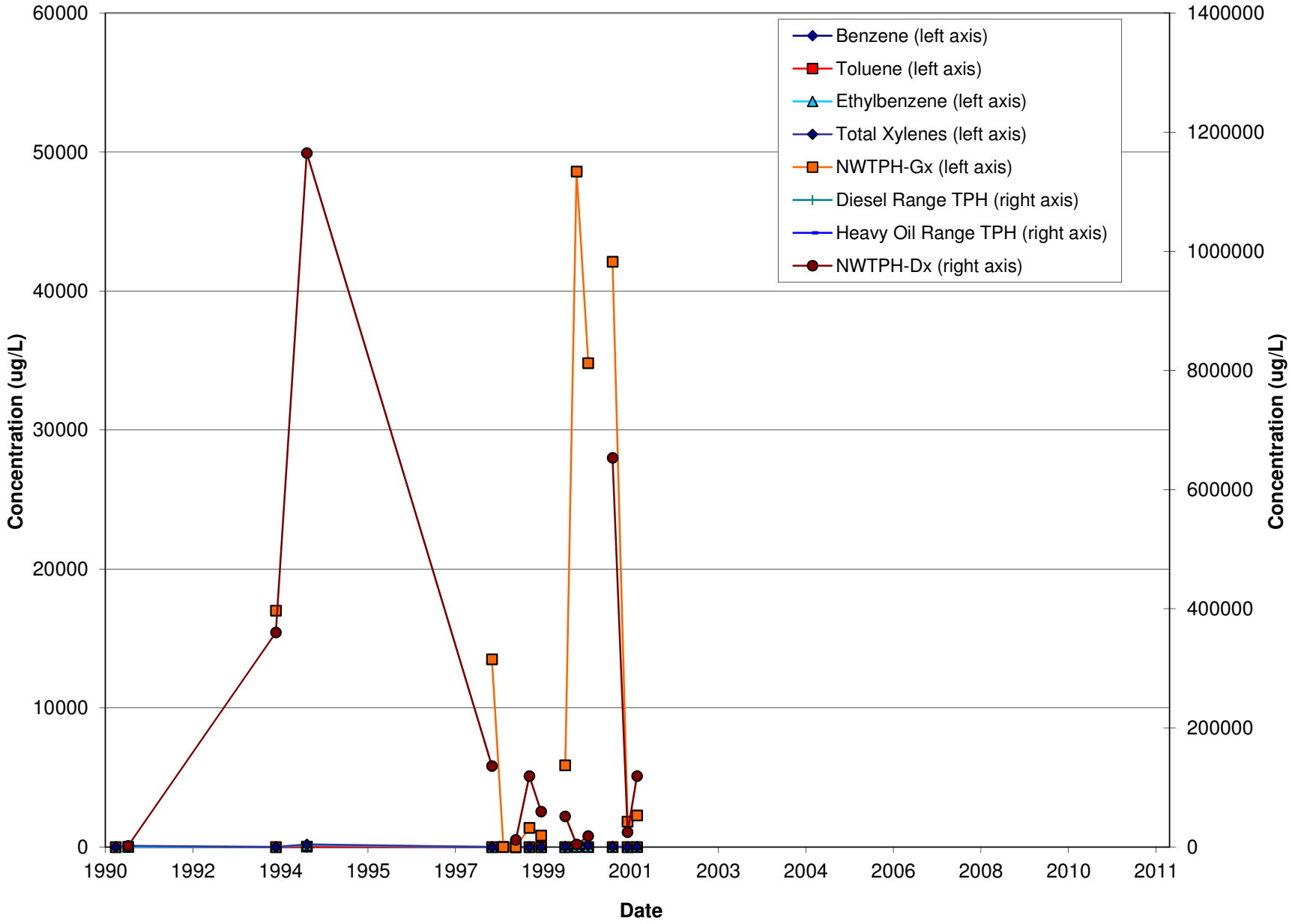
Notes:
1. Prior to the November 2004 sampling event, diesel range TPH and heavy oil range TPH were summed and reported as NWTPH-Dx.
2. Groundwater samples have not been collected from MW-1 since 2000 due to road gravel blocking the screen.

Appendix F
BTEX and TPH Concentration versus Time for MW-2



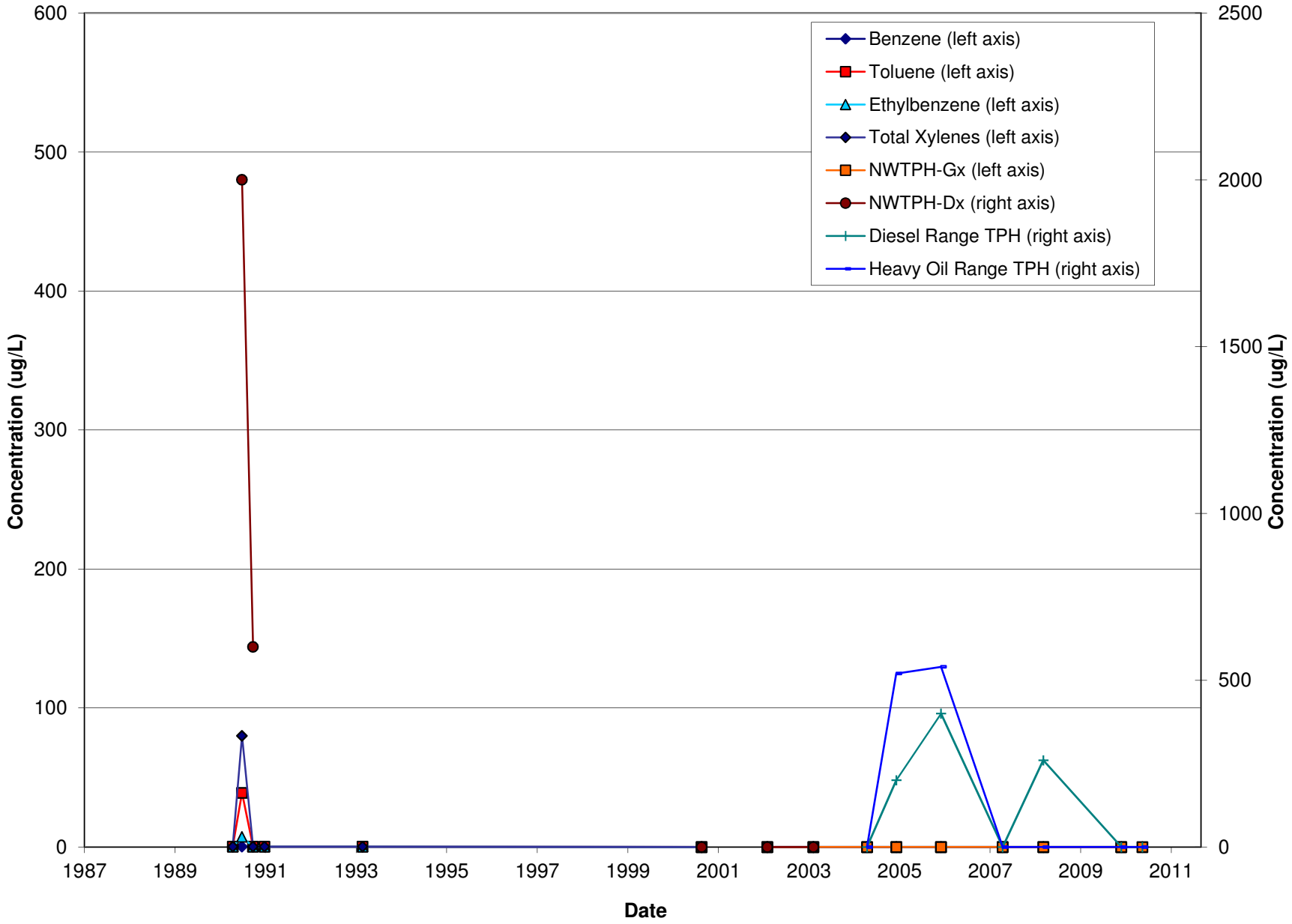
Notes:
1. Prior to the November 2004 sampling event, diesel range TPH and heavy oil range TPH were summed and reported as NWTPH-Dx.

Appendix F
BTEX and TPH Concentration versus Time for MW-3



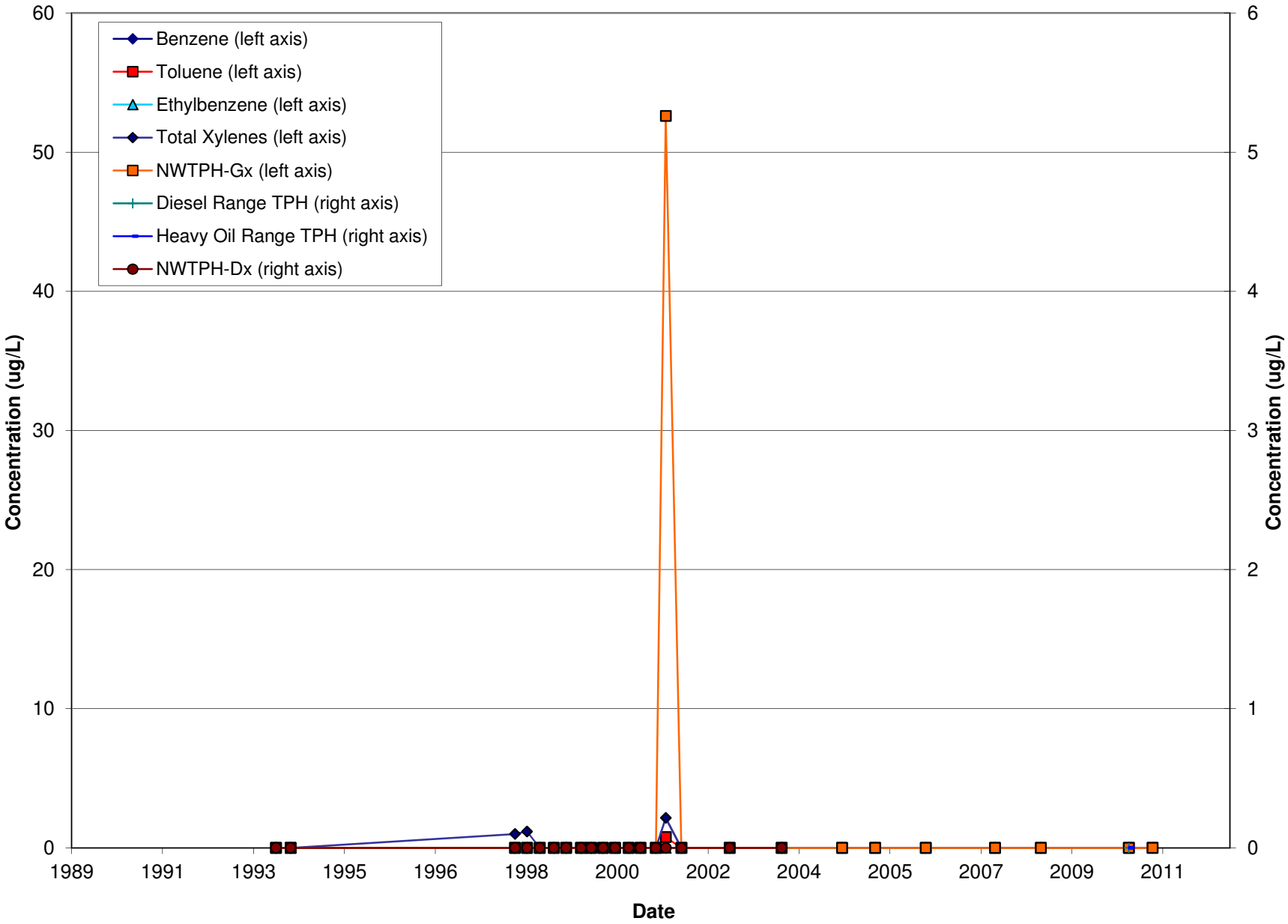
Notes:
1. Prior to the November 2004 sampling event, diesel range TPH and heavy oil range TPH were summed and reported as NWTPH-Dx.

Appendix F
BTEX and TPH Concentration versus Time for MW-4



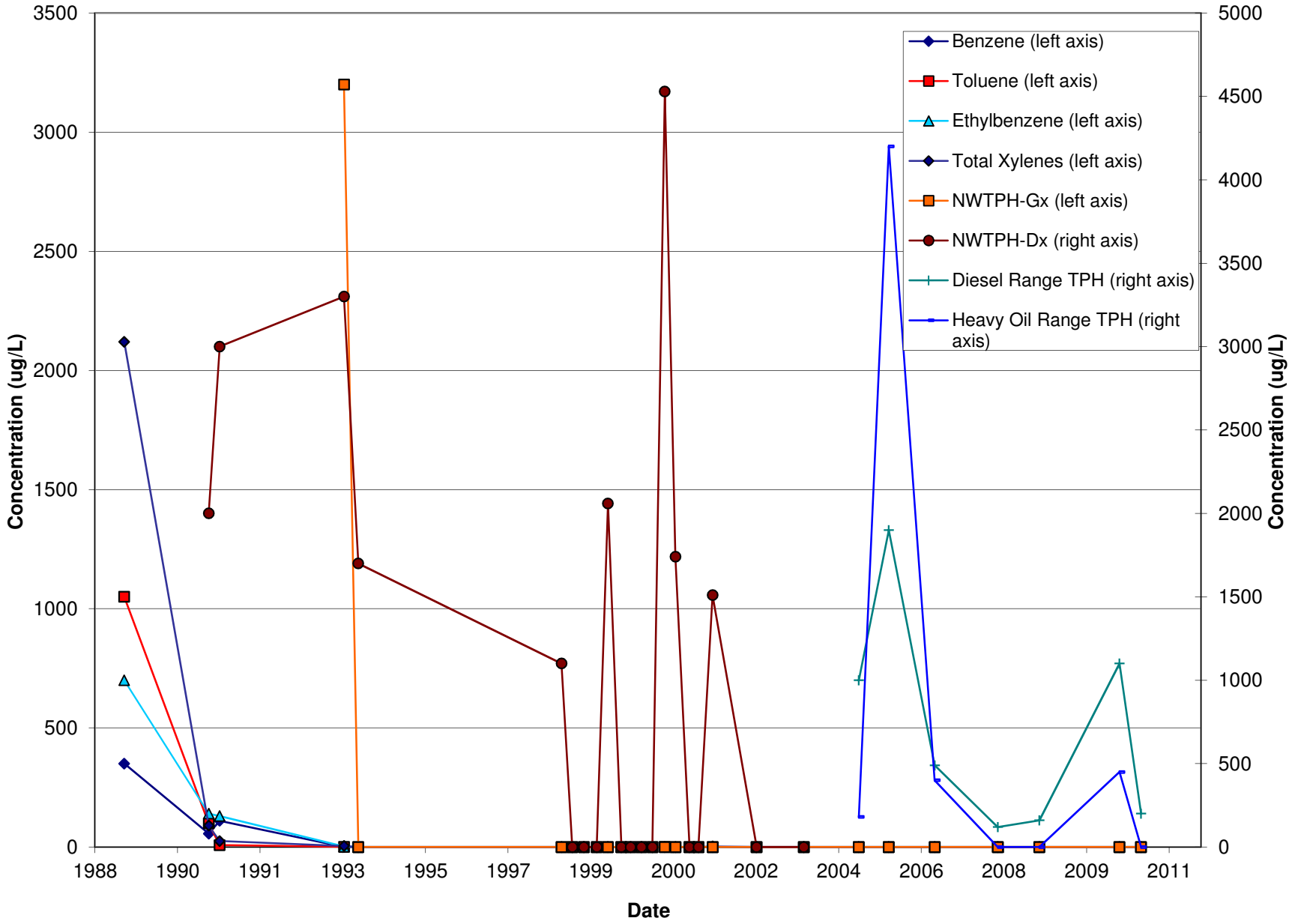
Notes:
1. Prior to the November 2004 sampling event, diesel range TPH and heavy oil range TPH were summed and reported as NWTPH-Dx.

Appendix F
BTEX and TPH Concentration versus Time for MW-6



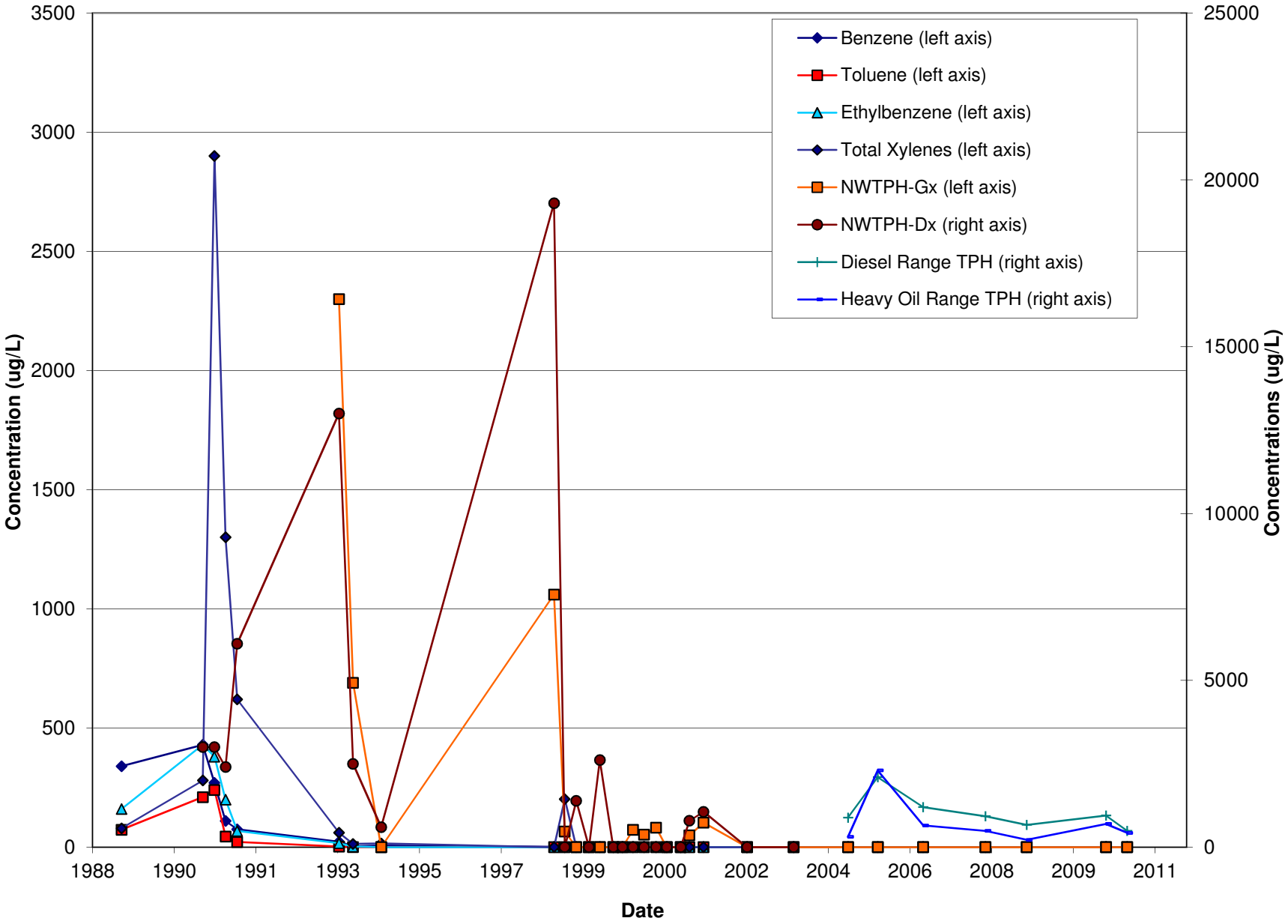
Notes:
1. Prior to the November 2004 sampling event, diesel range TPH and heavy oil range TPH were summed and reported as NWTPH-Dx.

Appendix F
BTEX and TPH Concentration versus Time for MW-11



Notes:
1. Prior to the November 2004 sampling event, diesel range TPH and heavy oil range TPH were summed and reported as NWTPH-Dx.

Appendix F
BTEX and TPH Concentration versus Time for MW-12



Notes:
1. Prior to the November 2004 sampling event, diesel range TPH and heavy oil range TPH were summed and reported as NWTPH-Dx.

APPENDIX G

SAMPLING AND ANALYSIS PLAN

FOR THE

NWTC PASCO TERMINAL

Pasco, Washington

Washington Department of Ecology
Agreed Order No. 7294

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1.0 Introduction

This Sampling and Analysis Plan (SAP) presents a description of field sampling, field monitoring and laboratory analysis activities to be conducted during remedial activities at the Northwest Terminaling Company (NWTC) Pasco Terminal (the Site) in Pasco Washington. The SAP has been prepared in accordance with Washington Department of Ecology (Ecology) Agreed Order No. 7294. The Potentially Liable Parties (PLPs) named in the Agreed Order are Chevron Pipe Line Company (CPL) and Tidewater Terminal Company, Inc. (Tidewater). This SAP has been prepared on behalf of the PLPs by URS Corporation (URS) (for CPL) and CH2M HILL (for Tidewater).

This SAP is intended to meet the requirements specified in the Washington Model Toxics Control Act (MTCA) [WAC 173-340-820], and other applicable regulatory guidance documents including the Guidance on Sampling and Data Analysis Methods (Ecology, 1995). Cross-references to the Performance Monitoring Plan (PMP), and associated Quality Assurance Project Plan (QAPP), are used to reduce information overlap between this SAP and these other plans.

1.1 Background

CPL is the current operator of the NWTC Pasco Terminal, which has been in operation since September 1950. The NWTC Pasco Terminal is used for bulk storage of refined fuel products. Currently, diesel, gasoline, jet fuel, and ethanol are stored in 19 aboveground storage tanks. Tidewater (and its predecessors) own and operate pipelines that transfer products between the NWTC Terminal and the adjacent Tidewater Terminal.

Petroleum products have been released at various times from tanks, pipelines and other facilities within the NWTC Pasco Terminal. CPL and Tidewater have conducted soil and groundwater investigations and performed remedial activities to address these historical releases. Constituents of concern (COCs) determined from these investigations include benzene, toluene, ethylbenzene, total xylenes (BTEX), ethanol, and gasoline, diesel and heavy oil fractions of Total Petroleum Hydrocarbons (TPH). The historical releases, results of investigations, and previous remedial activities are documented in the Final Remedial Investigation/Feasibility Study (RI/FS) Report, and are not described further in this SAP. COCs in groundwater are the focus of this SAP.

1.2 Sampling and Analysis Objectives

Monitored natural attenuation (MNA) is the proposed remedy for cleanup of the remaining COCs in groundwater at the Site. The primary goal of the PMP is to monitor the effectiveness of natural attenuation as the selected remedy. Specific objectives of the PMP are to:

1. Document groundwater flow patterns, including changes that might adversely impact effectiveness of the natural attenuation remedy;
2. Identify the wells to be sampled and analyses to be performed to demonstrate compliance with the cleanup standards;
3. Establish a monitoring frequency that ensures that human health and the environment continue to be protected during performance monitoring period; and
4. Provide periodic reports to demonstrate progress toward achieving Site closure.

This SAP has been prepared to ensure that the field and laboratory procedures utilized during implementation of the PMP are consistent with standard, generally accepted methods. This SAP provides a description of the specific procedures, activities, and protocols to be followed to meet the data collection and evaluation objectives. Field work performed on behalf of CPL and Tidewater will be conducted in accordance with this SAP, which is intended to promote:

- Consistent field procedures;
- Collection of representative samples;
- Proper calibration of field equipment to obtain accurate field measurements;
- Minimization of cross-contamination, or the introduction of contaminants;
- Accurate documentation of field observations, sampling procedures, and decontamination procedures; and
- Collection of data that are accurate and defensible, and are of adequate technical quality to meet the data quality objectives.

1.3 Data Quality Objectives

Data and information collected during the performance monitoring program will be compared to data obtained from extensive previous investigations. The primary objectives are to collect data on groundwater levels and groundwater quality to characterize current Site conditions, and monitor remedial actions. Data generated during the performance monitoring program will require standard levels of quality assurance. Data will be of sufficient quality and quantity to support the assessment of current groundwater conditions, document the concentration of COCs in the groundwater, and confirm the effectiveness of MNA as the selected cleanup action for the Site. Field sampling and monitoring, laboratory analysis, and data validation will be designed to meet those needs.

Two types of data, with correspondingly different levels of data quality, will be generated as part of the performance monitoring field program:

- Validated laboratory analytical data; and
- Non-validated field measurements.

Data uses and data quality are summarized in Table H-2 presented in the QAPP (Appendix H in the Final RI/FS Report). Project-specific quality assurance objectives are presented in QAPP Table H-4.

Laboratory-analyzed groundwater samples, along with field and laboratory quality assurance (QA) samples, will be subject to data validation, as described in the QAPP. The overall QA objective for these samples is to provide analytical data of known quality in terms of precision, accuracy, completeness, representativeness, and comparability. The same data validation requirements will apply to any future soil samples collected for laboratory analysis.

Field calibration data will be maintained in field notebooks to document that field meter-derived data are collected from functional and properly calibrated equipment. As an additional validation step, field-collected data will also be compared to normally expected values or historical measurements.

1.4 Revisions

Data gaps may be identified from evaluation of the data collected during implementation of the MNA remedy. If the field activities are expanded to include installation of new monitor wells, soil sampling, or sampling of surface water or near-shore sediments, the SAP will be revised, as needed, to document the procedures that will be followed.

1.5 Sampling Schedule

Performance monitoring will begin after Ecology finalizes the Cleanup Action Plan for the Site, and the PLPs have signed the Consent Decree. Groundwater monitoring events will be performed according to the schedule in the Ecology-approved PMP. Scheduling and preparations for the field work will be coordinated between URS, CH2M HILL, and CPL personnel at the Pasco Terminal. The wells included in the performance monitoring program are identified in Table G-1. The performance monitoring wells will be sampled annually. Other wells located on the Site may be sampled intermittently, based on evaluation of the analytical results from the performance monitoring wells.

2.0 Sampling Methods and Quality Assurance

The following is a discussion of the methods proposed in the collection and analysis of groundwater samples during the performance monitoring period. Details regarding the sampling locations for groundwater are shown on Figure G-1 and Table G-1.

2.1 Well Inspection, Redevelopment, and Repair

At the beginning of each groundwater monitoring event, each performance monitor well will be inspected to determine the condition of each well. After inspection, total depths will be measured to determine if well screens are partially or fully blocked with sediment, and if any of the wells need to be redeveloped. Redevelopment, if needed, will be performed prior to sampling. Depending on the nature of the repairs needed, repairs may be performed before or after sampling, or if specialized equipment is needed, prior to the next scheduled sampling event. Additional information is provided in Section 3.0.

2.2 Groundwater Measurements, Samples, and Parameters

Groundwater monitoring consists of measuring the total well depth and depth to the static water level, purging each well sufficiently to obtain a representative groundwater sample, measuring field water quality parameters (pH, temperature, specific conductance, dissolved oxygen [DO], turbidity, and oxidation-reduction potential [ORP]), recording observations for the collected sample (e.g., odor, appearance), and collecting water quality samples for field or laboratory analysis. Specific groundwater purging and sampling procedures are presented in Section 4 of the SAP. If the field measurements deviate significantly from expected values (e.g., pH or DO) or data from recent groundwater sampling events, the measurement(s) in question will be repeated.

Groundwater measurements will be collected from nine CPL monitor wells and six Tidewater monitor wells, as described in the PMP. Table G-2 lists the analytical parameters, methods, and estimated number of groundwater samples to be collected during the MNA field program. Groundwater samples will not be collected from monitor wells that have measureable Light Non-Aqueous Phase Liquid (LNAPL) on the water surface. Prior to groundwater level measurements, a disposable translucent bailer will be used to confirm the presence or absence of LNAPL in monitor wells that might contain LNAPL.

2.3 Field Quality Assurance/Quality Control

Three types of samples will be submitted to the laboratory as part of the field QA/QC program: field duplicates, equipment blanks, and matrix spike/matrix spike duplicates (MS/MSDs). These QA samples are described in the following sections. Laboratory QA/QC procedures are described in the QAPP

(Appendix H). The minimum frequency for each type of QA sample will be five percent, or one for every 20 groundwater samples. In addition, temperature blanks and trip blanks will be provided by the contract laboratory in sample coolers shipped to site with sample containers (trip blanks are required due to analysis of volatile organic compounds). Where possible, the field duplicate and MS/MSD samples will be taken from the same sample location.

2.3.1 Field Duplicates

At least two field duplicate samples will be collected during each groundwater sampling event: one from a CPL monitor well, and another from a Tidewater monitor well. This will satisfy the minimum five percent sampling frequency for field duplicates. Field duplicate samples will consist of an extra set of sample bottles, and will be analyzed for the same parameters as the original samples. Field duplicates will be taken at locations selected in the field. The duplicates will be assigned a different sample identification (ID) number than the original sample. The duplicate sample ID will be such that it does not alert the laboratory personnel that the sample is a duplicate. Both the original sample ID number and the duplicate sample ID number should be entered in the field notebook at the time they are collected.

2.3.2 Equipment Blanks

Analysis of equipment blanks serves to check the effectiveness of decontamination procedures (Section 8). An equipment blank will be collected for each device that contacts groundwater samples from multiple sampling locations. After decontamination, laboratory-supplied deionized water will be used to rinse the equipment, and the rinsate will be collected into the appropriate sample bottles for analyses. The source of water used for equipment blank will be recorded in the field notebook. The sample number will be such that it does not alert the laboratory personnel that it is an equipment blank. At least two equipment blanks will be collected during each sampling event: one from a CPL monitor well, and another from a Tidewater monitor well. Equipment blanks will be analyzed for the entire suite of analytical parameters.

2.3.3 MS/MSD (Collected for Laboratory QA/QC)

At least two MS/MSD samples will be collected during each groundwater sampling event: one from a CPL monitor well, and another from a Tidewater monitor well. Extra sample bottles will be filled for the MS/MSD samples, which will be analyzed for all parameters. MS/MSD samples will be collected at a minimum frequency of five percent (i.e., one for every 20 groundwater samples collected). MS/MSD samples will be designated appropriately to alert the laboratory of this status. The appropriate sample volume necessary to perform the MS/MSD analyses will be confirmed with the specific laboratory performing the analyses.

2.3.4 Field Replicates

Field replicate (split) samples will be prepared only if the Ecology Project Manager indicates the agency wants to collect them. Analytical parameters for field replicates will be the same as for normal samples. No field replicates are planned at this time.

2.4 Soil Sampling and Monitor Well Installation

Based upon evaluation of the data from the 2010 or subsequent groundwater sampling events, additional investigations may be required that necessitate the installation of new monitor wells. Soil samples will be collected for chemical analysis during monitor well installation. The SAP will be revised at that time to describe the procedures for field screening, collection, and laboratory analysis of soil samples, and monitor well installation.

2.5 Monitor Well Surveying

If new monitoring wells are installed, they will be surveyed to provide precise locations and a common datum for preparation of groundwater elevation contour maps and hydraulic gradient calculations. The scope of work will include:

- XY locations of the north rim/top of internal PVC well casing; and
- Elevations (Z) of the ground surface, north rim of PVC well casing, and top of lid of the well cover.

All survey data will be reported to the nearest 0.01 foot. The horizontal datum and vertical datum will comply with RCW 58.20.130 (i.e., standard Washington State Plane coordinate system). Several survey monuments are available on-site. A written survey report will be provided in addition to electronic data files in a format that can be uploaded into a database. The written report will be signed by a Washington State-licensed professional land surveyor.

3.0 Well Inspection, Redevelopment, and Repair

At the beginning of each groundwater monitoring event, monitor wells will be visually inspected to determine the surface condition of each well. The visual inspection will include: the condition of surface monument and surface seal, visible damage to the surface completion, and condition of ground surface which could impact well integrity. The inspection results will be recorded in the daily field log.

Inspection of monitor wells will also include an assessment of well integrity below ground. After visual inspection, total depths will be measured to determine if well screens are partially or fully blocked with sediment. If a well screen is determined to be blocked with more than two feet of sediment, an attempt will be made to redevelop the well to remove the accumulated sediment If any wells need to be redeveloped, the accumulated sediment may be removed with a bailer or with compressed air. Total depths will be measured periodically during and after redevelopment to confirm that well screens are free of sediment. If redevelopment or sediment removal is unsuccessful, it will need to be determined if the monitor well will be replaced.

If any well repairs are identified that cannot be performed during the current sampling event, they will be made prior to the next scheduled monitoring event.

4.0 Groundwater Sampling Procedures

Groundwater sampling procedures can be separated into four main activities: (1) static water level measurement and LNAPL screening; (2) well purging; (3) measurement of field water quality parameters; and (4) sample collection. Each procedure is described in detail below.

4.1 Static Water Level Measurement and LNAPL Screening

Water level data will be used to evaluate groundwater flow directions and gradients. Water level measurements also will be used to identify the mid-point of the water column for low-flow sampling, and will be the initial step in sampling each well. Water levels will be measured in all wells on the same day at the beginning of each sampling event, before any purging or sampling occurs. Prior to water level measurement, each well will be inspected for signs of damage, and the inspection results will be documented in the field note book or field record sheet.

Each well to be gauged or sampled will be measured for static water level, total depth to the bottom of the well (TD), and if present, LNAPL thickness prior to well purging. The depth to the static water level (DTW) is the distance between a reference point (a marked point on the top edge of the PVC well casing) and the static water level. The measurement will be performed using an electronic water level meter or oil/water interface meter. The meter's probe will be lowered into the well until it enters the water. The probe should be raised and lowered several times to ensure that the DTW is correct. The DTW, total well depth, and, if present, the thickness of PSH or LNAPL will be measured to the nearest 0.01 foot, and recorded along with the date and time of measurement, in the field note book or field sheet. A disposable translucent bailer will be used to confirm the presence or absence of LNAPL in each monitor well.

The water level measurement equipment will be decontaminated prior to initial use, between wells, and after completion of the water level measurement event, in accordance with the procedures described in Section 8.

4.2 Low-Flow Purging and Sampling

Groundwater will be purged and sampled using a submersible pump (e.g., 12-volt Proactive Mega Typhoon, or equivalent) and low-flow techniques, in accordance with United States Environmental Protection Agency guidance document EPA/540/S-95/504 (Puls and Barcelona, 1996). Low-flow groundwater sampling is the process of purging and sampling wells at low flow rates from within the well screen zone to minimize purging and improve sample quality. Low-flow groundwater sampling has the advantage of producing a representative groundwater sample with far less total well purge water than is obtained from conventional sampling of monitor wells, in which three well volumes are purged prior to

sampling. Low-flow purging and sampling refers to the velocity with which water passes through the well screen, not necessarily to the flow rate of water discharged at the surface. Water-level drawdown provides the best indication of the stress imparted by a given flow rate for a given hydrological situation.

Groundwater sampling will be performed using a submersible pump and disposable polyethylene tubing set near the center of the water column within the well screen. Groundwater will be purged at a rate of 0.1 to 0.4 Liter per minute (L/min). Continuous measurement of field water quality parameters (Section 4.3) will be used to assess when purged water has reached equilibrium. Stabilization of these parameters would indicate that the water is representative of in-situ groundwater conditions (the formation immediately surrounding the well screen near the pump intake).

4.3 Well Purging and Measurement of Field Water Quality Parameters

Prior to sampling, purge water will be removed from each well using a submersible pump and low-flow techniques. New tubing will be used to purge and sample each well. Field water quality parameters will be measured to determine when water removed from a well is representative of in-situ groundwater conditions. The field parameters to be measured will include temperature, pH, specific conductance, DO, turbidity, and ORP. The field parameters will be measured using a multi-parameter water quality meter and a turbidity meter. Turbidity measurements may be taken from the discharge of the flow-through cell. The measurements will be recorded on a field sampling form. The field parameters will be measured at initiation of discharge and thereafter at approximate five-minute intervals, until parameters stabilize. Stabilization will be achieved when three consecutive readings, taken at five-minute intervals, are within the following limits:

- Temperature (±3%);
- pH (±0.1 units);
- Specific conductance (±3%);
- DO (±10%);
- Turbidity (±10% for values greater than 1 NTU); and
- ORP (±10 millivolts).

Field parameters will be measured using multi-parameter meters, such as YSI 6920, Horiba U-10 or U-22 meter, or equivalent meters. The meter(s) used to measure the field parameters will be calibrated prior to first use, and subsequently, as needed, based on observations of the equipment performance and in accordance with manufacturer's recommendations. At a minimum, field meters with be calibrated at least daily during each sampling event. The calibration process will follow the control specifications described in Section 7 of the SAP.

Non-dedicated equipment used in the measurement of field parameters, such as probes, beakers, or the submersible pump, will be decontaminated in accordance with the procedures described in Section 8. Disposable cups may be utilized in place of beakers to avoid the need for decontamination.

4.4 Sample Collection

Samples will be collected immediately following completion of well purging, as determined by stabilization of the field water quality parameters. The same submersible pump and tubing used to purge a well will be used to collect the groundwater sample from that well. Disposable nitrile gloves will be used during purging and sampling, with new gloves worn at each sampling location. Groundwater will be carefully transferred from the submersible pump into laboratory-supplied sample containers. Samples will be collected in the following order, which has been established to assure that those parameters most likely to change rapidly when exposed to the atmosphere will be collected first:

- Volatile Organic Compounds (BTEX: benzene, toluene, ethylbenzene, and total xylenes)
- Total Petroleum Hydrocarbons - Gasoline
- Total Petroleum Hydrocarbons – Diesel
- Ethanol (for CPL wells only)

Geochemical indicator parameters will also be analyzed on some groundwater samples to demonstrate that active biodegradation and other natural attenuation processes are continuing. Only the samples from wells that had detected COCs during the previous sampling events will be analyzed for geochemical indicator parameters. These indicator parameters will be used in conjunction with DO and pH values measured during purging to evaluate oxidation-reduction (redox) conditions and the status of natural attenuation at the Site. The additional geochemical indicator parameters for MNA include:

- Manganese
- Sulfate
- Ferrous Iron (field analysis)

Due to its short holding time (48 hours), ferrous iron will be measured in the field using a hand-held colorimeter, such as a HACH DR 820 field kit or HANNA HI 721 sensor, or equivalent.

For BTEX, NWTPH-Gx, and ethanol, 40-mL vials with Teflon septa will be used. The vials will be supplied by the laboratory with pre-measured amounts of hydrochloric acid (HCl) as a preservative. While filling the samples containers, sampling personnel will take care that no air bubbles are sealed in the 40-mL vials submitted for analysis of BTEX. The samples for NWTPH-Dx and NWTPH-Rx analysis will be poured into one liter amber glass bottles with Teflon lid and HCl preservative.

Following collection, all groundwater samples will be placed in an ice-filled cooler. Each sample will be listed on a chain-of-custody form, which will be placed inside the cooler and accompany the samples to the laboratory. After all samples are collected, a courier will deliver the samples, via overnight delivery service, to TestAmerica Laboratories Inc. (TestAmerica), a Washington-accredited laboratory located in Seattle (Tacoma), Washington.

4.5 Management of Purge Water

With the use of low-flow sampling techniques, the estimated purge volume will be approximately four liters per well. Purge water collected during the sampling process will be placed temporarily into five-gallon buckets (for measurement purposes), and will be transported for disposal to the permitted on-site wastewater treatment system. The point of discharge into the wastewater treatment system will be identified by CPL personnel. Water used to decontaminate the non-dedicated sampling equipment will be managed the same way.

5.0 Sample Identification and Documentation

5.1 Sample Identification

Each groundwater sample will be identified with a unique identification (ID) number corresponding to the well owner (CPL or Tidewater), monitor well number, and sample date, as specified in the QAPP. Sample labels will be affixed to containers prior to sample collection. The following convention will be used to label the groundwater samples:

C-MW-XX-mmyy or T-MW-XX-mmyy

where C – identifies CPL as the well owner

T – identifies the Tidewater as the well owner

MW-XX – monitor well ID (e.g., MW-01).

mmyy – the month and year the sample is collected (e.g., 0510 = May 2010).

A fictitious ID number and sample time will be assigned to all field duplicate samples collected. To avoid missing analysis holding times, the time assigned to field duplicate samples will be the same or earlier than the collection time for the original sample.

Equipment blank samples will designated with "EB" followed by the day of sample collection. For example, an equipment blank sample collected on May 6, 2010 would be labeled: EB-050610. Trip blank samples will be designated in a similar manner, using the abbreviation "TB" instead of "EB". If more than one trip blank (or equipment blank) is submitted on the same day, then these samples will be labeled in sequences as follows: TB1-050610, TB2-050610, and so on.

MS/MSD samples will be collected as replicate samples from a monitor well. Triple volume will be collected and labeled appropriately, as discussed above. Samples for MS/MSD analysis will be clearly identified on the chain-of-custody, along with the well ID.

5.2 Sample Documentation

The following information will be documented in the field note book or on field sheets:

- Sampling team members;
- Equipment model number and calibration information for each meter used in the field;

- Monitor well purging data (including purge times, incremental and total volume removed during well purging, and water levels at the beginning and end of the purging process);
- Field water quality parameters (temperature, pH, DO, specific conductance, and turbidity) measured after each purge volume;
- Ferrous iron (field analysis);
- Management of purge water (i.e., total volume collected from each well, collection method, and where discharged into the on-site wastewater treatment system);
- Sampling data including sample ID, types of bottles/jars filled and analyses to be performed on each sample, method of collection (e.g., submersible pump), odor and visual description of the water, and date and time samples were collected; and
- Miscellaneous observations regarding well integrity, other nearby field activities and equipment problems/troubleshooting measures.

6.0 Sample Handling, Shipping, and Laboratory Receipt

Specific procedures for sample packaging and shipping will be followed to assure sample quality and minimize breakage during transport to the laboratory. Table G-2 summarizes sample containers, preservation, and holding times for each set of analyses.

6.1 Sample Preservation

Some groundwater samples require preservation to retard biological action, slow hydrolysis, and reduce sorption effects. Preservation methods generally consist of pH control through chemical addition (e.g., HCl), refrigeration (chill to 4 degrees Celsius), and protection from light (e.g., use of amber glass bottles). When a chemical preservative is needed for selected parameters, the laboratory will provide bottles with appropriate preservatives already added addition (e.g., HCl). Bottles prepared with preservative will be pre-labeled and identified as "preserved" in order to distinguish them from non-preserved bottles.

Samples will be placed in a cooler containing ice (refrigerated) immediately after collection and held under chain-of-custody until samples are ready for packaging and shipment. The ice will be in sealed plastic bags to contain the meltwater.

6.2 Sample Custody

Field personnel will maintain custody records for all samples collected as part of the performance monitoring field program. A chain-of-custody record will be completed for each shipping container and the information will be consistent with the sample identification matrix.

The following information is to be included on the chain-of-custody form:

- Client name and contact information;
- Name of sampler, company name, and contact information;
- Site name and location;
- Sample ID number;
- Date and time of collection;
- Type of sample;
- Type of container;
- Number of bottles per sample
- Analyses requested (if not submitted on a separate sample analysis request form);
- Inclusive dates of possession;
- Signature of sampler; and

- Signature of receiver(s).

In addition to the labels, seals, and chain-of-custody form, other components of sample tracking include the field notebook and sample shipment receipt.

6.3 Sample Packaging

Samples to be shipped to the contract laboratory for analyses will be handled and packaged appropriately to prevent damage during shipment, and to maintain complete chain-of-custody records. Coolers, provided by TestAmerica, will be used for shipping sample containers. Bubble wrap may be used to pack and cushion the sample containers in the cooler. The chain-of-custody form will be sealed in a plastic bag and placed in the cooler. Chain-of-custody seals will be attached at both the front and back of container. The name and address of the receiving laboratory will be placed in a position clearly visible on the outside of the cooler, and the lid will be secured with strapping tape.

6.4 Sample Shipment

Samples will be shipped in accordance with Department of Transportation approved procedures. Samples will be transported to the laboratory by a member of the sampling team, or will be shipped via overnight courier (e.g., FedEx) to TestAmerica located in Seattle (Tacoma), Washington.

6.5 Laboratory Receipt

When samples arrive at the laboratory, the personnel receiving the sample cooler will sign the chain-of-custody and enter a laboratory number for the sample batch on the form. In addition, laboratory identification numbers are assigned to each sample and used by the laboratory for internal tracking of the samples. Samples will be assigned to particular analytical procedures either on the chain-of-custody or on a sample analysis request form which may be submitted to the laboratory separate from the samples following review of the field data. The analytical methods which will be used are listed in Table G-2. Both the laboratory batch number and sample numbers assigned in the field will be cited when analyses are requested. The laboratory will sign the chain-of-custody and laboratory request forms and send a carbon copy to the URS Project Manager for placement in the master job file. Analysis request forms transmitted by facsimile will be followed by hardcopies sent via U.S. mail.

Damaged sample containers, sample labeling discrepancies between sample container labels and chain-of-custody forms, and analytical request discrepancies will be noted on the chain-of-custody form, and the QA/QC Manager will be notified for problem identification and resolution.

7.0 Calibration of Field Equipment

The following field equipment will be used to support the groundwater sampling program:

- Electronic water-level meter or oil/water interface probe,
- Multi-parameter water quality meter (e.g. YSI 6920, Horiba U-10 or U-22, or equivalent meters) capable of measuring temperature, pH, specific conductance, DO, turbidity, and ORP, and
- A hand-held colorimeter (e.g. HACH DR 820) or sensor (e.g., HANNA HI 721), or equivalent, capable of measuring ferrous iron.

Calibration will be performed prior to each sampling event per the manufacturer's specifications. Recalibration will be performed, as needed, if inconsistent readings or unexpected readings are obtained. Quality control specifications associated with field measurements are summarized in Table G-3. This shows control parameters to be assessed, control limits, and the corrective actions to be implemented if the control limits are exceeded.

8.0 Decontamination of Sampling Equipment

All non-dedicated field equipment that comes into contact with groundwater (e.g., field meters, probes, and submersible pumps) will be washed in an Alconox or Liquinox cleaning solution, and double-rinsed with laboratory-supplied deionized water prior to use at each well location, and at the end of each sampling event. Water used for decontamination of non-dedicated equipment will be collected, containerized, and disposed of in the Pasco Terminal wastewater treatment system. Equipment blanks will be collected to document the effectiveness of the decontamination process.

The sample containers for all groundwater samples are provided by the contract laboratory for each sampling event and are discarded after analysis.

9.0 Soil Sampling and Monitor Well Installation

This section is included as a placeholder in the SAP in the event that future work requires installation of additional new monitor wells and/or the collection and analysis of soil samples. If new wells are to be installed, they will likely be drilled using air rotary equipment.

10.0 Disposal of Investigation Derived Waste

Purge water and water used for decontamination of non-dedicated equipment will be placed temporarily into five-gallon buckets (for measurement purposes), and will be disposed of in the Pasco Terminal permitted wastewater system.

Disposable personal protective equipment (PPE) will consist primarily of nitrile gloves, used at a rate of 20 to 30 pairs per day per person. Miscellaneous solid wastes generated during groundwater monitoring may consist of tubing, paper towels, plastic wrappers, aluminum cans, plastic cups, and other similar materials. Total volume is expected to be one large plastic bag per day, which will be disposed of in CPL-designated waste containers at the Pasco Terminal.

Soil cuttings and sediments removed from existing monitor wells during redevelopment activities and/or new monitor well installation will be containerized in 55-gallon steel drums and labeled with the name of the Site, monitor well number, and date of collection. The drums will be temporarily staged on-site prior to disposal, in a location designated by CPL, pending receipt of the soil analytical results.

11.0 References

GeoEngineers Incorporated, 1987. Report of Geotechnical Services, East Pasco Fuel Terminal, Pasco, Washington, For Chevron U.S.A., Inc., June 22, 1987.

Greenberg, Arnold E., Lenore S. Clesceri, and Andrew D. Eaton, 1992. Standard Methods for the Examination of Water and Wastewater. 18th Edition.

Puls, R.W., and M.J. Barcelona (1996). Low-flow (minimal drawdown) ground-water sampling procedures. United States Environmental Protection Agency guidance document EPA/540/S-95/504, dated April 1996.

U.S. Environmental Protection Agency (USEPA). 1983. Methods for the Chemical Analysis of Water and Wastes (EPA 600/4-79-020, March 1983), listed in Federal Register on March 12, 2007 (Volume 72, No. 14, pg 11200).

Washington State Department of Ecology, 1991, Model Toxics Control Act (as amended in 2001 and revised in 2007).

Washington State Department of Ecology, 1995, Guidance on Sampling and Data Analysis Methods, Publication No. 94-49, January 1995.

FIGURE

K:\ELM\25012081 CPL Pasco 2009\Dwgs\CAD\Fig G-1 - MW and Cross-Section Location Map.dwg Jun 16, 2011 - 1:31pm

TANK 20
TANK 21
1940.75
PLC MCC
GARAGE
OFFICE
ASPHALT
GATE
ASPHALT
BOOSTERS
U/L TANK 1
U/L TANK 2
S/D TANK 7
EVAPORATION PDN
FILTER HOUSE
U/L TANK 3
HSD TANK 8
U/L TANK 4
JP-8 TANK 9
PREM U/L TANK 14
HSD TANK 5
JET-A TANK 6
PREM U/L TANK 15
NEW MANIFOLD
10" BARGE LINES
COAST GUARD JURISDICTION
NWT
LSD TANK 12
JP-8 TANK 13
LSD TANK 16
U/L TANK 19
U/L TANK 18
U/L TANK 17
TANK 11
10
MW-1
A
MW-14
MW-2
RW-1
MW-13
MW-11
MW-10
MW-8
MW-7
MW-12
A'
B
B'
MW-6
MW-9
MW-5
MW-4
MW-3
AR-11
MW-8
MW-7
AR-12
AR-1
AR-2 Destroyed
AR-7
MW-5
AR-3
AR-4
NEW PUMP PAD
AR-5
MW-4
MW-1
AR-8
MCC
AR-6
AR-9
MW-2
AR-10
MW-6
MW-3
OWS
NEW AFF HEATER PAD
14" PIPEWAY
14" PIPEWAY
PUMP STATION BUILDING & WAREHOUSE
LUNCH ROOM
GRAVEL
SCRAPER CANOPY
2" SAND BERM
8" PRODUCT LINE INCOMING
6" PRODUCT LINE INCOMING
WORKSHOP & STOREROOM
LEAN TO
WELDING SHOP
OLAY PIT
6" CHAIN LINK FENCE
PROPANE
TIDEWATER WELLS
CHEVRON PIPE LINE
APPROX. RELEASE TIDEWATER
COUNTY ROAD
NEW ASPHALT TRUCK EXIT
HYDRANT
TICKET PRINTER
NEW ASPHALT DRIVEWAY
TRUCK RACK
NEW ASPHALT DRIVEWAY
NEW ASPHALT DRIVEWAY
DOLPHIN
BARGE DOCK
DOCK HOUSE
BARGE DOCK CONTROL BUILDING
RIVER
SNAKE
BOAT HOUSE
BOOM HOUSE
OIL SPILL FACILITY
S. P. & S. RAILROAD

LEGEND

- CHEVRON MONITOR WELL
- TIDEWATER MONITOR WELL
- RECOVERY WELL
- FORMER WELL LOCATION

NOTE:
CPL MONITOR WELL MW-5 AND MW-9 WERE DESTROYED BY EXCAVATION ACTIVITIES IN 1987. THEIR LOCATIONS ARE APPROXIMATE.

120 0 120
APPROX. SCALE IN FEET

URS
10550 RICHMOND AVENUE, SUITE 155
HOUSTON, TEXAS 77042
PH: (713) 914-6699
FAX: (713) 789-8404

Title:
MONITOR WELL AND CROSS SECTION LOCATION MAP

Project:
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
PASCO TERMINAL
PASCO, WASHINGTON

Client:
CHEVRON PIPE LINE COMPANY

Scale:	Drawn by:	Date:	Project No.:	File Name:	Figure:
AS SHOWN	BJR/DAN	1/21/10	25012081	Monitor Well and Cross Section Loc Map.dwg	G-1
	Chk'd by: DMC/AB	Date: 1/21/10			

TABLES

Table G-1

List of Monitor Wells to be Gauged and/or Sampled

NWTC Pasco Terminal RI/FS

Pasco, Washington

Well Owner	Current Monitor Well Number	RI Nomenclature	Performance Monitor Well	Well to be Gauged
CPL	MW-1	C-MW-01-mmyy		
CPL	MW-2	C-MW-02-mmyy	X	X
CPL	MW-3	C-MW-03-mmyy		X
CPL	MW-4	C-MW-04-mmyy	X	X
CPL	MW-6	C-MW-06-mmyy	X	X
CPL	MW-7	C-MW-07-mmyy	X	X
CPL	MW-8	C-MW-08-mmyy	X	X
CPL	MW-10	C-MW-10-mmyy	X	X
CPL	MW-11	C-MW-11-mmyy	X	X
CPL	MW-12	C-MW-12-mmyy	X	X
CPL	MW-13	C-MW-13-mmyy		
CPL	MW-14	C-MW-14-mmyy	X	X
CPL	RW-1	C-RW-1-mmyy		X
Tidewater	MW-1	T-MW-01-mmyy	X	X
Tidewater	MW-2	T-MW-02-mmyy		X
Tidewater	MW-3	T-MW-03-mmyy		X
Tidewater	MW-4	T-MW-04-mmyy	X	X
Tidewater	MW-5	T-MW-05-mmyy		X
Tidewater	MW-6	T-MW-06-mmyy	X	X
Tidewater	MW-7	T-MW-07-mmyy		X
Tidewater	MW-8	T-MW-08-mmyy	X	X
Tidewater	AR-1	T-AR-01-mmyy		X
Tidewater	AR-4	T-AR-04-mmyy	X	X
Tidewater	AR-5	T-AR-05-mmyy		X
Tidewater	AR-6	T-AR-06-mmyy		
Tidewater	AR-7	T-AR-07-mmyy		X
Tidewater	AR-8	T-AR-08-mmyy		X
Tidewater	AR-9	T-AR-09-mmyy		X
Tidewater	AR-10	T-AR-10-mmyy		
Tidewater	AR-11	T-AR-11-mmyy	X	X
Tidewater	AR-12	T-AR-12-mmyy		X

Note: All performance monitor wells will be sampled on an annual basis. Other monitor wells may be sampled intermittently, based on evaluation of the analytical results from the performance monitor wells.

Table G-2
Analytical Parameters, Methods, Containers, Preservatives, and Holding Times for Groundwater Samples
NWTC Pasco Terminal
Pasco, Washington

Parameter	Analytical Method	Container	Preservative	Maximum Holding Time	Estimated Number of CPL Samples	Estimated Number of Tidewater Samples
Volatiles Benzene Toluene Ethylbenzene Xylenes (total)	SW-846 8260B [1]	40 mL VOA w/ Teflon septa	HCl to pH<2, no headspace	14 days	9 wells +1 Duplicate + 1 MS/MSD +1 Equipment Blank	6 wells +1 Duplicate + 1 MS/MSD +1 Equipment Blank
Gasoline Range Total Petroleum Hydrocarbons (TPH-Gasoline)	NWTPH-Gx [2]	40 mL VOA w/ Teflon septa	HCl to pH<2, no headspace	14 days	9 wells +1 Duplicate + 1 MS/MSD +1 Equipment Blank	6 wells +1 Duplicate + 1 MS/MSD +1 Equipment Blank
Diesel Range Total Petroleum Hydrocarbons (TPH-Diesel)	NWTPH-Dx [2]	1 Liter amber glass w/ Teflon lid	HCl to pH<2	7 days until extraction; 40 days after extraction	9 wells +1 Duplicate + 1 MS/MSD +1 Equipment Blank	6 wells +1 Duplicate + 1 MS/MSD +1 Equipment Blank
Heavy Oil Range Total Petroleum Hydrocarbons (TPH-Diesel)	NWTPH-Rx [2]	1 Liter amber glass w/ Teflon lid	HCl to pH<2	7 days until extraction; 40 days after extraction	9 wells +1 Duplicate + 1 MS/MSD +1 Equipment Blank	6 wells +1 Duplicate + 1 MS/MSD +1 Equipment Blank

Table G-2
Analytical Parameters, Methods, Containers, Preservatives, and Holding Times for Groundwater Samples
NWTC Pasco Terminal
Pasco, Washington

Parameter	Analytical Method	Container	Preservative	Maximum Holding Time	Estimated Number of CPL Samples	Estimated Number of Tidewater Samples
Ethanol (CPL monitor wells only)	SW-846 8015B [1]	40 mL VOA w/ Teflon septa	HCl to pH<2, no headspace	14 days	9 wells +1 duplicate + 1 MS/MSD +1 Equipment Blank	Not Applicable
Sulfate	EPA 300.0 [3]	500 mL plastic w/ Teflon lid	None	28 days	Up to 9 wells +1 Duplicate	Up to 6 wells +1 Duplicate
Manganese	SW-846 6010B [1]	250 mL plastic w/ Teflon lid	HNO_3 to pH<2	180 days	Up to 9 wells +1 Duplicate	Up to 6 wells +1 Duplicate
Ferrous Iron	Field Kit	5 mL plastic tube	1,10 phenanthroline reagent	3 minutes	Up to 9 wells	Up to 6 wells

Notes:
[1.] EPA SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (1986).*
[2]. Washington Department of Ecology, ECY 97-602 (1997).
[3.] EPA Method, *Methods for the Chemical Analysis of Water and Wastes (1983).*

Table G-3
Field Meter Quality Control Specifications
NWTC Pasco Terminal RI/FS Work Plan
Pasco, Washington

Analysis	Control Parameter	Control Limit	Corrective Action
YSI 6920, Horiba U-10 or U-22, or equivalent meters			
pH	At least daily calibration with two buffer solutions (pH = 4.0, 7.0, and/or 10.0)	±0.1 pH unit	Check with new buffers; if still out, repair meter. Repeat calibration check. If unable to calibrate, replace probe.
Temperature	None	±1.0^{o} C	Correct problem; repeat measurement
Specific Conductance	At least daily calibration check of one or more standard solutions (KCl) selected based on expected range	±5% of standard	Check meter, standards and probe (clean probe); recalibrate
Dissolved Oxygen	Calibrate at least daily to assess variability, which is based on elevation and temperature. In summer, keep instrument in a cooler to prevent high range temperature variations. Range is 0 to 20 mg/L; ±0.3 mg/L.		
Turbidity	At least daily calibration check of standard solution	±5% of standard	Check meter and standards; clean probe, and recalibrate.
Oxidation-Reduction Potential (ORP)	Verify sensitivity at least daily	ORP should decrease when pH increases	If ORP increases, correct polarity of electrodes. If ORP still does not decrease, clean electrodes and repeat procedure.
	Calibrate at least daily. ORP varies greatly with temperature; calibrate using standard solution, and use chart of solution values per temperature. Range for groundwater is generally -400 mV to +800 mV.	±10 mV on two successive readings	Correct problem; recalibrate. If unable to calibrate, replace probe.

APPENDIX H

QUALITY ASSURANCE PROJECT PLAN

FOR THE

NWTC PASCO TERMINAL

Pasco, Washington

Washington Department of Ecology
Agreed Order No. 7294

Prepared for:

Chevron Pipe Line Company
4800 Fournace Place, Room E320C
Bellaire, Texas 77401

and

Tidewater Terminal Company, Inc.
6305 NE Old Lower River Road
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Prepared by:

URS Corporation
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September 2011

URS CH2MHILL

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Table H-5 – Laboratory Calibration Procedures Summary

Table H-6 – Quality Control Analyses and Frequencies

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Figure H-1 – RI/FS Project Organization

Approval Sheet (1 of 2)

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Mike Powell URS Portland Task Manager		
Jeni Garcia URS Quality Assurance Officer		
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Shawn Williams URS Regional Health & Safety Manager		

Approval Sheet (2 of 2)

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Acronym List

AO	Agreed Order
bgs	below ground surface
CCV	Continuing calibration verification
COCs	Constituents of Concern
CPL	Chevron Pipe Line Company
DCS	Detectability Check Standard
DQO	Data Quality Objectives
DQA	Data Quality Assessment
DUS	Data Usability Summary
FS	Feasibility Study
GC/MS	Gas chromatography/mass spectrometry
HASP	Health and Safety Plan
LCS(D)	Laboratory Control Sample (Duplicate)
LNAPL	Light non-aqueous phase liquids
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
MQO	Measurement Quality Objective
MRL	Method Reporting Limit
MS(D)	Matrix spike (Duplicate)
MSL	mean sea level
MTCA	Model Toxics Control Act
NELAP	National Environmental Laboratory Accreditation Program
NWTC	Northwest Terminalling Company
QA	Quality Assurance
QAO	Quality Assurance Officer
QAPP	Quality Assurance Project Plan
QC	Quality Control
RI	Remedial Investigation
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SAP	Sampling and Analysis Plan
SDL	Sample Detection Limit
SOP	Standard Operating Procedure
SSO	Site Safety Officer
TPH	Total Petroleum Hydrocarbon
URS	URS Corporation
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1.0 Introduction

This Quality Assurance Project Plan (QAPP) describes the Quality Assurance/Quality Control (QA/QC) measures to be used for activities associated with implementation of the Performance Monitoring Plan (PMP) at the NWTC (Northwest Terminaling Company) Pasco Terminal in Pasco, Washington. A PMP is required when monitored natural attenuation (MNA) is used as a cleanup remedy. MNA is the cleanup remedy proposed by the Potentially Liable Parties (PLPs) in the Final Remedial Investigation/Feasibility Study (RI/FS) Report for the Pasco Site, which was prepared to satisfy the requirements of Agreed Order (AO) No. 7294. Chevron Pipe Line Company (CPL) and Tidewater Terminal Company (Tidewater) are the PLPs. They will work together to accomplish the project quality objectives with the help of their respective consultants, URS Corporation (URS) and CH2M HILL.

This QAPP is intended to meet the Washington Department of Ecology (Ecology) requirements specified in Exhibit B of AO 7294, the Model Toxics Control Act (MTCA) [WAC 173-340-350], and other applicable regulatory guidance documents including the Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies (Ecology, 2004).

1.1 Background and Project Description

CPL is the current operator of the NWTC Pasco Terminal, which has been in operation since September 1950. The NWTC Pasco Terminal is used for bulk storage of refined fuel products, which are supplied to the terminal by barge or pipeline. Currently, diesel, gasoline, jet fuel, and ethanol are currently stored in 19 above ground storage tanks, and are dispensed through pipelines either to tanker trucks or to barges, which distribute the products downstream along the Columbia River. A barge loading/unloading facility and boathouse are located onsite at the shoreline of the Snake River/Lake Wallula. Tidewater (and its predecessors) own and operate pipelines that transfer products between the NWTC Terminal and the adjacent Tidewater Terminal.

Petroleum products have been released at various times from tanks, pipelines and other facilities within the NWTC Pasco Terminal. CPL and Tidewater have conducted soil and groundwater investigations and performed remedial activities to address these historical releases. Constituents of concern (COCs) determined from these investigations include benzene, toluene, ethylbenzene, total xylenes (BTEX), ethanol, and gasoline and diesel fractions of Total Petroleum Hydrocarbons (TPH). The historical releases, results of investigations, and previous remedial activities are documented in the Final RI/FS Report, and are not described further in this QAPP.

1.2 Project Objectives

The goal of the PMP is to monitor the effectiveness of MNA as the selected cleanup action for the Site, and enable evaluation of the current and future risk to human health and the environment. Specific objectives of the PMP, and associated QAPP, are to:

- Document groundwater flow patterns, including changes that might adversely impact effectiveness of the natural attenuation remedy;
- Identify the wells to be sampled and analyses to be performed to demonstrate compliance with the cleanup standards;
- Establish a monitoring frequency that ensures that human health and the environment continue to be protected during performance monitoring period; and
- Provide periodic reports to demonstrate progress toward achieving Site closure.

The performance monitoring program will utilize the existing networks of CPL and Tidewater monitor wells. COC concentrations will continue to be compared to MTCA Method A cleanup levels to evaluate the effectiveness of the MNA remedy, as well as the progress toward achieving Site closure.

1.3 Revisions

The focus of the QAPP is on groundwater. However, data gaps may be identified from evaluation of the data collected during implementation of the MNA remedy. If the field activities are expanded to include installation of new monitor wells, soil sampling, or sampling of surface water or near-shore sediments, the QAPP will be revised, as needed, to document the procedures that will be followed. The Sampling and Analysis Plan (SAP), provided as Appendix G in the Final RI/FS Report, will also be revised at that time to describe the procedures for field screening, collection, and laboratory analysis of soil samples, and monitor well installation.

1.4 Project Organization

The performance monitoring will be a joint effort by the PLPs. An organization chart for the project is shown in Figure H-1. Contact information is provided in the Distribution List for this QAPP. QA/QC roles and responsibilities for the project team members are summarized below.

URS and CH2M HILL Project Managers

The Project Managers (PMs) from URS and CH2M HILL will share responsibility for all aspects of the project. They will have responsibility for developing and implementing the PMP and associated tasks, including groundwater sampling, data management, and reporting. The PMs will have overall responsibility for planning, scheduling, coordinating, and implementing the activities of their respective field teams, monitoring the project progress and quality, interfacing with CPL and Tidewater, and ensuring the timeliness of all project deliverables (e.g., periodic performance monitoring reports). The URS Portland Task Manager will assist the URS PM in scheduling the URS field activities, ensuring that the field work is conducted in accordance with the SAP, QAPP, Health and Safety Plan (HASP), and preparation of draft reports.

URS Task Manager

The URS Task Manager will be responsible for preparations for, scheduling, staffing and completion of the URS field tasks, and ensuring they are conducted in accordance with the PMP, SAP, QAPP, and URS HASP. Located in the URS Portland office, he will review the HASP requirements with the field team, and will monitor the field activities on a daily basis. Upon completion of the field work, the URS Task Manager will also be responsible for review and distribution of URS field documentation. In addition, he will assist the URS Project Manager in providing staff for data compilation, evaluation and reporting.

Field Teams

The URS and CH2M HILL field teams will perform the field tasks for their respective areas of investigation. One person from each field team will be designated the Field Team Leader and Site Safety Officer (SSO). The Field Team Leader/SSO for each consultant will be responsible for conducting and documenting the field work in accordance with the SAP and QAPP, and ensuring adherence to the safety requirements specified in their respective HASPs. They will also coordinate the on-site activities directly with CPL personnel, and communicate with the PMs if any issues arise or significant deviations from the SAP are needed.

Quality Assurance Officers

The Quality Assurance Officer (QAO) is responsible for oversight of the quality of data produced by the analytical laboratory. The QAOs for URS and CH2M HILL will direct the quality review of laboratory analytical data generated for their respective investigation area. To ensure that appropriate analytical procedures and methods are used to meet the Data Quality Objectives (DQOs), the QAOs will work closely with the PMs and analytical laboratory.

Health & Safety Managers

The field teams from URS and CH2M HILL will follow the requirements of their own HASPs, as well as any site-specific procedures at the Pasco Terminal. The URS Regional Health and Safety Manager and the CH2M HILL Health and Safety Professional will review and approve their respective HASPs for all field activities performed for this project. They will work directly with the PMs will be responsible for monitoring and verifying that the work is performed in accordance with the HASP. They will advise the PMs regarding health and safety issues but will function independently.

1.5 QAPP Review Checklist

Ecology guidance describes 14 elements to be addressed in a QAPP (Ecology, 2004). Several of these elements are also covered in the Final RI/FS Report, or the project SAP. To avoid unnecessary repetition, cross-references to these other documents are provided in the QAPP. Table H-1 is a modified version of the QAPP checklist provided by Ecology (2004), which identifies the location of the required QAPP elements in the QAPP, SAP, or Final RI/FS Report

2.0 Sample Process Design

Performance monitoring will be a joint effort by the PLPs. During performance monitoring, the field sampling events will be coordinated by the consultants for the PLPs, URS and CH2M HILL, and will be conducted according to the Site SAP and QAPP.

This QAPP has been prepared to ensure that consistent methods are used to obtain and evaluate data from the Site. The rationale for the selection and usage of the analytical parameters is described in detail in Section 8.3 of the Final RI/FS Report. Specific data quality objectives (DQOs) for each groundwater analytical parameter were selected through consideration of specific data uses, decisions, and regulatory requirements. Table H-2 lists project-specific analytical parameters and required detection limits. Appropriate method detection limits (MDLs) and method reporting limits (MRLs) are identified based on MCTA Method A cleanup criteria, as well as analytical method limitations. For parameters that have no regulatory limitations (e.g., ethanol), standard laboratory method reporting limits (MRLs) have been identified as appropriate. For all groundwater parameters, the MRLs and MDLs are below published MTCA Method A cleanup criteria.

3.0 Quality Assurance Objectives

The quality assurance (QA) process formalizes the development and implementation of procedures to assure collection of data of known and appropriate quality to meet the stated PMP objectives. Data generated during the performance monitoring field program will require standard levels of quality assurance. Data will be of sufficient quality and quantity to support the evaluation of current groundwater conditions, and the current extent of groundwater contamination.

Measurement Quality Objectives (MQOs) are qualitative and/or quantitative statements of the representativeness, comparability, precision (a measure of the random error), accuracy (a measure of systematic error), and completeness necessary for the data to serve the objectives of the project. During plan implementation, field as well as laboratory data will be generated. Field data quality will be evaluated based on adherence to field procedures described in the SAP, including successful calibration of each field instrument and the stated accuracy and precision by the manufacturer. The quality of laboratory data will be evaluated based on the relative precision, accuracy, representativeness, completeness, and comparability of the data generated by each type of analysis. These terms are defined below:

3.1 Representativeness

Representativeness is a measure of how closely the measured results reflect the actual concentrations or distribution of the chemical compounds in the sampled medium (e.g., groundwater). Factors that affect representativeness include sampling plan design, sampling techniques, and sample handling protocols (e.g., storage, preservation, and transportation). Representativeness of the data collected will be ensured by using sampling procedures that represent the actual site conditions at the time of sampling. In addition, representative samples will also be ensured through following proper protocols for sample handling (storage, preservation, packaging, custody, and transportation), sample documentation, and laboratory sample handling and documentation procedures. Documentation will establish that protocols have been followed, and sample identification and integrity are assured.

3.2 Comparability

Comparability refers to the ability to compare the data from the project to other data. Recently collected groundwater data were evaluated for comparability during preparation of the Final RI/FS Report. Groundwater samples collected since at least 2004 were analyzed by Washington-accredited laboratories using standard EPA and/or state analytical methods.

Comparability of the newly acquired data will be achieved by using standard laboratory methods and procedures, which are defined or referenced in this document. Data comparability will be achieved

through the use of consistent methods, consistent units, and well-defined detection limits. Tables H-2 lists specific analysis parameters, applicable methods, and detection limits. MTCA Method A cleanup criteria are also listed in Table H-2.

3.3 Precision

Precision is a measure of the scatter in the data due to random error. For most environmental measurements, the major sources of random error are sampling and analytical procedures. Sampling and analytical precision is expressed as the relative percent difference (RPD). The formula for RPD calculations is provided in Table H-3. Precision measurements will be carried out in the laboratory at a minimum frequency of one per laboratory batch. Target quantitative precision objectives are listed as applicable in Table H-4.

3.4 Accuracy

Accuracy is a measure of the difference between the analytical result for a parameter and the true value due to systematic errors. Potential sources of systematic errors include sample collection, physical/chemical instability of samples, interference effects, calibration of the measurement system, and artificial contamination.

The accuracy of chemical test results is assessed by spiking samples with known standards and establishing the average recovery. In general, for organics, two types of recoveries are measured: matrix spike recoveries and surrogate spike recoveries. For a matrix spike, known amounts of standard compounds identical to the compounds present in the sample of interest are added to the sample. For a surrogate spike, the standards are chemically similar but not identical to the compounds in the fraction being analyzed. The purpose of the surrogate spike is to provide quality control on every sample by constantly monitoring for unusual matrix effects and gross sample processing errors. Two formulas for calculating percent recovery are provided in Table H-3). Accuracy measurements will be carried out at a minimum frequency of one per laboratory batch. Target quantitative accuracy objectives are listed as applicable in Table H-4.

3.5 Completeness

Completeness is a measure of the amount of usable data obtained from the analytical measurement system. Two formulas for completeness calculations are provided in Table H-3. The target completeness objective will be 90 percent; the actual completeness may vary depending on the intrinsic nature of the samples. The completeness of the data will be assessed during quality control reviews. Internal quality control checks, preventive maintenance, and corrective action will be implemented in order to maintain quality objectives, as described in the following sections of this QAPP.

4.0 Sample Custody and Documentation

A sample is physical evidence collected from the Site. Possession of samples will be traceable from the time the empty containers are sent from the laboratory to the field, to the time the samples are analyzed. This section discusses the chain-of-custody (C-O-C) procedures and corrections to documentation.

4.1 Chain-of-Custody Procedures

C-O-C procedures are used to maintain and document sample possession. The C-O-C form is filled out by the sampler(s) in the field, and remains with the samples until analyses are completed. The principal documents used to identify samples and to document possessions are:

- C-O-C records
- Air bills or shipping records (e.g., Federal Express)
- Field notebooks and/or field record sheets

A sample is under custody if one or more of the following criteria are met:

- It is in your possession;
- It is in your view, after being in your possession;
- It was in your possession and then you locked it up to prevent tampering; or
- It is in a designated secure area.

4.1.1 Field Custody, Transfer of Custody, and Shipping Procedures

All samples will be accompanied by a C-O-C record. When transferring or shipping samples, the individual relinquishing and receiving them will sign, date, and note the time on the record. This record documents sample custody transfer from the sampler, often through another person, to the analyst at the laboratory. Field custody procedures, including sample packaging, custody, and shipping, are described in Section 5 of the SAP.

Whenever samples are split with Ecology, it will be noted in the Remarks section of the C-O-C record. The note will indicate with whom the samples are being split and will be signed by both the sampler and the recipient. If the split is refused, this will be noted and signed by both parties. If an Ecology representative is unavailable or refuses to sign, this will be noted in the Remarks section of the C-O-C record. When appropriate, as in the case where the representative is unavailable, the C-O-C record will contain a statement that the samples were delivered to the designated location at the designated time.

4.1.2 Laboratory Custody Procedures

Sample handling and custody requirements at the laboratory shall be as specified in the laboratory's Quality Assurance Manual and associated laboratory Standard Operating Procedures (SOPs). These requirements should be generally consistent with National Environmental Laboratory Accreditation Program (NELAP).

The laboratory sample custodian will accept custody of the shipped samples, sign the chain-of-custody form, record the date and time of receipt, verify that the samples received match those in the chain-of-custody records, and fill out a laboratory receipt checklist. The laboratory sample receipt checklist will explicitly state the condition of the sample containers, any evidence of damage, preservation (including temperature upon receipt), and the completeness of accompanying records.

After inspection, each sample will be logged in and assigned a unique laboratory sample ID. In addition, the following information will be entered in the laboratory information management system (LIMS) for each sample:

- Field sample ID
- Laboratory sample ID
- Date received
- Project name and number
- Collection date
- Sample type
- Analyses to be performed

After sample login is complete, a copy of the C-O-C record, with laboratory sample numbers and notations of any discrepancies will be sent to the QAO for the data to be entered into the project file. The Laboratory Project Manager will report any problems or discrepancies immediately to the appropriate QAO. The Laboratory Project Manager is responsible for faxing or e-mailing to the QAO a confirmation of sample receipt within one working day of sample receipt. The original copy of the C-O-C form will be included with the final data package submitted to the QAO.

The laboratory sample custodian will distribute the samples to the appropriate analysts, who will be responsible for the care and custody of samples from the time they are received until the samples are exhausted or returned to the custodian. The data of sample analysis will be recorded on the laboratory report form. While in the laboratory, samples shall be stored in limited-access, temperature-controlled areas. Refrigerators, coolers, and freezers shall be monitored for temperature daily. The acceptance

criteria for refrigerator and cooler temperatures shall be 0.5 to 6°C, and the acceptance criteria for freezer temperature shall be less than 0°C.

When sample analyses and necessary QA checks have been completed, the unused portion of the sample must be disposed of properly. All identifying stickers, data sheets, and laboratory records will be retained as part of the permanent documentation. Sample containers and remaining sample materials will be disposed of appropriately.

4.2 Corrections to Sample and Custody Documentation

All original data recorded in field notebooks, sample identification tags, and C-O-C records will be written in waterproof ink. None of these documents are to be destroyed or thrown away, even if they are illegible or contain inaccuracies that require a replacement document. If an error is made on a field or laboratory document, the original entry may be corrected by crossing a line through the error and entering the correct information. The erroneous information should not be obliterated. If possible, any error discovered in field or laboratory documentation should be corrected by the person who made the entry. All corrections must be initialed and dated. Following completion of the project, all field and laboratory documents must be retained for a minimum of ten years as required by AO Section VIII.I.

5.0 Analytical Procedures and Detection Limits

5.1 Analytical Procedures

Analytical parameters and specific analytical methods for the groundwater samples are listed in Table H-2. Groundwater samples will be analyzed for the following COCs using the most current, approved versions of standard EPA and/or state analytical methods:

- SW-846 Method 8260B – Aromatic and Halogenated Volatiles by Gas Chromatography (GC) Using Photoionization and/or Electrolytic Conductivity Detectors;
- SW-846 Method 8015B – Nonhalogenated Organics Using GC/Flame Ionization Detector (FID)
- Northwest Test Method NWTPH-Gx - Gasoline-range total petroleum hydrocarbon (TPH); and
- Northwest Test Method NWTPH-Dx - Diesel- and heavy oil-range TPH.

In addition to the COCs, several parameters indicative of natural attenuation will be analyzed, including DO (field measurement), ferrous iron (field measurement), sulfate, and manganese. These indicator parameters will be used in conjunction with DO and pH values measured in the field to evaluate oxidation-reduction (redox) conditions and the status of biodegradation and other natural attenuation processes at the Site.

As described in Section 1.3, the field investigation program may be expanded to include soil sampling during installation of new monitor wells. This QAPP will be revised to specify the analytical parameters, methods, and detection limits if soil samples are to be collected at the time of well installation.

5.2 Method Detection and Reporting Limits

Analytical results will be compared to project action levels, which are MTCA Method A criteria. Table H-2 lists the action levels, method reporting limits (MRLs), and method detection limits (MDLs) for each COC. As shown in the table, the MRLs and MDLs for all COCs are lower than the published action levels. For reporting purposes, all detections between the MRL and MDL will be reported as "J" values.

The MDL is the defined in 40 CFR 136 as the minimum concentration of an analyte the laboratory would measure and report with 99% confidence that the analyte concentration is greater than zero. The MDL is determined for each analyte in a reagent matrix. The MDL can be determined using the procedures specified in 40 CFR Part 136, Appendix B (as amended), using reagent matrices that are both laboratory grade aqueous and solid materials.

The MRL is the lowest non-zero standard concentration in the laboratory's initial calibration curve based on the laboratory's SOPs for initial sample mass or volume and the final mass or volume after preparation. Therefore, the MRL is method-specific. Generally, the MRL is five to ten times higher than the MDL.

The sample detection limit (SDL) is the MDL adjusted to reflect sample-specific actions, such as dilution or change in aliquots for analysis and sample-specific characteristics. Non-detected results are reported as less than the numeric value of the SDL. Concentrations greater than the SDL but less than the MRL are reported as estimated ("J") by the laboratory.

The target detection limits for the project will be MRLs as provided by TestAmerica Inc. of Seattle (Tacoma), Washington. Detection limits are established using pure standards; during measurement of an actual sample, SDLs may be elevated because of interference from other components in the matrix. This cannot be predicted ahead of time but will be reported if it occurs.

6.0 Calibration Procedures

6.1 Field Calibration Procedures

Calibration of field equipment is discussed in Section 6 of the SAP. If an equipment malfunction is suspected, the device will be removed from service, tagged to identify the suspected problem, and the appropriate personnel notified so that a recalibration can be performed, or a substitute piece of equipment can be obtained. Field equipment that fails calibration or becomes inoperable will be repaired and satisfactorily recalibrated prior to reuse. Equipment that cannot be repaired will be replaced.

Data collected with equipment that later fails recalibration will be evaluated. If the data appear to be affected, the results of the evaluation will be documented, and the PM will be notified. Suspected problems with the field equipment will be documented in the field note book.

To reduce the potential for equipment malfunction, preventative maintenance for field sampling and measurement equipment will be performed in accordance with the frequency and methods described in the manufacturer's operations manual or handbook for each piece of equipment. Any critical spare parts or sampling equipment disposables such as small tools, disposable bailers, sample containers and other small items should be inventoried by field personnel in order to prevent and/or minimize equipment downtime.

6.2 Laboratory Calibration Procedures

Laboratory instrumentation will meet applicable calibration requirements to ensure that the instrumentation is capable of producing acceptable quantitative data. Initial calibration demonstrates that the instrument is capable of acceptable quantitative performance at the onset of analysis. Calibration during operation verifies acceptable performance of the instrument on a day-to-day basis. Tuning and instrument performance criteria will also be established, as appropriate, to ensure that instrument measurements may be interpreted correctly. Laboratory calibration procedures and frequencies are specified in the protocol for the specific analytical methods used. When there are no previously defined specifications, the calibration procedures will, at a minimum, be performed every six months, or after a significant change made to the equipment (e.g., new column). Laboratory calibration procedures are summarized in Table H-5.

The analytical laboratory will be responsible for preventive maintenance of the equipment used during analytical procedures. Instrument maintenance logbooks will be maintained in laboratories at all times. The logbooks, in general, will contain a schedule of maintenance as well as a complete history of past maintenance, both routine and non-routine. In addition, the laboratory will maintain current SOPs for review at all times.

7.0 Quality Control Procedures

Quality control (QC) procedures provide the means of evaluating and controlling the precision and accuracy of the analytical results. Careful adherence to established procedures for sample collection, preservation, and storage will minimize errors due to sampling and sample instability.

7.1 Field QC Procedures

Field sampling QC procedures will include the collection of field duplicates, equipment blanks, and trip blanks, as discussed in Section 2.3 of the SAP. Sufficient sample volume will be collected (triple the normal sample volume for aqueous samples) for at least one sample in each batch of 20 or fewer field samples so that matrix spike and matrix spike duplicate (MS/MSD) samples can be prepared in the laboratory for analysis. Table H-6 identifies the frequencies these types of field QC samples will be submitted to the laboratory. To minimize laboratory bias, field duplicates will be submitted as blind samples.

7.2 Laboratory Quality Control Procedures

The laboratory will be responsible for following the established QC procedures. The following minimum QC procedures will apply:

- Sample custody procedures as described in Section 4;
- Sample holding and preservation requirements as specified in SAP Table G-2;
- Analytical methodology (including sample preparation), detection limits, instrument calibrations, and standards per the methods listed in Table H-2;
- Data reduction and reporting per specific methods listed in Section 8;
- Internal quality control checks (laboratory control samples, method blanks, etc.) required by the Laboratory Quality Assurance Manual, SOPs, and analytical methods; and
- Laboratory performance and system audits as described in Section 9.

7.2.1 Types of Laboratory QC Samples

Laboratory QC samples are used to assess if analytical results are within quality control limits. The types of QC samples the laboratory will employ depend on the particular analytical methods. Each analytical method has required QC that must meet laboratory-developed acceptance limits in order for the data to be considered valid. In addition, as part of the laboratory's annual accreditation program, performance

evaluation samples and method detection limit studies are conducted to evaluate the laboratory's capability of performing the method accurately and precisely. The following types of laboratory QC samples will be analyzed:

- Laboratory control samples (LCS);
- Matrix Spike/Matrix Spike Duplicates (MS/MSD);
- Surrogates;
- Internal Standards;
- Detectability Check Standard (DCS)
- Retention Time Windows
- Laboratory Blanks

For each batch of 20 or fewer samples, sufficient QC samples will be collected and analyzed to ensure that the appropriate QC measures described in the following sections will be attained. Laboratory QC samples will be handled, preserved, and documented in the exactly same manner as samples submitted from the field. The laboratory will run these QC samples at the frequency specified in Table H-6.

7.2.2 Laboratory QC Sample Control Criteria

Matrix spike, laboratory control sample, and surrogate recoveries associated with sample analyses are reviewed by the laboratory to assess whether the recoveries indicate an out-of-control situation and to determine if corrective action is necessary. The laboratory will document the findings of their QC review and the corrective actions performed in the case narrative for the analytical reports. Laboratory control limits listed in Table H-6 were obtained from TestAmerica Inc. of Seattle (Tacoma), Washington. It should be noted that laboratory control limits may differ from project-specific data usability control limits applied during the external review of the analytical data described in Section 8.2.2.

8.0 Data Validation and Usability

Data reduction is the process of converting raw data to final results. This section describes the processes to be used to review and report field and laboratory data.

8.1 Field Data

Field data validation will be based on information written in the field note books and/or field sheets. Field measurements, calibration records, and instrument data will be reviewed at the end of each field day to ensure completeness and accuracy. Corrections, if needed, will be made in accordance with the procedures described in Section 4.2.

8.2 Laboratory Data

In order to ensure that all laboratory data are of known and acceptable quality, all analytical results generated for the project will undergo two levels of data quality review: at the laboratory, and outside the laboratory (external review).

8.2.1 Laboratory Review

Initial data reduction, review, and reporting will be conducted by the laboratory in accordance with their SOPs and requirements of the analytical method. Laboratory QC data will be compared to the laboratory control limits for each analytical method and parameter. In some cases, reanalysis may be required if the analytical results are outside control limits. For samples that were diluted in order to obtain results within the instrument's calibrated range, results will be reported without a qualifier if all QC criteria are met. If outliers occur during calibration or calibration verification, or other analytical problems are identified, the laboratory will contact the appropriate PM or QAO to discuss the problems/outliers. Professional judgment will be used to determine necessary actions, if any. The problems/outliers will be identified and the corrective measures implemented will be noted in the case narrative from the laboratory. Data will be evaluated and data qualifiers assigned based on the method requirements and guidance for qualification outlined in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review.

Laboratory deliverables will include sample and QC results. The laboratory will report analytical data to the PLPs in pdf format (in lieu of paper) and in database format as an Electronic Data Deliverable (EDD). The pdf report and EDD will be checked to ensure reporting consistency and accuracy.

8.2.2 External Review

URS and CH2M HILL will review the laboratory data and prepare a Data Usability Summary for their respective areas of investigation. Data reviewers will verify that:

- Sample numbers and analyses match the chain-of-custody request;
- Sample preservation and holding times were met;
- Laboratory QC samples and analyses were performed at the proper frequency, and that no analytes were present in the blanks; and
- Established reporting limits have been achieved.

Data review will also be performed to assess whether the laboratory has met the project-specific control limits for precision, accuracy, and completeness, which are listed in Table H-4. Precision will be assessed based on the RPD of MS/MSD or laboratory duplicate pairs; if the RPD is within these limits, then the precision of the analysis will be assumed to meet the project MQOs. Accuracy will be reviewed by comparing the percent recoveries of surrogates, MS/MSD, and laboratory control samples to the appropriate project-specific control limits. In the event that recoveries associated with project samples are notably low (less than 30%) or high (greater than 160%), but still within the laboratory control limits, the cause(s) for the low or high recoveries, the qualification of sample results, and the effects on data usability will be evaluated by the PLPs during the data review process and documented in the Data Usability Summary. Completeness will be expressed as the percentage of the total tests (including sample and field QC results) conducted that are valid and considered usable for project objectives. Analytical results qualified as estimated based on data quality assessment are considered usable, but the reason for qualification should be considered when using the data. Rejected data are not usable.

As part of the data quality assessment, any initial and diluted results will be compared. If the comparison indicates a difference greater than 20%, the data affected will be identified in the Data Usability Summary. When the initial analysis is an over-dilution and the reanalysis is performed to decrease the reporting limit, the analysis with the lower reporting limit but within the QC criteria will be reported. For samples that are extracted and/or analyzed multiple times due to laboratory QC procedures, the most appropriate data to report will be evaluated individually during data assessment. When evaluating the appropriate data to report, factors such as hold time, QC parameters, and agreement between analyses will be reviewed and the rationale for the decision will be documented in the Data Usability Summary. If several problems or deficiencies are encountered, or specific data appear to be problematic based on the initial data review, more extensive data review will be implemented, such as review of raw data.

In conjunction with the data quality assessment, the database information (EDDs) will be spot checked against the hard copy (pdf) analytical results. If transcription or other errors are discovered by the PLPs, the laboratory will be notified and asked to correct the discrepancy.

9.0 Audits, Corrective Action, and Reports

Internal audits and assessments will be performed by the organization primarily responsible for conducting the task being audited. For example, URS and CH2M HILL will assess their field sample collection activities, and the contract laboratory will perform internal audits. External assessments, inspections and/or audits are conducted by organizations independent of the responsible party.

Evaluation of field and laboratory QC data and/or audits conducted for field operations and/or laboratory operations may indicate the need for a corrective action. Problems arising during field operations will be addressed by the URS or CH2M HILL PM through communication of the identified problem and a potential corrective action to the PM. The PM will then relay the corrective action to the field personnel for implementation. The field personnel will then report back to the PM upon successful implementation of the corrective action. Corrective action for field measurements may include:

- Repeating the measurement;
- Checking instrument adjustments to see that they are appropriate for ambient conditions such as temperature;
- Checking the batteries;
- Checking the calibration; or
- Replacing the instrument or measurement devices.

Problems with analytical QC data will be addressed by the laboratory QC officer and URS or CH2M HILL QAO. If concerns develop over the quality of the analytical data, corrective action for sample collection and laboratory analysis may include:

- Reanalysis if holding time permits;
- Resampling and analyzing the samples; or
- Evaluating and amending sampling and analytical procedures.

Ecology will be notified of variances to the QAPP or PMP through written correspondence as deemed appropriate.

9.1 Assessments and Response Actions

Assessments include systems audits and performance audits which are described below. Deficiencies are addressed through a corrective action, which is an action taken to eliminate the causes of a nonconformance, deficiency or other situation to prevent a reoccurrence.

9.1.1 Systems Audits

A technical systems audit of field activities is an on-site, qualitative review of the sampling system to ensure that the activity is being performed in compliance with this QAPP. A technical systems audit may include, as needed, the following items:

- On-site presence and use of project documents (QAPP, SAP, and HASP);
- Appropriate collection of planned samples at specified locations, as described in the SAP;
- Use of SAP specifications for sample collection, tracking, labeling and C-O-C procedures;
- Field instrument calibration and documentation;
- Field crew organization and knowledge of the SAP, technical, and safety issues;
- Documentation of deviations from project plans; and
- Handling and documentation of investigation-derived waste.

After the audit, a debriefing session will be held for all participants discussing the audit results. The debriefing session will focus on significant findings, if any, that may be detrimental to project data quality. The auditor will complete an audit report including observations of the deficiencies and a request for corrective actions. A schedule for responding to the corrective action request and for implementing the corrective actions will be included in the audit report.

A technical systems audit of field sampling activities is not planned for this phase of the project.

The TestAmerica Inc. laboratory used for this project is accredited by Ecology and through the NELAP program. A technical systems audit of the laboratory is not planned for this project. Technical systems audits of the laboratory are performed, at a minimum at least every two years, as part of the accreditation procedure. As required by the AO, Ecology will have access to laboratory personnel, equipment and records relating to sample collection, transportation and analyses.

9.1.2 Performance Audits

A performance audit is a quantitative audit in which analytical results are generated by a measurement system for a sample that originates outside of a project. A performance audit sample mimics routine field

samples in all possible aspects, except that its composition is unknown to the analyst and known to the auditor. Single-blind performance evaluation (PE) samples are ones that the analyst knows are audit samples but the analyst does not know the analytes or the concentrations. Double-blind samples are analyzed without the analyst being aware that they are audit samples. Double-blind samples should not be distinguishable from routine field samples in any way. Thus, double-blind audit samples are processed routinely and are not subjected to any special treatment. Whenever possible, double-blind audit samples should be introduced into batches of routine field samples before they are shipped to the laboratory. To do this, the audit sample's container, medium, and label, for instance, should be indistinguishable from those of the routine field samples in the batch.

9.1.3 Corrective Actions

Corrective action procedures are established to ensure that conditions adverse to quality, such as malfunctions, deficiencies, deviations, and errors, are promptly investigated, documented, evaluated, and corrected. Corrective action procedures facilitate prompt reaction to significant conditions adverse to quality at the Site or laboratory. Additionally, corrective action procedures allow for the cause of the condition to be identified and corrective action to be taken to rectify the problem and to minimize the impact on the data set. Further, corrective action is intended to minimize the possibility of recurrence of the problem.

Condition identification, cause, reference documents, and corrective action planned to be taken will be documented and reported to the QAO and the PM, at a minimum. Implementation of corrective action will be verified by documented follow-up action. Any project personnel may identify noncompliance issues; however, the designated QA personnel are responsible for documenting, numbering, logging, and verifying the close out action. The QAO will be responsible for ensuring that all recommended corrective actions are implemented, documented, and approved.

9.2 Reports to Management

Problems arising during the sampling and analysis phases of the project shall be identified and corrective actions shall be requested from the responsible parties. A copy of the corrective action requests shall be submitted to the URS or CH2M HILL PM, as appropriate. Copies of the corrective action requests and the response from the responsible parties shall be maintained in the project files.

QA and audit reports shall also be submitted to the URS and CH2M HILL PMs.

10.0 Data Management

This section describes the process for data management and document control of the QAPP and SAP, as well as field records and laboratory deliverables.

10.1 Archival Requirements

As required by AO Section VIII.I (Retention of Records), all field and laboratory records, reports, documents, and underlying data shall be preserved for a minimum of ten years from the completion of the work, and throughout the effective period of the AO. The PLPs shall make all records available to Ecology upon request, and allow access for review within a reasonable time.

10.2 Document Control

The Project QAOs and other signatories shall approve revisions to the QAPP and SAP. Whenever revisions are made or addenda added to the QAPP or SAP, a document control system shall be put into place to ensure 1) all parties holding a controlled copy of the QAPP SAP receive the revisions or addenda, and 2) outdated material is removed from circulation. Project personnel holding controlled copies of the QAPP or SAP will provide certification that they have read, understood and updated their copies of these documents. This certification will be maintained in the project files.

10.3 Field Book

Each field team will maintain a detailed field book. (If working separately, each team member will maintain his/her own field book). The signature of the author and the date of entry, the project name and number and the location will accompany all entries in the field book. At the beginning of each sampling day, the designated team member will start the daily entry by noting the date and time, the locations to be sampled, weather conditions, field team present, and any potential problems. Other information to be entered into the field book includes observations of field activities, progress, and a description of any problems, summary of equipment preparation procedures and a description of any equipment problems (including corrective action), and explanations of any deviations from the SAP or HASP. An entry in the field note book will be made if detailed records documenting groundwater level measurement and sample collection are logged on pre-printed field record sheets instead of in the field book. At the end of each phase of the investigation, the field sampling team will deliver copies of all field book pages and sample collection forms completed during that phase of the investigation to the Field Task Manager or PM.

10.4 Sample Log

The Field Task Manager, or designated representative, will be responsible for keeping a sample log to record information regarding each sample. The sample log may be maintained in the field book, or as a separate file. The required information will include but is not limited to:

- Project number, Facility location;
- Sample location description;
- Sample ID;
- Analyses requested;
- Time, date, sampler name; and
- Equipment used to collect the sample.

10.5 Laboratory Deliverables

The Laboratory Project Manager will provide the data package described below to the QAO within the specified turnaround time. Each data package should contain the reportable and supporting data listed below:

- Completed C-O-C Documentation;
- Sample Identification Cross-Reference;
- Case Narrative;
- Test Reports for Samples;
- MDLs and MRLs;
- LCS, MS/MSD, Surrogate, Laboratory Blank, and Laboratory Duplicate results;

10.5.1 Electronic Data Deliverables

The PLPs will maintain data for the project in a project database. The laboratory will submit EDDs in a format suitable for input into the project database, as well as Ecology's Environmental Information Management (EIM) System.

11.0 References

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TABLES

FIGURE