April 2, 2020

Mr. Panjini Balaraju
Washington State Department of Ecology
Toxics Cleanup Program Southwest Regional Office
300 Desmond Drive
Lacey, WA 98503

Subject: Quarterly Progress Report – First Quarter 2019
D Street Petroleum Site, Tacoma, Washington
CONSENT DECREE 91-2-2012-1

Dear Mr. Balaraju:

AECOM submits the following progress report for the D Street Petroleum Site located at 520 East D Street in Tacoma, Washington (the Site). This report is being submitted to the Washington State Department of Ecology (Ecology) on behalf of the D Street Potentially Liable Persons (PLP) Group: ExxonMobil Refining and Supply/Environmental Services (ExxonMobil, formerly Mobil), Shell Oil Company (Shell), and Chevron Environmental Management Company (Chevron EMC), in accordance with Consent Decree No. 91-2-2012-1. The Phillips 66 Company (formerly ConocoPhillips) transferred control of its allocated share of the D Street PLP Group to Chevron EMC, effective April 1, 2011.

A groundwater sampling and monitored natural attenuation program was implemented after the remedial system at the Site was turned off in October 2006. Groundwater monitoring is conducted in accordance with the Sampling and Analysis Plan for Groundwater Performance Monitoring Program and Work Plan for Well Installation/Decommissioning Activities, dated September 2011. This progress report covers the environmental monitoring data collected during the first quarter (January 1, 2019 through March 31, 2019). An evaluation of the first quarter 2019 data and natural attenuation processes will be presented in the 2019 Annual Progress Report, which is completed following the third quarter (September) 2019 monitoring event.

1.0 Site Description

The Site is an approximately 17 acres former Shell property located at 520 East D Street in Tacoma, Pierce County, Washington (Figure 1). The Site is located on a peninsula in Commencement Bay and is bounded to the west by the Thea Foss Waterway; to the north by various industrial properties, East 3rd Street, and Commencement Bay; to the east by East F Street and the Middle Waterway; and to the south by various industrial properties and 11th Street.

The Site includes an active bulk petroleum storage and distribution area currently occupied by Phillips 66 Company. Previous operators of the petroleum storage and distribution area include Mobil, British Petroleum (BP), Unocal/76 Products, and Tosco. The south and southwest end of the Site is owned and utilized by Globe Machine Manufacturing, a manufacturer of industrial machines. The east and northeast end of the Site is vacant and owned by Targa Resources with the exception of the northeastern-most area which is occupied by an Olympic Pipeline Company pump station.

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These areas along with the groundwater monitoring well network and other site features are presented in Figure 2.

2.0 Summary of Sampling Activities Conducted During the Reporting Period

The first quarter 2019 monitoring event included the following groundwater sampling activities conducted from March 12 through March 14, 2019:

- Water Level and Free Product Gauging
  - AECOM personnel measured water levels and free product thickness, when present, in 38 upper sand unit monitoring wells, six lower sand unit monitoring wells, and seven surface water compliance monitoring wells. Measurable free product was not observed in the monitoring wells sampled during this event.
  - The depths to groundwater and the calculated groundwater elevations based on the March 2019 measurements are presented in Table 1. Groundwater elevation contour maps are not provided due to high variability in the groundwater elevation data caused by tidal influences and other factors.
  - The predominant groundwater flow direction within the upper and lower sand units has historically been toward the southwest (toward the Thea Foss Waterway). Groundwater and tidal influence studies conducted in 2011 indicate a more diminished flow pattern toward the Thea Foss Waterway.

- Groundwater/Surface Water Compliance Sampling
  - Groundwater and surface water compliance samples were collected from 21 groundwater monitoring wells during this event:
    - Fourteen upper sand unit groundwater monitoring wells (B-19, B-25, B-31, B-34, E-21, E-22, FW-5R, FW-14, G-18, HC-111, RW-5R, RW-8, T-2 and T-3). Wells E-22, FW-5R, FW-14, and T-2 serve as sentinel wells
    - Three lower sand unit groundwater monitoring wells (DMW-2, DMW-4 and FW-13)
    - Four surface water compliance monitoring wells (RR-1, RR-2, RR-4, and RR-5)
  - The wells were purged and sampled following low-flow sampling methodology. An in-line (i.e., flow-thru cell) multi-parameter water quality measurement device was used to continuously monitor pH, temperature, conductivity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity. Representative water samples were collected when parameters stabilized over three recording intervals (three to five minutes each).

- Analytical Procedures
  - The groundwater and surface water compliance samples were submitted under proper chain-of-custody protocol to TestAmerica Laboratories, Incorporated of Spokane, Washington. The laboratory analytical report and chain-of-custody are provided in Appendix A.
  - The following methods were used to analyze the samples identified above:

- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by U.S. Environmental Protection Agency (EPA) Method 8260C
- Gasoline-range total petroleum hydrocarbons (TPH-G) by Northwest total petroleum hydrocarbons Method NWTPH-Gx
- Diesel-range total petroleum hydrocarbons (TPH-D) and total petroleum hydrocarbons in the heavy oil range (TPH-O) by Northwest total petroleum hydrocarbons Method NWTPH-Dx
- Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene by EPA Method 8270D selected ion monitoring (SIM)

- Purge water generated during this event was placed in a 55-gallon drum stored at the Site. The contents of the drum will be removed for disposal prior to the next quarterly groundwater monitoring event.

3.0 Summary of Data Validation Completed for Period Sampling Event

A data validation review was completed for the first quarter 2019 analytical data. The data was reviewed based on the EPA Contract Laboratory Program's *National Functional Guidelines for Organic Superfund Methods Data Review* dated January 2017 and standard laboratory quality control criteria.

The completeness of the analytical reports for this groundwater monitoring event is 100%. The data qualifiers assigned by the laboratory are shown on the laboratory reports. Additional data qualifiers were assigned to two samples (FW-5R and RR-2) based on the data validation review. Sample results and associated data qualifiers are presented in Table 2 and Appendix B: Table 1. The completed data review memorandum for this quarterly sampling event is provided in Appendix B.

4.0 Summary of Analytical Results for Period Sampling Event

This section provides a summary of the groundwater monitoring results from this event. Table 2 summarizes analytical results for groundwater monitoring wells sampled during the first quarter 2019. A copy of the laboratory analytical report is presented in Appendix A. Site-specific Surface Water Cleanup Levels and Groundwater Cleanup Levels were established by Ecology and D Street PLP Group representatives (effective September 3, 1991), as written in Appendix B of Consent Decree No. 91-2-2012-1. The cleanup levels were established for the following specific contaminants: benzene, toluene, and ethylbenzene. Cleanup levels were not established for total xylenes, TPH-G, TPH-D, or TPH-O.

- Benzene was detected in eight upper sand unit wells (B-19, B-25, B-34, HC-111, RW-5R, and RW-8) and two sentinel wells (E-22 and FW-5R). Three of the wells (B-25, B-34, and HC-111) were in exceedance of the surface water cleanup standard of 0.04 mg/L but did not exceed the groundwater cleanup standard of 0.16 mg/L. Benzene was not detected in the surface water compliance wells or lower sand unit wells sampled during this event. Benzene concentrations in the upper sand unit and resulting isocontours from this event are presented on Figure 3.

- Toluene was detected in five of the upper sand unit wells (B-19, B-25, B-34, HC-111, and RW-8) and one sentinel well (FW-5R). None of the toluene detections exceeded the surface water cleanup standard of 5 mg/L or the groundwater cleanup standard of 20 mg/L. Toluene was not detected in the surface water compliance wells or lower sand unit wells sampled during this event.
- Ethylbenzene was detected in four upper sand unit wells (B-19, B-34, HC-111, and RW-8) and one sentinel wells (FW-5R). None of the ethylbenzene detections exceeded the surface water cleanup standard of 0.43 mg/L or the groundwater cleanup standard of 1.7 mg/L. Ethylbenzene was not detected in the surface water compliance wells or the lower sand unit wells sampled during this event.
- Total xylenes were detected in five upper sand unit wells (B-19, B-25, B-34, HC-111, and RW-8). Total xylenes were not detected in the sentinel wells, surface water compliance wells, or lower sand unit wells sampled during this event. There are no cleanup standards for total xylenes for the Site.
- TPH-G was detected in seven upper sand unit wells (B-19, B-25, B-34, HC-111, RW-5R, RW-8, and T-3), one sentinel well (FW-5R), and all three lower sand unit well (DMW-2, DMW-4, and FW-13). There are no cleanup standards for TPH-G for the Site. TPH-G concentrations in the upper sand unit and resulting isocontours from this event are presented on Figure 4.
- TPH-D was detected in all ten upper sand unit wells (B-19, B-25, B-31, B-34, E-21, G-18, HC-111, RW-5R, RW-8, and T-3), all four sentinel wells (E-22, FW-5R, FW-14, and T-2), three surface water compliance wells (RR-1, RR-2, and RR-5), and all three lower sand unit wells (DMW-2, DMW-4, and FW-13). There are no cleanup standards for TPH-D for the Site. TPH-D concentrations in the upper sand unit and resulting isocontours from this event are presented on Figure 5.
- TPH-O was detected in all ten upper sand unit wells (B-19, B-25, B-31, B-34, E-21, G-18, HC-111, RW-5R, RW-8, and T-3), three sentinel well (E-22, FW-5R, and T-2), one surface water compliance well (RR-5), and two lower sand unit wells (DMW-2 and DMW-4). There are no cleanup standards for TPH-O for the Site.
- Naphthalene was analyzed in three select wells (FW-5R, FW-14, and RR-2) during this quarterly sampling event. Naphthalene was detected in one sentinel well (FW-5R). There are no cleanup standards for naphthalene for the Site.

5.0 Summary of Field and Natural Attenuation Results for Period Sampling Event

Table 3 summarizes the field parameters for the groundwater monitoring wells sampled during this quarterly monitoring event. An evaluation of the natural attenuation processes occurring at the Site will be presented in the 2019 Annual Progress Report, which is completed following the third quarter (September) 2019 sampling event.

6.0 Discussion of Upper Sand Unit Shoreline Data

There were no exceedances of site groundwater or surface water cleanup standards in the sentinel wells (E-22, FW-5R, FW-14, and T-2) sampled during this event. TPH-D was detected in four sentinel wells (E-22, FW-5R, FW-14, and T-2), TPH-O was detected in three sentinel wells (E-22,

FW-5R, and T-2), and TPH-G was detected in one sentinel well (FW-5R). Benzene was detected in two sentinel wells (E-22 and FW-5R). Ethylbenzene, toluene, and naphthalene were detected in sentinel well FW-5R. Total xylenes were not detected in the sampled sentinel wells.

There were no exceedances of site groundwater or surface water cleanup standards in the surface water compliance wells (RR-1, RR-2, RR-4, and RR-5) sampled during this event. TPH-D was detected in three surface water compliance wells (RR-1, RR-2, and RR-5), and TPH-O was detected in one surface water compliance well (RR-5). BTEX constituents, TPH-G, and naphthalene were not detected in the surface water compliance wells sampled during this event. Further evaluation of this area will be provided in the 2019 Annual Progress Report.

7.0. Discussion of Lower Sand Unit Data

There were no exceedances of site groundwater or surface water cleanup standards in the lower sand unit wells (DMW-2, DMW-4, and FW-13). TPH-D and TPH-G were detected in all three lower sand unit wells. TPH-O was detected in two lower sand unit wells (DMW-2 and DMW-4). BTEX constituents were not detected in the lower sand unit wells.

8.0 Status of Recent and Upcoming Deliverables

- The Fourth Quarter 2018 Progress Report was submitted in October 2019.
- The Second Quarter 2019 Progress Report is anticipated to be submitted in November 2019.

If you have any questions regarding this progress report, please call me at (503) 222-7200.

Sincerely,

AECOM

Tyler Hemry
Deputy Project Manager/ Technical Manager

Mike Edwards, PE, MBA
Vice President

cc: Andrea Wing – Shell Oil Company (electronic only)
Jennifer Sedlachek – ExxonMobil (electronic only)
Ben Terry – Chevron (electronic only)
Rich Solomon – Phillips 66 (electronic only)

ATTACHMENTS:

Figure 1 – Vicinity Map
Figure 2 – Site Map
Figure 3 – Benzene Concentrations in Groundwater, (Upper Sand Unit) March 2019
Figure 4 – TPH-G Concentrations in Groundwater, (Upper Sand Unit) March 2019
Figure 5 – TPH-D Concentrations in Groundwater, (Upper Sand Unit) March 2019
Table 1 – Groundwater Elevation Data, First Quarter 2019
Table 2 – Summary of Groundwater Analytical Results, First Quarter 2019
Table 3 – Summary of Field Parameters, First Quarter 2019

Appendix A – Analytical Data
Appendix B – Summary Data Quality Review

FIGURES

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

0 2,000 4,000 Feet

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VICINITY MAP

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D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 1

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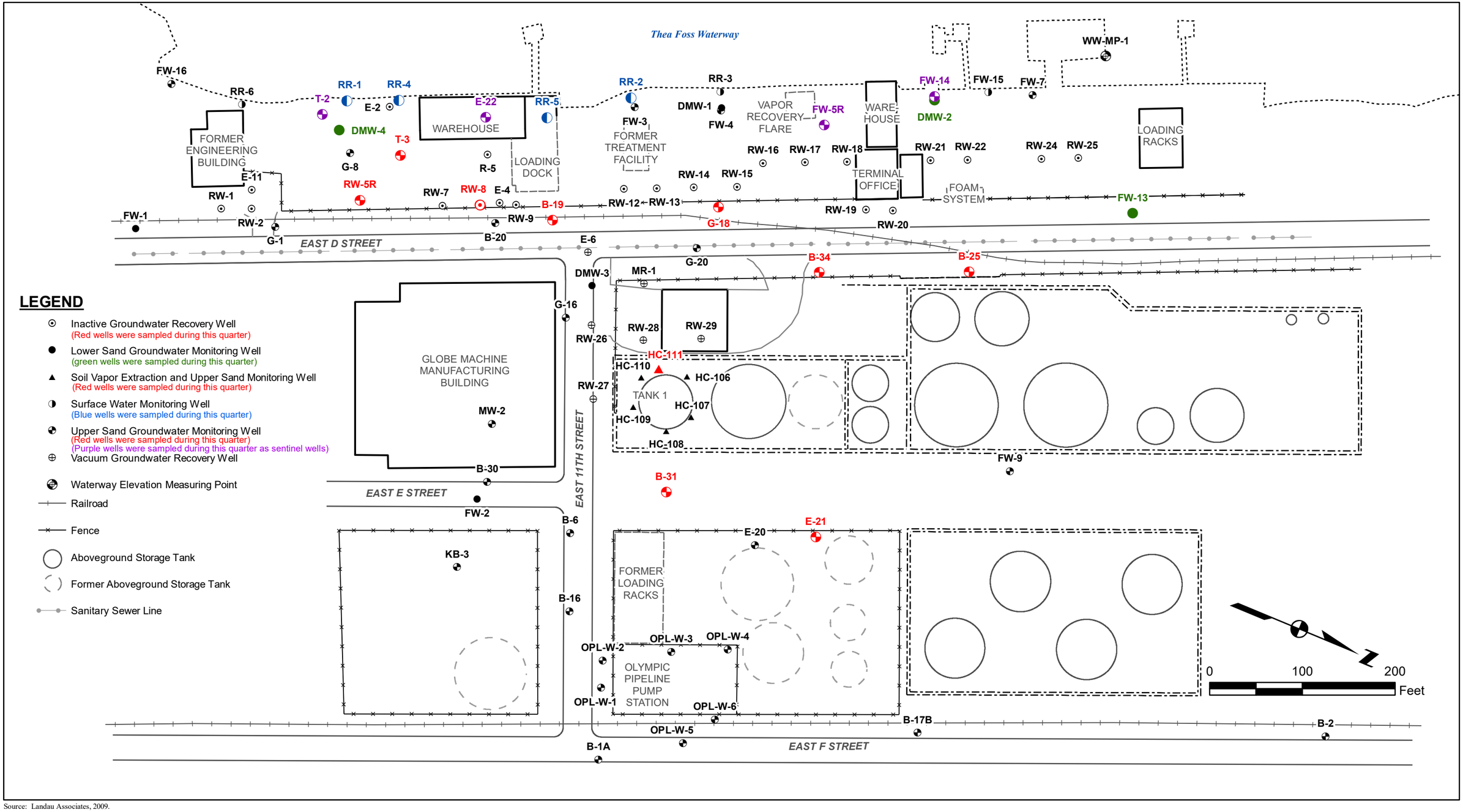

LEGEND

- Inactive Groundwater Recovery Well
  (Red wells were sampled during this quarter)
- Lower Sand Groundwater Monitoring Well
  (green wells were sampled during this quarter)
- Soil Vapor Extraction and Upper Sand Monitoring Well
  (Red wells were sampled during this quarter)
- Surface Water Monitoring Well
  (Blue wells were sampled during this quarter)
- Upper Sand Groundwater Monitoring Well
  (Red wells were sampled during this quarter)
  (Purple wells were sampled during this quarter as sentinel wells)
- Vacuum Groundwater Recovery Well
- Waterway Elevation Measuring Point
- Railroad
- Fence
- Aboveground Storage Tank
- Former Aboveground Storage Tank
- Sanitary Sewer Line

Source: Landau Associates, 2009.
Maul Foster & Alongi, Inc. 2002.
USGS, 2009.
URS, 2014.

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SITE MAP

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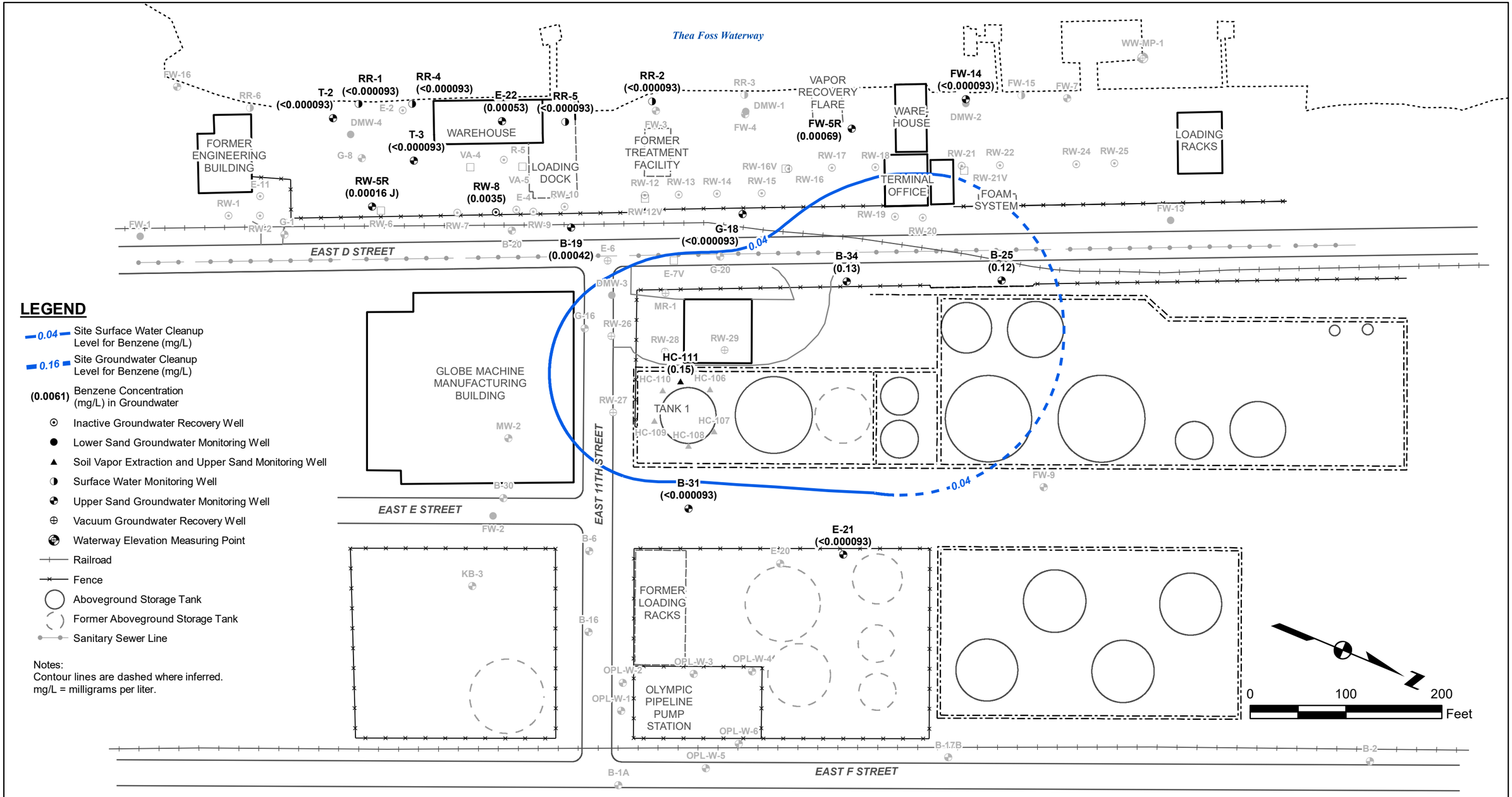
D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 2



LEGEND

- 0.04 — Site Surface Water Cleanup Level for Benzene (mg/L)
- 0.16 — Site Groundwater Cleanup Level for Benzene (mg/L)
- (0.0061) Benzene Concentration (mg/L) in Groundwater
- Inactive Groundwater Recovery Well
- Lower Sand Groundwater Monitoring Well
- Soil Vapor Extraction and Upper Sand Monitoring Well
- Surface Water Monitoring Well
- Upper Sand Groundwater Monitoring Well
- Vacuum Groundwater Recovery Well
- Waterway Elevation Measuring Point
- Railroad
- Fence
- Aboveground Storage Tank
- Former Aboveground Storage Tank
- Sanitary Sewer Line

Notes:
Contour lines are dashed where inferred.
mg/L = milligrams per liter.

Source: Landau Associates, 2009.
Maul Foster & Alongi, Inc. 2002.
USGS, 2009.
URS, 2014.

BENZENE CONCENTRATIONS IN GROUNDWATER (UPPER SAND UNIT) MARCH 2019

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D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 3

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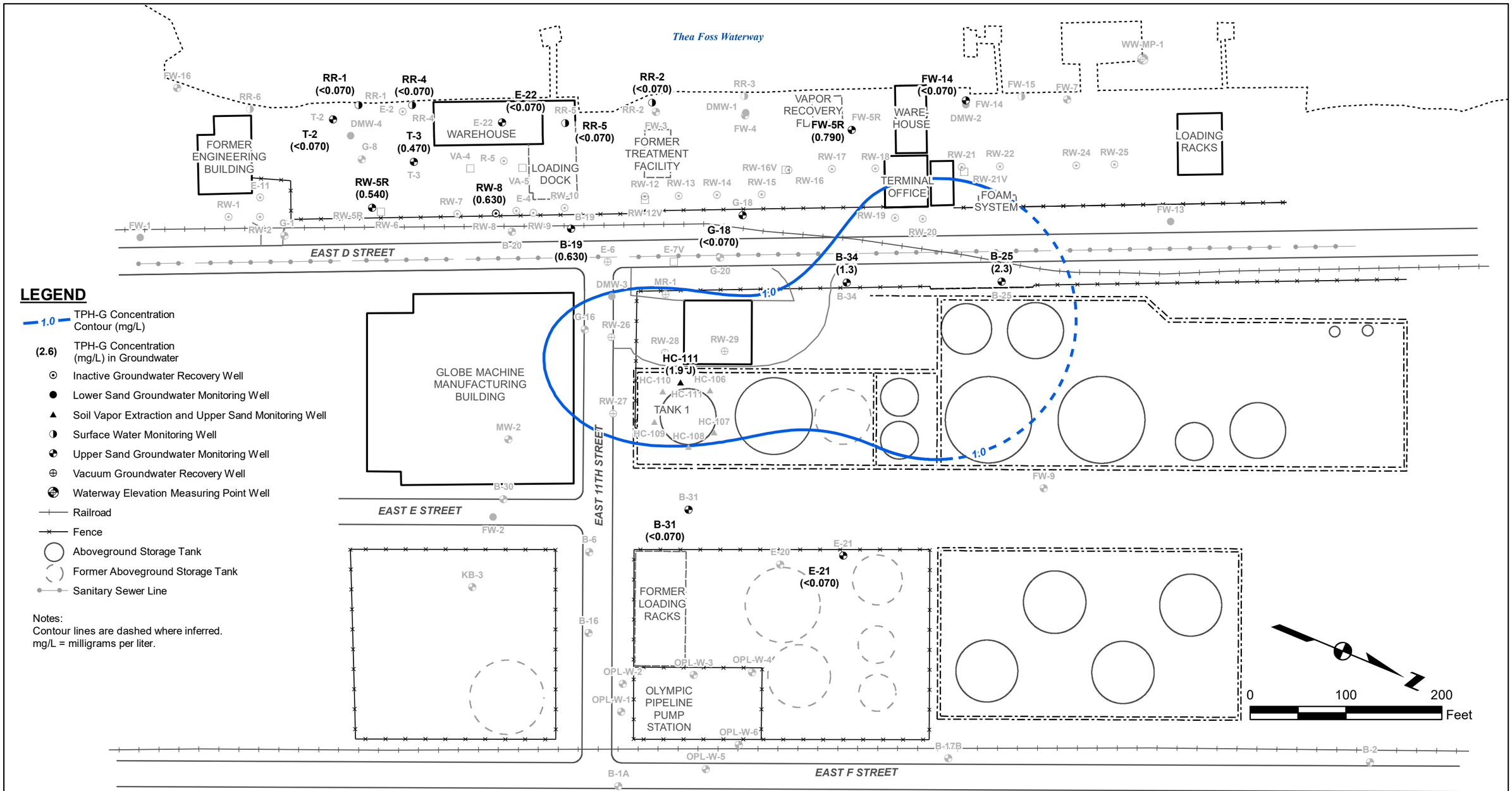

LEGEND

- 1.0 — TPH-G Concentration Contour (mg/L)
- (2.6) TPH-G Concentration (mg/L) in Groundwater
- Inactive Groundwater Recovery Well
- Lower Sand Groundwater Monitoring Well
- Soil Vapor Extraction and Upper Sand Monitoring Well
- Surface Water Monitoring Well
- Upper Sand Groundwater Monitoring Well
- Vacuum Groundwater Recovery Well
- Waterway Elevation Measuring Point Well
- Railroad
- Fence
- Aboveground Storage Tank
- Former Aboveground Storage Tank
- Sanitary Sewer Line

Notes:
Contour lines are dashed where inferred.
mg/L = milligrams per liter.

Source: Landau Associates, 2009.
Maul Foster & Alongi, Inc. 2002.
USGS, 2009.
URS, 2014.

TPH-G CONCENTRATIONS IN GROUNDWATER (UPPER SAND UNIT) MARCH 2019

OCTOBER 2019
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D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 4

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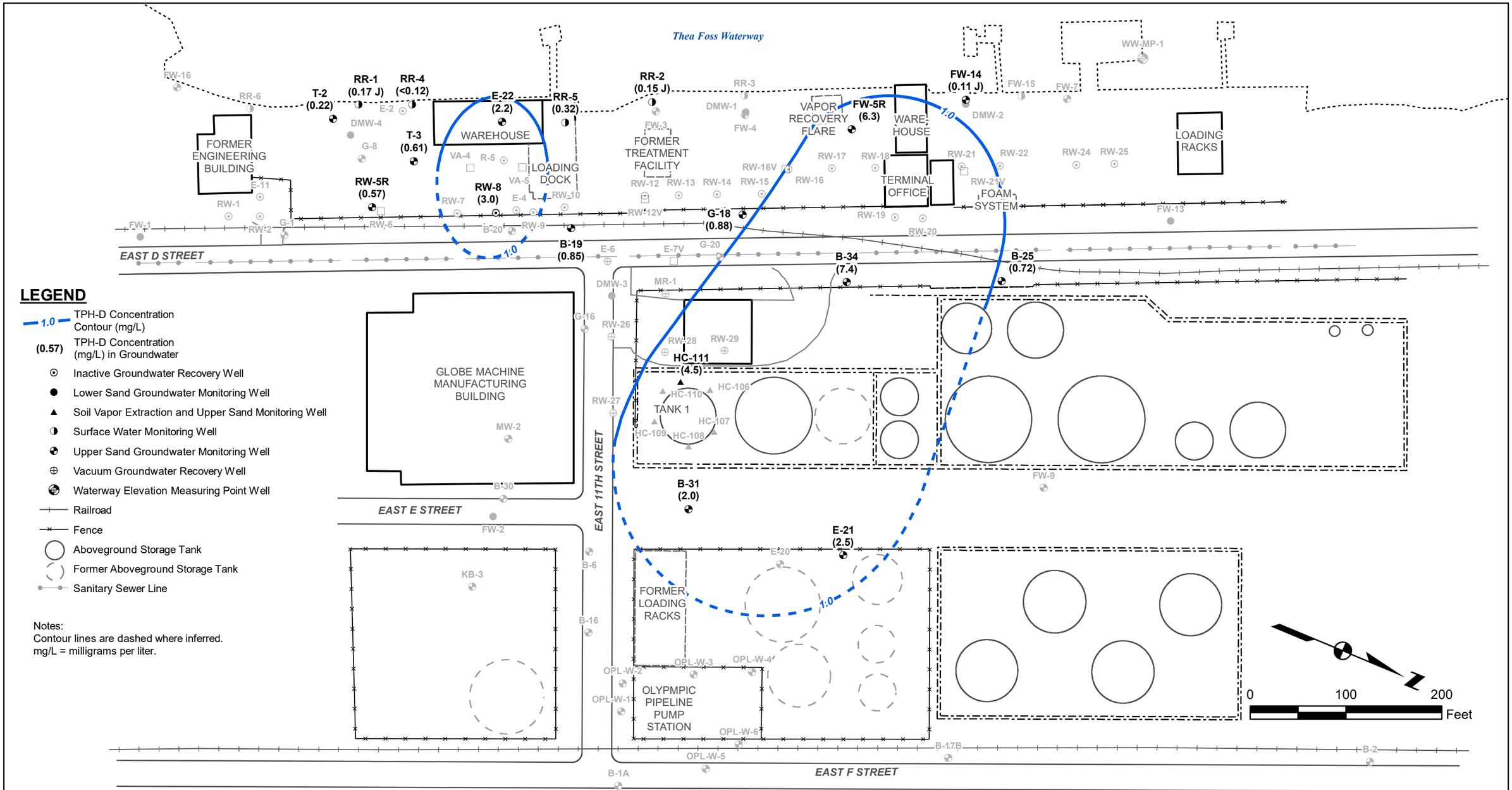

LEGEND

- 1.0 — TPH-D Concentration Contour (mg/L)
- (0.57) — TPH-D Concentration (mg/L) in Groundwater
- Inactive Groundwater Recovery Well
- Lower Sand Groundwater Monitoring Well
- Soil Vapor Extraction and Upper Sand Monitoring Well
- Surface Water Monitoring Well
- Upper Sand Groundwater Monitoring Well
- Vacuum Groundwater Recovery Well
- Waterway Elevation Measuring Point Well
- Railroad
- Fence
- Aboveground Storage Tank
- Former Aboveground Storage Tank
- Sanitary Sewer Line

Notes:
Contour lines are dashed where inferred.
mg/L = milligrams per liter.

Source: Landau Associates, 2009.
Maul Foster & Alongi, Inc. 2002.
USGS, 2009.

TPH-D CONCENTRATIONS IN GROUNDWATER (UPPER SAND UNIT) MARCH 2019

OCTOBER 2019
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D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 5

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TABLES

Table 1
Groundwater Elevation Data
First Quarter 2019
D Street Petroleum Site

Well ID	Well Elevation (ft) (a)	Date	Time	Depth to Groundwater (ft)	Apparent Product Thickness (ft)	Groundwater Elevation (ft)	
Upper Sand Unit							
B-1A	14.15	3/14/2019	NR	NR	--	NR	
B-2	13.78	3/14/2019	9:11	6.62	--	7.16	
B-6	14.25	3/14/2019	NR	NR	--	NR	Tubing in well cap not on correctly
B-16	14.40	3/14/2019	NR	NR	--	NR	Could not remove cap
B-17B	14.16	3/14/2019	9:15	6.49	--	7.67	
B-19	13.31	3/12/2019	10:23	6.65	--	6.66	
B-20	13.48	3/14/2019	8:40	*NR*	--	NR	blockage at 5.08 ft
B-25	13.96	3/14/2019	10:28	7.10	--	NR	
B-30	14.46	3/14/2019	9:28	7.37	--	7.09	Cap not on tightly
B-31	14.46	3/12/2019	8:28	7.12	--	7.34	
B-34	14.36	3/14/2019	9:10	7.42	--	6.94	
E-4	12.09	3/14/2019	9:13	5.62	--	6.47	Vault sticks
E-6	12.14	3/14/2019	NR	NR	--	NR	
E-20	NS	3/13/2019	9:00	6.04	--	NS	
E-21	14.13	3/13/2019	8:20	6.57	--	7.56	
FW-3	14.11 (b)	3/13/2019	14:23	7.61	--	6.50	
FW-4	14.21	3/13/2019	14:33	7.58	--	6.63	
FW-16	12.35	3/13/2019	15:43	8.28	--	4.07	
G-1	13.43 (b)	3/13/2019	15:53	7.19	--	6.24	Bio film on probe
G-8	13.25	3/13/2019	15:49	6.99	--	6.26	
G-16	13.23	3/14/2019	9:33	6.58	--	6.65	
G-18	13.54	3/12/2019	14:35	6.75	--	6.79	
G-20	13.11	3/14/2019	8:55	18:28	--	6.34	Engulfed in mud
HC-108	15.30	3/14/2019	NR	NR	--	NR	
HC-111	14.62	3/13/2019	10:14	7.49	--	7.13	
MR-1	14.26	3/13/2019	NR	NR	--	NR	Vault filled with water
MW-2	NS	3/14/2019	NR	NR	--	NR	
R-5	11.69	3/14/2019	NR	NR	--	NR	Truck parked on top
RW-1	12.94	3/13/2019	15:54	6:00	--	5.69	
RW-2	12.76	3/12/2019	15:51	7.01	--	5.75	
RW-5R	13.76	3/12/2019	13:03	7.39	--	6.37	
RW-7	12.46	3/14/2019	NR	NR	--	NR	Steel beams on well
RW-8	12.71	3/12/2019	11:47	6.03	--	6.68	
RW-9	12.59	3/14/2019	9:55	5.99	--	6.60	
RW-12	13.21	3/13/2019	14:35	6.59	--	6.62	
RW-13	13.94	3/13/2019	14:36	7.32	--	6.62	
RW-14	13.52	3/13/2019	14:38	6.93	--	6.59	
RW-15	13.15	3/13/2019	14:40	6.51	--	6.64	
RW-17	12.29	3/13/2019	14:42	5.70	--	6.59	
RW-19	12.97	3/13/2019	14:54	6.36	--	6.61	
RW-20	12.80	3/13/2019	14:52	6.23	--	6.57	
RW-22	12.72	3/14/2019	NR	NR	--	NR	Slip cap stuck on (glued)
RW-24	13.63	3/13/2019	14:45	7.35	--	6.28	
RW-26	11.93	3/14/2019	9:36	NR	--	NR	Vault filled with water
RW-28	14.62	3/13/2019	15:25	10.66	--	3.96	Under vacuum
RW-29	13.83	3/13/2019	15:17	NR	--	NR	Well cap stuck
T-3	13.03	3/12/2019	13:30	6.68	--	6.35	
Upper Sand Unit - Sentinel							
E-22	16.74	3/13/2019	10:20	9.98	--	6.76	
FW-5R	12.78	3/12/2019	14:20	6.25	--	6.53	
FW-14	13.17	3/13/2019	11:20	6.67	--	6.50	
T-2	11.62	3/12/2019	11:48	5.04	--	6.58	

Table 1
Groundwater Elevation Data
First Quarter 2019
D Street Petroleum Site

Well ID	Well Elevation (ft) (a)	Date	Time	Depth to Groundwater (ft)	Apparent Product Thickness (ft)	Groundwater Elevation (ft)	
Lower Sand Unit							
FW-1	13.63	3/13/2019	15:59	9.32	--	4.31	Under pressure
FW-2	14.32	3/14/2019	NR	NR	--	NR	Well removed/paved over
FW-13	13.13	3/13/2019	11:55	6.45	--	6.68	
DMW-1	13.72	3/13/2019	14:32	9.89	--	3.83	
DMW-2	12.97	3/13/2019	12:16	6.52	--	6.45	
DMW-3	12.83	3/14/2019	9:38	6.47	--	6.36	
DMW-4	11.72	3/12/2019	10:29	4.15	--	7.57	
Upper Sand Unit - Surface Water Compliance							
RR-1	14.79 (b)	3/13/2019	14:26	9.29	--	5.50	
RR-2	15.71 (b)	3/12/2019	15:20	9.79	--	5.92	
RR-3	15.78 (b)	3/13/2019	14:59	10.07	--	5.71	
RR-4	13.19 (c)	3/12/2019	15:48	7.36	--	5.83	
RR-5	16.53	3/13/2019	16:19	10.85	--	5.68	
RR-6	11.31	3/13/2019	15:40	7.74	--	3.57	
FW-15	NS	3/13/2019	14:47	7.79	--	NS	

Notes
Groundwater elevations corrected for free product using following equation, if applicable:
Well Elevation - Depth to Groundwater + (Apparent Product Thickness x 0.80)
ID = Identification
NS = No survey data provided or available
NR = Not recorded
-- = Product was not detected
(a) Top of casing elevation, October 2013, based on NAVD 88, unless otherwise noted
(b) Top of casing elevation, March 2011, based on NAVD 88
(c) Top of casing elevation, October 2011, based on NAVD 88
ft = Feet

Table 2
Summary of Groundwater Analytical Results
First Quarter 2019
D Street Petroleum Site

	Analyte:	TPH-G		TPH-D		TPH-O		Benzene		Ethylbenzene		m-Xylene & p-Xylene		o-Xylene		Toluene		Xylenes (total)		Naphthalene		2-Methylaphthalene		1-Methylaphthalene	
	Surface Water Cleanup Standards:	---		---		---		0.04		0.43		---		---		5		---		---		---		---	
	Groundwater Cleanup Standards:	---		---		---		0.16		1.7		---		---		20		---		---		---		---	
	Sample ID	**Lab ID**	**Date Collected**																						
Upper Sand Unit	B-19	590-10615-1	3/12/2019	0.630		0.85		0.35	J	0.00042		0.00036	J	0.00050	J	0.00016	U	0.00058	J	0.00064	J	--		--		--	
	B-25	590-10615-23	3/14/2019	2.3		0.72		0.11	J	**0.12**		0.0020	U	0.0048	J	0.0016	U	0.0034	J	0.0059	J	--		--		--	
	B-31	590-10615-14	3/13/2019	0.070	U	2.0		0.44		0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	B-34	590-10615-22	3/14/2019	1.3		7.4		0.62		**0.13**		0.0043		0.00063	J	0.00054	J	0.0031		0.0012	J	--		--		--	
	E-21	590-10615-12	3/13/2019	0.070	U	2.5		2.0		0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	E-21 (DUP)	590-10615-13	3/13/2019	0.070	U	2.5		2.2		0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	G-18	590-10615-7	3/12/2019	0.070	U	0.88		0.92		0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	HC-111	590-10615-15	3/13/2019	1.9	J	4.5		0.52		**0.15**		0.060		0.0064	J	0.0032	U	0.0092	J	0.0091	J	--		--		--	
	RW-5R	590-10615-5	3/12/2019	0.540		0.57		0.31	J	0.00016	J	0.00020	U	0.00028	U	0.00021	J	0.00031	U	0.00044	U	--		--		--	
	RW-8	590-10615-3	3/12/2019	0.630		3.0		1.2		0.0035		0.00033	J	0.00064	J	0.00063	J	0.00056	J	0.0013	J	--		--		--	
	T-3	590-10615-6	3/12/2019	0.470		0.61		0.38	J	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
Upper Sand Unit - Sentinel	E-22	590-10615-16	3/13/2019	0.070	U	2.2		0.34	J	0.00053		0.00020	U	0.00028	U	0.00016	J	0.00031	U	0.00044	U	--		--		--	
	FW-5R	590-10615-8	3/12/2019	0.790		6.3		0.99		0.00069		0.00034	J	0.00028	U	0.00016	U	0.00049	J	0.00044	U	0.0019	J	0.290	J	0.290	J
	FW-14	590-10615-17	3/13/2019	0.070	U	0.11	J	0.11	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	0.000050	U	0.000041	U	0.000022	U
	T-2	590-10615-4	3/12/2019	0.070	U	0.22		0.17	J	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
Upper Sand Unit - Surface Water Compliance	RR-1	590-10615-21	3/13/2019	0.070	U	0.17	J	0.12	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U						
	RR-2	590-10615-9	3/12/2019	0.070	U	0.15	J	0.11	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	0.000050	UJ	0.000041	UJ	0.000022	UJ
	RR-4	590-10615-10	3/12/2019	0.070	U	0.12	U	0.13	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	RR-4 (DUP)	590-10615-11	3/12/2019	0.070	U	0.12	U	0.13	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	RR-5	590-10615-20	3/13/2019	0.070	U	0.32		0.17	J	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
Lower Sand Unit	DMW-2	590-10615-19	3/13/2019	0.083	J	0.86		0.21	J	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	DMW-4	590-10615-2	3/12/2019	0.270		0.54		0.21	J	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	FW-13	590-10615-18	3/13/2019	0.079	J	0.34		0.13	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	

Notes:
All results in milligrams per liter (mg/L).
-- = Not analyzed.
BTEX = Benzene, toluene, ethylbenzene and xylenes
(DUP) = Field duplicate
EPA = Environmental Protection Agency
ID = Identification
J = The analyte is present in the sample; the reported concentration is an estimate.
TPH = Total Petroleum Hydrocarbons
NWTPH-Gx= Northwest Analytical method, Northwest Total Petroleum Hydrocarbons as Gasoline
NWTPH-Dx w SGC = Northwest Analytical method, Northwest Total Petroleum Hydrocarbons as Diesel with Silica Gel Cleanup
TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-O = Total Petroleum Hydrocarbons as Heavy Oil
U = Not detected above the reported quantitation limit.
UJ = Not detected above the reported quantitation limit. The quantitation limit is an estimated value.
Bold indicates an exceedance of surface water cleanup levels.
Bold indicates an exceedance of groundwater cleanup levels.
Site-Specific Surface Cleanup Level, Consent Decree No. 91-2-2012-1, effective 9/3/91
Site-Specific Groundwater Cleanup Level, Consent Decree No. 91-2-2012-1, effective 9/3/91

Table 3
Summary of Field Parameters
First Quarter 2019
D Street Petroleum Site

	Sample ID	Date Collected	Temperature (°C)	pH	Conductivity (mS/cm)	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/L)
Upper Sand Unit	B-19	3/12/2019	10.55	7.39	1.57	-127	0.00
	B-25	3/14/2019	10.17	7.04	0.440	-145	1.49
	B-31	3/13/2019	9.78	6.55	0.338	67	6.26
	B-34	3/14/2019	11.76	6.86	1.24	-156	0.00
	E-21	3/13/2019	9.19	6.65	0.413	119	0.00
	G-18	3/12/2019	12.24	6.37	0.394	66	0.00
	HC-111	3/13/2019	10.48	6.61	1.02	-111	1.65
	RW-5R	3/12/2019	12.57	7.22	0.764	-73	0.00
	RW-8	3/12/2019	12.05	7.17	2.21	-81	0.00
	T-3	3/12/2019	11.49	7.50	19.7	-356	2.81
Upper Sand Unit - Sentinel	E-22	3/13/2019	11.60	7.35	8.82	-178	0.00
	FW-5R	3/12/2019	12.21	6.89	0.828	-250	2.48
	FW-14	3/13/2019	8.39	6.95	37.1	67	4.24
	T-2	3/12/2019	9.06	6.93	5.59	-226	2.10
Upper Sand Unit - Surface Water	RR-1	3/13/2019	15.40	7.15	24.6	-329	9.46
	RR-2	3/12/2019	9.38	7.26	39.5	-279	1.87
	RR-4	3/12/2019	12.04	6.93	34.9	39	0.00
	RR-5	3/13/2019	8.75	6.51	3.96	-4	2.58
Lower Sand Unit	DMW-2	3/13/2019	11.01	7.19	14.6	-275	1.53
	DMW-4	3/12/2019	11.37	7.59	14.3	-318	2.64
	FW-13	3/13/2019	11.96	7.40	0.611	-139	0.00

Notes:

°C = degrees Celsius

mg/L = milligrams per liter

mS/m = millisiemens per meter

mV = millivolts

ID = Identification

Field parameters (pH, conductivity, dissolved oxygen, temperature, and Oxygen Reduction Potential) are measured during well purging. Final stabilized parameters are shown in the table above.

Conductivity units may have been incorrectly entered in the field - results may not be accurate.

APPENDIX A
Analytical Data

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: 590-10615-1
Client Project/Site: Tacoma D St Terminal-Phillips 66

For:
AECOM
111 SW Columbia Street, Suite 1500
Portland, Oregon 97201

Attn: Clifford Pearson

Authorized for release by:
3/28/2019 11:27:34 AM

Randee Arrington, Project Manager II
(509)924-9200
randee.arrington@testamericainc.com

Table of Contents

Case Narrative

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Job ID: 590-10615-1

Laboratory: TestAmerica Spokane

Narrative

Receipt
The samples were received on 3/19/2019 4:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 2.4° C.

Receipt Exceptions
The 250ml amber glass container for the following sample was received broken with a crack in the lid: B-31 (590-10615-14). It appears no sample was lost or contaminated so the lid was replaced and analysis will proceed.

The following Trip Blank sample was received with headspace in 3 of 3 vials: Trip Blank (590-10615-24).

Method 8270D SIM: The following samples were received with less than one shift (8 hours) remaining on a test with a holding time of 7 days. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: FW-5R (590-10615-8) and RR-2 (590-10615-9).

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D SIM: The following sample required a dilution due to the nature of the sample matrix: FW-5R (590-10615-8). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap as well as heavily weathered diesel and/or biogenic interference in the following samples: B-19 (590-10615-1), RW-8 (590-10615-3) and RW-5R (590-10615-5).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to heavily weathered diesel in the following samples: DMW-4 (590-10615-2), T-3 (590-10615-6) and G-18 (590-10615-7).

Method NWTPH-Dx: Detected hydrocarbons appear to be due to biogenic interference in the following samples: T-2 (590-10615-4) and RR-2 (590-10615-9).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to heavily weathered diesel and/or a light weigh oil as well as possible biogenic interference in the following samples: E-21 (590-10615-12) and E-21-DUP (590-10615-13).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to creosote or similar product in the following sample: FW-5R (590-10615-8).

Method NWTPH-Dx: Detected hydrocarbons appear to be due to heavily weathered diesel in the following samples: B-31 (590-10615-14), E-22 (590-10615-16), FW-14 (590-10615-17), FW-13 (590-10615-18), DMW-2 (590-10615-19), RR-5 (590-10615-20) and RR-1 (590-10615-21)

Method NWTPH-Dx: Detected hydrocarbons appear to be due to gasoline overlap as well as weathered diesel in the following samples: HC-111 (590-10615-15), B-34 (590-10615-22) and B-25 (590-10615-23).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

Job ID: 590-10615-1 (Continued)

Laboratory: TestAmerica Spokane (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-10615-1	B-19	Water	03/12/19 11:13	03/19/19 08:23
590-10615-2	DMW-4	Water	03/12/19 11:25	03/19/19 08:23
590-10615-3	RW-8	Water	03/12/19 12:18	03/19/19 08:23
590-10615-4	T-2	Water	03/12/19 12:50	03/19/19 08:23
590-10615-5	RW-5R	Water	03/12/19 13:37	03/19/19 08:23
590-10615-6	T-3	Water	03/12/19 14:10	03/19/19 08:23
590-10615-7	G-18	Water	03/12/19 15:04	03/19/19 08:23
590-10615-8	FW-5R	Water	03/12/19 15:05	03/19/19 08:23
590-10615-9	RR-2	Water	03/12/19 16:00	03/19/19 08:23
590-10615-10	RR-4	Water	03/12/19 16:21	03/19/19 08:23
590-10615-11	RR-4-DUP	Water	03/12/19 15:54	03/19/19 08:23
590-10615-12	E-21	Water	03/13/19 08:54	03/19/19 08:23
590-10615-13	E-21-DUP	Water	03/13/19 08:54	03/19/19 08:23
590-10615-14	B-31	Water	03/13/19 09:25	03/19/19 08:23
590-10615-15	HC-111	Water	03/13/19 11:00	03/19/19 08:23
590-10615-16	E-22	Water	03/13/19 11:03	03/19/19 08:23
590-10615-17	FW-14	Water	03/13/19 12:05	03/19/19 08:23
590-10615-18	FW-13	Water	03/13/19 12:43	03/19/19 08:23
590-10615-19	DMW-2	Water	03/13/19 13:00	03/19/19 08:23
590-10615-20	RR-5	Water	03/13/19 17:15	03/19/19 08:23
590-10615-21	RR-1	Water	03/13/19 17:17	03/19/19 08:23
590-10615-22	B-34	Water	03/14/19 10:53	03/19/19 08:23
590-10615-23	B-25	Water	03/14/19 11:10	03/19/19 08:23
590-10615-24	Trip Blank	Water	03/12/19 08:00	03/19/19 08:23

Method Summary

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL SPK
5030C	Purge and Trap	SW846	TAL SPK

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Detection Summary

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Client Sample ID: B-19 — Lab Sample ID: 590-10615-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.42		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	0.36	J	1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	0.50	J	2.0	0.28	ug/L	1		8260C	Total/NA
Toluene	0.58	J	1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	0.64	J	3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	630		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.85		0.27	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.35	J	0.45	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DMW-4 — Lab Sample ID: 590-10615-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	270		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.54		0.23	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.21	J	0.38	0.11	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RW-8 — Lab Sample ID: 590-10615-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3.5		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	0.33	J	1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	0.64	J	2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.63	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	0.56	J	1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	1.3	J	3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	630		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	3.0		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	1.2		0.44	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: T-2 — Lab Sample ID: 590-10615-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.22		0.22	0.10	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.17	J	0.37	0.11	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RW-5R — Lab Sample ID: 590-10615-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.16	J	0.40	0.093	ug/L	1		8260C	Total/NA
o-Xylene	0.21	J	1.0	0.16	ug/L	1		8260C	Total/NA
Gasoline	540		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.57		0.28	0.13	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.31	J	0.47	0.14	mg/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Client Sample ID: T-3 — Lab Sample ID: 590-10615-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	470		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.61		0.23	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.38	J	0.39	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: G-18 — Lab Sample ID: 590-10615-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.88		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.92		0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-5R — Lab Sample ID: 590-10615-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.69		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	0.34	J	1.0	0.20	ug/L	1		8260C	Total/NA
Toluene	0.49	J	1.0	0.31	ug/L	1		8260C	Total/NA
Gasoline	790		150	70	ug/L	1		NWTPH-Gx	Total/NA
Naphthalene	1.9	H	0.089	0.052	ug/L	1		8270D SIM	Total/NA
2-Methylnaphthalene	290	H	8.9	4.3	ug/L	100		8270D SIM	Total/NA
1-Methylnaphthalene	290	H	8.9	2.3	ug/L	100		8270D SIM	Total/NA
Diesel Range Organics (DRO) (C10-C25)	6.3		0.23	0.10	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.99		0.38	0.11	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-2 — Lab Sample ID: 590-10615-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.15	J	0.22	0.10	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-4 — Lab Sample ID: 590-10615-10

No Detections.

Client Sample ID: RR-4-DUP — Lab Sample ID: 590-10615-11

No Detections.

Client Sample ID: E-21 — Lab Sample ID: 590-10615-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	2.5		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	2.0		0.44	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: E-21-DUP — Lab Sample ID: 590-10615-13

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Client Sample ID: E-21-DUP (Continued) — Lab Sample ID: 590-10615-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	2.5		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	2.2		0.44	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-31 — Lab Sample ID: 590-10615-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	2.0		0.23	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.44		0.39	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: HC-111 — Lab Sample ID: 590-10615-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	150		8.0	1.9	ug/L	20		8260C	Total/NA
Ethylbenzene	60		20	4.0	ug/L	20		8260C	Total/NA
m,p-Xylene	6.4	J	40	5.6	ug/L	20		8260C	Total/NA
Toluene	9.2	J	20	6.2	ug/L	20		8260C	Total/NA
Xylenes, Total	9.1	J	60	8.8	ug/L	20		8260C	Total/NA
Gasoline	1900	J	3000	1400	ug/L	20		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	4.5		0.23	0.10	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.52		0.38	0.11	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: E-22 — Lab Sample ID: 590-10615-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.53		0.40	0.093	ug/L	1		8260C	Total/NA
o-Xylene	0.16	J	1.0	0.16	ug/L	1		8260C	Total/NA
Diesel Range Organics (DRO) (C10-C25)	2.2		0.27	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.34	J	0.44	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-14 — Lab Sample ID: 590-10615-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.11	J	0.22	0.10	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-13 — Lab Sample ID: 590-10615-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	79	J	150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.34		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DMW-2 — Lab Sample ID: 590-10615-19

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Client Sample ID: DMW-2 (Continued) — Lab Sample ID: 590-10615-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	83	J	150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.86		0.23	0.10	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.21	J	0.38	0.11	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-5 — Lab Sample ID: 590-10615-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.32		0.23	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.17	J	0.39	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-1 — Lab Sample ID: 590-10615-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.17	J	0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-34 — Lab Sample ID: 590-10615-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	130		4.0	0.93	ug/L	10		8260C	Total/NA
Ethylbenzene	4.3		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	0.63	J	2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.54	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	3.1		1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	1.2	J	3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	1300		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	7.4		0.27	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.62		0.44	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-25 — Lab Sample ID: 590-10615-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120		4.0	0.93	ug/L	10		8260C	Total/NA
m,p-Xylene	4.8	J	20	2.8	ug/L	10		8260C	Total/NA
Toluene	3.4	J	10	3.1	ug/L	10		8260C	Total/NA
Xylenes, Total	5.9	J	30	4.4	ug/L	10		8260C	Total/NA
Gasoline	2300		1500	700	ug/L	10		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.72		0.23	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.11	J	0.38	0.11	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 590-10615-24

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-19

Lab Sample ID: 590-10615-1

Date Collected: 03/12/19 11:13

Matrix: Water

Date Received: 03/19/19 08:23

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.42**		0.40	0.093	ug/L			03/22/19 18:48	1
Ethylbenzene	**0.36**	**J**	1.0	0.20	ug/L			03/22/19 18:48	1
m,p-Xylene	**0.50**	**J**	2.0	0.28	ug/L			03/22/19 18:48	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 18:48	1
Toluene	**0.58**	**J**	1.0	0.31	ug/L			03/22/19 18:48	1
Xylenes, Total	**0.64**	**J**	3.0	0.44	ug/L			03/22/19 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 125*		*03/22/19 18:48*	*1*
4-Bromofluorobenzene (Surr)	*100*		*69 - 120*		*03/22/19 18:48*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*03/22/19 18:48*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*03/22/19 18:48*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**630**		150	70	ug/L			03/22/19 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*68.7 - 141*		*03/22/19 18:48*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.85**		0.27	0.12	mg/L		03/22/19 16:36	03/23/19 10:20	1
Residual Range Organics (RRO) (C25-C36)	**0.35**	**J**	0.45	0.13	mg/L		03/22/19 16:36	03/23/19 10:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*03/22/19 16:36*	*03/23/19 10:20*	*1*
n-Triacontane-d62	*78*		*50 - 150*	*03/22/19 16:36*	*03/23/19 10:20*	*1*

Client Sample ID: DMW-4

Lab Sample ID: 590-10615-2

Date Collected: 03/12/19 11:25

Matrix: Water

Date Received: 03/19/19 08:23

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 19:10	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 19:10	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 19:10	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 19:10	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 19:10	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 125*		*03/22/19 19:10*	*1*
4-Bromofluorobenzene (Surr)	*79*		*69 - 120*		*03/22/19 19:10*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/22/19 19:10*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*03/22/19 19:10*	*1*

Client Sample ID: DMW-4

Date Collected: 03/12/19 11:25
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	270		150	70	ug/L			03/22/19 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*68.7 - 141*		*03/22/19 19:10*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.54		0.23	0.11	mg/L		03/22/19 16:36	03/23/19 10:40	1
Residual Range Organics (RRO) (C25-C36)	0.21	J	0.38	0.11	mg/L		03/22/19 16:36	03/23/19 10:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*86*		*50 - 150*	*03/22/19 16:36*	*03/23/19 10:40*	*1*
n-Triacontane-d62	*82*		*50 - 150*	*03/22/19 16:36*	*03/23/19 10:40*	*1*

Client Sample ID: RW-8

Date Collected: 03/12/19 12:18
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.5		0.40	0.093	ug/L			03/22/19 19:33	1
Ethylbenzene	0.33	J	1.0	0.20	ug/L			03/22/19 19:33	1
m,p-Xylene	0.64	J	2.0	0.28	ug/L			03/22/19 19:33	1
o-Xylene	0.63	J	1.0	0.16	ug/L			03/22/19 19:33	1
Toluene	0.56	J	1.0	0.31	ug/L			03/22/19 19:33	1
Xylenes, Total	1.3	J	3.0	0.44	ug/L			03/22/19 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 125*		*03/22/19 19:33*	*1*
4-Bromofluorobenzene (Surr)	*103*		*69 - 120*		*03/22/19 19:33*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*03/22/19 19:33*	*1*
Toluene-d8 (Surr)	*109*		*80 - 120*		*03/22/19 19:33*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	630		150	70	ug/L			03/22/19 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*68.7 - 141*		*03/22/19 19:33*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	3.0		0.26	0.12	mg/L		03/22/19 16:36	03/23/19 10:59	1
Residual Range Organics (RRO) (C25-C36)	1.2		0.44	0.13	mg/L		03/22/19 16:36	03/23/19 10:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*03/22/19 16:36*	*03/23/19 10:59*	*1*
n-Triacontane-d62	*95*		*50 - 150*	*03/22/19 16:36*	*03/23/19 10:59*	*1*

Client Sample ID: T-2

Lab Sample ID: 590-10615-4
Date Collected: 03/12/19 12:50
Matrix: Water
Date Received: 03/19/19 08:23

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 19:55	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 19:55	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 19:55	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 19:55	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 19:55	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 125*		*03/22/19 19:55*	*1*
4-Bromofluorobenzene (Surr)	*105*		*69 - 120*		*03/22/19 19:55*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*03/22/19 19:55*	*1*
Toluene-d8 (Surr)	*109*		*80 - 120*		*03/22/19 19:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*68.7 - 141*		*03/22/19 19:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.22**		0.22	0.10	mg/L		03/22/19 16:36	03/23/19 11:19	1
Residual Range Organics (RRO) (C25-C36)	**0.17**	**J**	0.37	0.11	mg/L		03/22/19 16:36	03/23/19 11:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*03/22/19 16:36*	*03/23/19 11:19*	*1*
n-Triacontane-d62	*91*		*50 - 150*	*03/22/19 16:36*	*03/23/19 11:19*	*1*

Client Sample ID: RW-5R

Lab Sample ID: 590-10615-5
Date Collected: 03/12/19 13:37
Matrix: Water
Date Received: 03/19/19 08:23

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.16**	**J**	0.40	0.093	ug/L			03/22/19 20:17	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 20:17	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 20:17	1
o-Xylene	**0.21**	**J**	1.0	0.16	ug/L			03/22/19 20:17	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 20:17	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 20:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 125*		*03/22/19 20:17*	*1*
4-Bromofluorobenzene (Surr)	*78*		*69 - 120*		*03/22/19 20:17*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*03/22/19 20:17*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/22/19 20:17*	*1*

Client Sample ID: RW-5R

Date Collected: 03/12/19 13:37
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	540		150	70	ug/L			03/22/19 20:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*68.7 - 141*		*03/22/19 20:17*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.57		0.28	0.13	mg/L		03/22/19 16:36	03/23/19 11:38	1
Residual Range Organics (RRO) (C25-C36)	0.31	J	0.47	0.14	mg/L		03/22/19 16:36	03/23/19 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*81*		*50 - 150*	*03/22/19 16:36*	*03/23/19 11:38*	*1*
n-Triacontane-d62	*80*		*50 - 150*	*03/22/19 16:36*	*03/23/19 11:38*	*1*

Client Sample ID: T-3

Date Collected: 03/12/19 14:10
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 21:46	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 21:46	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 21:46	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 21:46	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 21:46	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 21:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 125*		*03/22/19 21:46*	*1*
4-Bromofluorobenzene (Surr)	*102*		*69 - 120*		*03/22/19 21:46*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*03/22/19 21:46*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*03/22/19 21:46*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	470		150	70	ug/L			03/25/19 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*68.7 - 141*		*03/25/19 20:48*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.61		0.23	0.11	mg/L		03/22/19 16:36	03/23/19 12:58	1
Residual Range Organics (RRO) (C25-C36)	0.38	J	0.39	0.12	mg/L		03/22/19 16:36	03/23/19 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*03/22/19 16:36*	*03/23/19 12:58*	*1*
n-Triacontane-d62	*76*		*50 - 150*	*03/22/19 16:36*	*03/23/19 12:58*	*1*

Client Sample ID: G-18

Date Collected: 03/12/19 15:04
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 22:08	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 22:08	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 22:08	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 22:08	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 22:08	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 22:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 125*		*03/22/19 22:08*	*1*
4-Bromofluorobenzene (Surr)	*101*		*69 - 120*		*03/22/19 22:08*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*03/22/19 22:08*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*03/22/19 22:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/25/19 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*68.7 - 141*		*03/25/19 21:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.88**		0.26	0.12	mg/L		03/22/19 16:36	03/23/19 13:17	1
Residual Range Organics (RRO) (C25-C36)	**0.92**		0.43	0.13	mg/L		03/22/19 16:36	03/23/19 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*03/22/19 16:36*	*03/23/19 13:17*	*1*
n-Triacontane-d62	*82*		*50 - 150*	*03/22/19 16:36*	*03/23/19 13:17*	*1*

Client Sample ID: FW-5R

Date Collected: 03/12/19 15:05
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.69**		0.40	0.093	ug/L			03/22/19 22:30	1
Ethylbenzene	**0.34**	**J**	1.0	0.20	ug/L			03/22/19 22:30	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 22:30	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 22:30	1
Toluene	**0.49**	**J**	1.0	0.31	ug/L			03/22/19 22:30	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 22:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 125*		*03/22/19 22:30*	*1*
4-Bromofluorobenzene (Surr)	*102*		*69 - 120*		*03/22/19 22:30*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*03/22/19 22:30*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*03/22/19 22:30*	*1*

Client Sample ID: FW-5R

Date Collected: 03/12/19 15:05
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	790		150	70	ug/L			03/25/19 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*68.7 - 141*		*03/25/19 21:30*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	1.9	H	0.089	0.052	ug/L		03/20/19 13:51	03/20/19 15:53	1
2-Methylnaphthalene	290	H	8.9	4.3	ug/L		03/20/19 13:51	03/20/19 17:13	100
1-Methylnaphthalene	290	H	8.9	2.3	ug/L		03/20/19 13:51	03/20/19 17:13	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*78*		*45 - 126*	*03/20/19 13:51*	*03/20/19 15:53*	*1*
Nitrobenzene-d5	*171*	*X*	*45 - 126*	*03/20/19 13:51*	*03/20/19 17:13*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	6.3		0.23	0.10	mg/L		03/22/19 16:36	03/23/19 13:37	1
Residual Range Organics (RRO) (C25-C36)	0.99		0.38	0.11	mg/L		03/22/19 16:36	03/23/19 13:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*50 - 150*	*03/22/19 16:36*	*03/23/19 13:37*	*1*
n-Triacontane-d62	*88*		*50 - 150*	*03/22/19 16:36*	*03/23/19 13:37*	*1*

Client Sample ID: RR-2

Date Collected: 03/12/19 16:00
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 22:53	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 22:53	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 22:53	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 22:53	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 22:53	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 125*		*03/22/19 22:53*	*1*
4-Bromofluorobenzene (Surr)	*101*		*69 - 120*		*03/22/19 22:53*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*03/22/19 22:53*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*03/22/19 22:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/25/19 21:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*68.7 - 141*		*03/25/19 21:52*	*1*

Client Sample ID: RR-2

Date Collected: 03/12/19 16:00
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-9
Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	H	0.084	0.050	ug/L		03/20/19 13:51	03/20/19 16:20	1
2-Methylnaphthalene	ND	H	0.084	0.041	ug/L		03/20/19 13:51	03/20/19 16:20	1
1-Methylnaphthalene	ND	H	0.084	0.022	ug/L		03/20/19 13:51	03/20/19 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*79*		*45 - 126*	*03/20/19 13:51*	*03/20/19 16:20*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.15**	**J**	0.22	0.10	mg/L		03/22/19 16:36	03/23/19 13:57	1
Residual Range Organics (RRO) (C25-C36)	ND		0.37	0.11	mg/L		03/22/19 16:36	03/23/19 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*78*		*50 - 150*	*03/22/19 16:36*	*03/23/19 13:57*	*1*
n-Triacontane-d62	*74*		*50 - 150*	*03/22/19 16:36*	*03/23/19 13:57*	*1*

Client Sample ID: RR-4

Date Collected: 03/12/19 16:21
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 23:15	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 23:15	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 23:15	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 23:15	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 23:15	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 125*		*03/22/19 23:15*	*1*
4-Bromofluorobenzene (Surr)	*95*		*69 - 120*		*03/22/19 23:15*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*03/22/19 23:15*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*03/22/19 23:15*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/25/19 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*68.7 - 141*		*03/25/19 22:13*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.26	0.12	mg/L		03/22/19 16:36	03/23/19 14:17	1
Residual Range Organics (RRO) (C25-C36)	ND		0.43	0.13	mg/L		03/22/19 16:36	03/23/19 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*50 - 150*	*03/22/19 16:36*	*03/23/19 14:17*	*1*

Client Sample ID: RR-4

Date Collected: 03/12/19 16:21
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-10
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Triacontane-d62	*72*		*50 - 150*	*03/22/19 16:36*	*03/23/19 14:17*	*1*

Client Sample ID: RR-4-DUP

Date Collected: 03/12/19 15:54
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-11
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 13:49	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 13:49	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 13:49	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 13:49	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 13:49	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 13:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 125*		*03/22/19 13:49*	*1*
4-Bromofluorobenzene (Surr)	*102*		*69 - 120*		*03/22/19 13:49*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*03/22/19 13:49*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/22/19 13:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 13:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*102*		*68.7 - 141*		*03/22/19 13:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.25	0.12	mg/L		03/22/19 16:36	03/23/19 14:36	1
Residual Range Organics (RRO) (C25-C36)	ND		0.42	0.13	mg/L		03/22/19 16:36	03/23/19 14:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*80*		*50 - 150*	*03/22/19 16:36*	*03/23/19 14:36*	*1*
n-Triacontane-d62	*67*		*50 - 150*	*03/22/19 16:36*	*03/23/19 14:36*	*1*

Client Sample ID: E-21

Date Collected: 03/13/19 08:54
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-12
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 14:11	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 14:11	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 14:11	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 14:11	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 14:11	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 14:11	1

Client Sample ID: E-21

Lab Sample ID: 590-10615-12
Matrix: Water
Date Collected: 03/13/19 08:54
Date Received: 03/19/19 08:23

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 125*		*03/22/19 14:11*	*1*
4-Bromofluorobenzene (Surr)	*97*		*69 - 120*		*03/22/19 14:11*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/22/19 14:11*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/22/19 14:11*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*68.7 - 141*		*03/22/19 14:11*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**2.5**		0.26	0.12	mg/L		03/22/19 16:36	03/23/19 14:56	1
Residual Range Organics (RRO) (C25-C36)	**2.0**		0.44	0.13	mg/L		03/22/19 16:36	03/23/19 14:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*03/22/19 16:36*	*03/23/19 14:56*	*1*
n-Triacontane-d62	*84*		*50 - 150*	*03/22/19 16:36*	*03/23/19 14:56*	*1*

Client Sample ID: E-21-DUP

Lab Sample ID: 590-10615-13
Matrix: Water
Date Collected: 03/13/19 08:54
Date Received: 03/19/19 08:23

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 14:32	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 14:32	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 14:32	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 14:32	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 14:32	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 125*		*03/22/19 14:32*	*1*
4-Bromofluorobenzene (Surr)	*98*		*69 - 120*		*03/22/19 14:32*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*03/22/19 14:32*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*03/22/19 14:32*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*68.7 - 141*		*03/22/19 14:32*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**2.5**		0.26	0.12	mg/L		03/22/19 16:36	03/23/19 15:16	1

Client Sample ID: E-21-DUP

Lab Sample ID: 590-10615-13
Date Collected: 03/13/19 08:54
Matrix: Water
Date Received: 03/19/19 08:23

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Residual Range Organics (RRO) (C25-C36)	**2.2**		0.44	0.13	mg/L		03/22/19 16:36	03/23/19 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*03/22/19 16:36*	*03/23/19 15:16*	*1*
n-Triacontane-d62	*85*		*50 - 150*	*03/22/19 16:36*	*03/23/19 15:16*	*1*

Client Sample ID: B-31

Lab Sample ID: 590-10615-14
Date Collected: 03/13/19 09:25
Matrix: Water
Date Received: 03/19/19 08:23

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 14:53	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 14:53	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 14:53	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 14:53	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 14:53	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 125*		*03/22/19 14:53*	*1*
4-Bromofluorobenzene (Surr)	*100*		*69 - 120*		*03/22/19 14:53*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*03/22/19 14:53*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/22/19 14:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*68.7 - 141*		*03/22/19 14:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**2.0**		0.23	0.11	mg/L		03/22/19 16:36	03/23/19 15:36	1
Residual Range Organics (RRO) (C25-C36)	**0.44**		0.39	0.12	mg/L		03/22/19 16:36	03/23/19 15:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*03/22/19 16:36*	*03/23/19 15:36*	*1*
n-Triacontane-d62	*87*		*50 - 150*	*03/22/19 16:36*	*03/23/19 15:36*	*1*

Client Sample ID: HC-111

Lab Sample ID: 590-10615-15
Date Collected: 03/13/19 11:00
Matrix: Water
Date Received: 03/19/19 08:23

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**150**		8.0	1.9	ug/L			03/22/19 15:13	20
Ethylbenzene	**60**		20	4.0	ug/L			03/22/19 15:13	20

Client Sample ID: HC-111

Date Collected: 03/13/19 11:00
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-15

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	6.4	J	40	5.6	ug/L			03/22/19 15:13	20
o-Xylene	ND		20	3.2	ug/L			03/22/19 15:13	20
Toluene	9.2	J	20	6.2	ug/L			03/22/19 15:13	20
Xylenes, Total	9.1	J	60	8.8	ug/L			03/22/19 15:13	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 125*		*03/22/19 15:13*	*20*
4-Bromofluorobenzene (Surr)	*99*		*69 - 120*		*03/22/19 15:13*	*20*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/22/19 15:13*	*20*
Toluene-d8 (Surr)	*102*		*80 - 120*		*03/22/19 15:13*	*20*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1900	J	3000	1400	ug/L			03/22/19 15:13	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*68.7 - 141*		*03/22/19 15:13*	*20*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	4.5		0.23	0.10	mg/L		03/27/19 11:23	03/27/19 14:38	1
Residual Range Organics (RRO) (C25-C36)	0.52		0.38	0.11	mg/L		03/27/19 11:23	03/27/19 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*03/27/19 11:23*	*03/27/19 14:38*	*1*
n-Triacontane-d62	*86*		*50 - 150*	*03/27/19 11:23*	*03/27/19 14:38*	*1*

Client Sample ID: E-22

Date Collected: 03/13/19 11:03
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-16

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.53		0.40	0.093	ug/L			03/22/19 15:34	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 15:34	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 15:34	1
o-Xylene	0.16	J	1.0	0.16	ug/L			03/22/19 15:34	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 15:34	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 125*		*03/22/19 15:34*	*1*
4-Bromofluorobenzene (Surr)	*97*		*69 - 120*		*03/22/19 15:34*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*03/22/19 15:34*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/22/19 15:34*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 15:34	1

Client Sample ID: E-22

Date Collected: 03/13/19 11:03
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-16
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141		03/22/19 15:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	2.2		0.27	0.12	mg/L		03/27/19 11:23	03/27/19 14:57	1
Residual Range Organics (RRO) (C25-C36)	0.34	J	0.44	0.13	mg/L		03/27/19 11:23	03/27/19 14:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	03/27/19 11:23	03/27/19 14:57	1
n-Triacontane-d62	84		50 - 150	03/27/19 11:23	03/27/19 14:57	1

Client Sample ID: FW-14

Date Collected: 03/13/19 12:05
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-17
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 15:57	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 15:57	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 15:57	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 15:57	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 15:57	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 15:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 125		03/22/19 15:57	1
4-Bromofluorobenzene (Surr)	96		69 - 120		03/22/19 15:57	1
Dibromofluoromethane (Surr)	104		80 - 120		03/22/19 15:57	1
Toluene-d8 (Surr)	102		80 - 120		03/22/19 15:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 15:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		68.7 - 141		03/22/19 15:57	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.085	0.050	ug/L		03/20/19 13:51	03/20/19 16:46	1
2-Methylnaphthalene	ND		0.085	0.041	ug/L		03/20/19 13:51	03/20/19 16:46	1
1-Methylnaphthalene	ND		0.085	0.022	ug/L		03/20/19 13:51	03/20/19 16:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	78		45 - 126	03/20/19 13:51	03/20/19 16:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.11	J	0.22	0.10	mg/L		03/27/19 11:23	03/27/19 15:17	1

Client Sample ID: FW-14

Date Collected: 03/13/19 12:05
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-17
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Residual Range Organics (RRO) (C25-C36)	ND		0.37	0.11	mg/L		03/27/19 11:23	03/27/19 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*03/27/19 11:23*	*03/27/19 15:17*	*1*
n-Triacontane-d62	*77*		*50 - 150*	*03/27/19 11:23*	*03/27/19 15:17*	*1*

Client Sample ID: FW-13

Date Collected: 03/13/19 12:43
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-18
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 16:18	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 16:18	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 16:18	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 16:18	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 16:18	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 125*		*03/22/19 16:18*	*1*
4-Bromofluorobenzene (Surr)	*94*		*69 - 120*		*03/22/19 16:18*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*03/22/19 16:18*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/22/19 16:18*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**79**	**J**	150	70	ug/L			03/22/19 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*68.7 - 141*		*03/22/19 16:18*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.34**		0.26	0.12	mg/L		03/27/19 11:23	03/27/19 15:37	1
Residual Range Organics (RRO) (C25-C36)	ND		0.44	0.13	mg/L		03/27/19 11:23	03/27/19 15:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*03/27/19 11:23*	*03/27/19 15:37*	*1*
n-Triacontane-d62	*79*		*50 - 150*	*03/27/19 11:23*	*03/27/19 15:37*	*1*

Client Sample ID: DMW-2

Date Collected: 03/13/19 13:00
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-19
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 17:01	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 17:01	1

Client Sample ID: DMW-2

Date Collected: 03/13/19 13:00
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-19
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 17:01	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 17:01	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 17:01	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 125*		*03/22/19 17:01*	*1*
4-Bromofluorobenzene (Surr)	*92*		*69 - 120*		*03/22/19 17:01*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*03/22/19 17:01*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*03/22/19 17:01*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**83**	**J**	150	70	ug/L			03/22/19 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*68.7 - 141*		*03/22/19 17:01*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.86**		0.23	0.10	mg/L		03/27/19 11:23	03/27/19 15:56	1
Residual Range Organics (RRO) (C25-C36)	**0.21**	**J**	0.38	0.11	mg/L		03/27/19 11:23	03/27/19 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*03/27/19 11:23*	*03/27/19 15:56*	*1*
n-Triacontane-d62	*85*		*50 - 150*	*03/27/19 11:23*	*03/27/19 15:56*	*1*

Client Sample ID: RR-5

Date Collected: 03/13/19 17:15
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-20
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 17:22	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 17:22	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 17:22	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 17:22	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 17:22	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 125*		*03/22/19 17:22*	*1*
4-Bromofluorobenzene (Surr)	*95*		*69 - 120*		*03/22/19 17:22*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/22/19 17:22*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/22/19 17:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 17:22	1

Client Sample ID: RR-5

Date Collected: 03/13/19 17:15
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-20
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*95*		*68.7 - 141*		*03/22/19 17:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.32**		0.23	0.11	mg/L		03/27/19 11:23	03/27/19 16:16	1
Residual Range Organics (RRO) (C25-C36)	**0.17**	**J**	0.39	0.12	mg/L		03/27/19 11:23	03/27/19 16:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*86*		*50 - 150*	*03/27/19 11:23*	*03/27/19 16:16*	*1*
n-Triacontane-d62	*76*		*50 - 150*	*03/27/19 11:23*	*03/27/19 16:16*	*1*

Client Sample ID: RR-1

Date Collected: 03/13/19 17:17
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-21
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 17:43	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 17:43	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 17:43	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 17:43	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 17:43	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 125*		*03/22/19 17:43*	*1*
4-Bromofluorobenzene (Surr)	*97*		*69 - 120*		*03/22/19 17:43*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*03/22/19 17:43*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*03/22/19 17:43*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*97*		*68.7 - 141*		*03/22/19 17:43*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.17**	**J**	0.25	0.11	mg/L		03/27/19 11:23	03/27/19 16:35	1
Residual Range Organics (RRO) (C25-C36)	ND		0.41	0.12	mg/L		03/27/19 11:23	03/27/19 16:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*79*		*50 - 150*	*03/27/19 11:23*	*03/27/19 16:35*	*1*
n-Triacontane-d62	*70*		*50 - 150*	*03/27/19 11:23*	*03/27/19 16:35*	*1*

Client Sample ID: B-34

Date Collected: 03/14/19 10:53
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-22
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**130**		4.0	0.93	ug/L			03/25/19 22:55	10
Ethylbenzene	**4.3**		1.0	0.20	ug/L			03/22/19 18:04	1
m,p-Xylene	**0.63**	**J**	2.0	0.28	ug/L			03/22/19 18:04	1
o-Xylene	**0.54**	**J**	1.0	0.16	ug/L			03/22/19 18:04	1
Toluene	**3.1**		1.0	0.31	ug/L			03/22/19 18:04	1
Xylenes, Total	**1.2**	**J**	3.0	0.44	ug/L			03/22/19 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 125*		*03/22/19 18:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 125*		*03/25/19 22:55*	*10*
4-Bromofluorobenzene (Surr)	*86*		*69 - 120*		*03/22/19 18:04*	*1*
4-Bromofluorobenzene (Surr)	*90*		*69 - 120*		*03/25/19 22:55*	*10*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*03/22/19 18:04*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/25/19 22:55*	*10*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/22/19 18:04*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*03/25/19 22:55*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**1300**		150	70	ug/L			03/22/19 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*68.7 - 141*		*03/22/19 18:04*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**7.4**		0.27	0.12	mg/L		03/27/19 11:23	03/27/19 17:14	1
Residual Range Organics (RRO) (C25-C36)	**0.62**		0.44	0.13	mg/L		03/27/19 11:23	03/27/19 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*03/27/19 11:23*	*03/27/19 17:14*	*1*
n-Triacontane-d62	*83*		*50 - 150*	*03/27/19 11:23*	*03/27/19 17:14*	*1*

Client Sample ID: B-25

Date Collected: 03/14/19 11:10
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-23
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**120**		4.0	0.93	ug/L			03/22/19 18:26	10
Ethylbenzene	ND		10	2.0	ug/L			03/22/19 18:26	10
m,p-Xylene	**4.8**	**J**	20	2.8	ug/L			03/22/19 18:26	10
o-Xylene	ND		10	1.6	ug/L			03/22/19 18:26	10
Toluene	**3.4**	**J**	10	3.1	ug/L			03/22/19 18:26	10
Xylenes, Total	**5.9**	**J**	30	4.4	ug/L			03/22/19 18:26	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 125*		*03/22/19 18:26*	*10*
4-Bromofluorobenzene (Surr)	*91*		*69 - 120*		*03/22/19 18:26*	*10*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*03/22/19 18:26*	*10*

Client Sample ID: B-25

Lab Sample ID: 590-10615-23

Date Collected: 03/14/19 11:10

Matrix: Water

Date Received: 03/19/19 08:23

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/22/19 18:26*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**2300**		1500	700	ug/L			03/22/19 18:26	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*91*		*68.7 - 141*		*03/22/19 18:26*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.72**		0.23	0.11	mg/L		03/27/19 11:23	03/27/19 17:33	1
Residual Range Organics (RRO) (C25-C36)	**0.11**	**J**	0.38	0.11	mg/L		03/27/19 11:23	03/27/19 17:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*83*		*50 - 150*	*03/27/19 11:23*	*03/27/19 17:33*	*1*
n-Triacontane-d62	*74*		*50 - 150*	*03/27/19 11:23*	*03/27/19 17:33*	*1*

Client Sample ID: Trip Blank

Lab Sample ID: 590-10615-24

Date Collected: 03/12/19 08:00

Matrix: Water

Date Received: 03/19/19 08:23

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 18:47	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 18:47	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 18:47	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 18:47	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 18:47	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 125*		*03/22/19 18:47*	*1*
4-Bromofluorobenzene (Surr)	*96*		*69 - 120*		*03/22/19 18:47*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*03/22/19 18:47*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/22/19 18:47*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 590-21431/5
Matrix: Water
Analysis Batch: 21431

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 13:46	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 13:46	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 13:46	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 13:46	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 13:46	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 13:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 125*		*03/22/19 13:46*	*1*
4-Bromofluorobenzene (Surr)	*103*		*69 - 120*		*03/22/19 13:46*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*03/22/19 13:46*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*03/22/19 13:46*	*1*

Lab Sample ID: LCS 590-21431/1003
Matrix: Water
Analysis Batch: 21431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			10.0	9.21		ug/L		92	80 - 120		
Ethylbenzene			10.0	9.88		ug/L		99	80 - 120		
m,p-Xylene			10.0	9.90		ug/L		99	80 - 120		
o-Xylene			10.0	10.3		ug/L		103	80 - 120		
Toluene			10.0	9.58		ug/L		96	80 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 125*
4-Bromofluorobenzene (Surr)	*102*		*69 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 590-21431/6
Matrix: Water
Analysis Batch: 21431

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			10.0	9.76		ug/L		98	80 - 120	6	25
Ethylbenzene			10.0	10.2		ug/L		102	80 - 120	3	25
m,p-Xylene			10.0	10.0		ug/L		100	80 - 120	1	25
o-Xylene			10.0	10.5		ug/L		105	80 - 120	2	25
Toluene			10.0	10.1		ug/L		101	80 - 123	6	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 125*
4-Bromofluorobenzene (Surr)	*106*		*69 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

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

Lab Sample ID: 590-10615-5 MS
Matrix: Water
Analysis Batch: 21431

Client Sample ID: RW-5R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.16	J	10.0	10.1		ug/L		99	50 - 150
Ethylbenzene	ND		10.0	10.4		ug/L		104	50 - 150
m,p-Xylene	ND		10.0	9.84		ug/L		98	50 - 150
o-Xylene	0.21	J	10.0	10.6		ug/L		104	50 - 150
Toluene	ND		10.0	10.4		ug/L		104	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 125*
4-Bromofluorobenzene (Surr)	*75*		*69 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*106*		*80 - 120*

Lab Sample ID: 590-10615-5 MSD
Matrix: Water
Analysis Batch: 21431

Client Sample ID: RW-5R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.16	J	10.0	9.48		ug/L		93	50 - 150	6	35
Ethylbenzene	ND		10.0	9.97		ug/L		100	50 - 150	4	35
m,p-Xylene	ND		10.0	9.63		ug/L		96	50 - 150	2	35
o-Xylene	0.21	J	10.0	9.69		ug/L		95	50 - 150	9	35
Toluene	ND		10.0	9.58		ug/L		96	50 - 150	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 125*
4-Bromofluorobenzene (Surr)	*99*		*69 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 590-21432/5
Matrix: Water
Analysis Batch: 21432

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/22/19 12:44	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/22/19 12:44	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/22/19 12:44	1
o-Xylene	ND		1.0	0.16	ug/L			03/22/19 12:44	1
Toluene	ND		1.0	0.31	ug/L			03/22/19 12:44	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/22/19 12:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 125*		*03/22/19 12:44*	*1*
4-Bromofluorobenzene (Surr)	*101*		*69 - 120*		*03/22/19 12:44*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*03/22/19 12:44*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*03/22/19 12:44*	*1*

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

Lab Sample ID: LCS 590-21432/1003
Matrix: Water
Analysis Batch: 21432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	11.5		ug/L		115	80 - 120
Ethylbenzene	10.0	10.9		ug/L		109	80 - 120
m,p-Xylene	10.0	11.0		ug/L		110	80 - 120
o-Xylene	10.0	10.7		ug/L		107	80 - 120
Toluene	10.0	10.9		ug/L		109	80 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 125*
4-Bromofluorobenzene (Surr)	*94*		*69 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: LCSD 590-21432/6
Matrix: Water
Analysis Batch: 21432

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	11.7		ug/L		117	80 - 120	2	25
Ethylbenzene	10.0	11.1		ug/L		111	80 - 120	2	25
m,p-Xylene	10.0	11.2		ug/L		112	80 - 120	1	25
o-Xylene	10.0	11.3		ug/L		113	80 - 120	5	25
Toluene	10.0	10.9		ug/L		109	80 - 123	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 125*
4-Bromofluorobenzene (Surr)	*95*		*69 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 590-21468/5
Matrix: Water
Analysis Batch: 21468

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			03/25/19 18:19	1
Ethylbenzene	ND		1.0	0.20	ug/L			03/25/19 18:19	1
m,p-Xylene	ND		2.0	0.28	ug/L			03/25/19 18:19	1
o-Xylene	ND		1.0	0.16	ug/L			03/25/19 18:19	1
Toluene	ND		1.0	0.31	ug/L			03/25/19 18:19	1
Xylenes, Total	ND		3.0	0.44	ug/L			03/25/19 18:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 125*		*03/25/19 18:19*	*1*
4-Bromofluorobenzene (Surr)	*94*		*69 - 120*		*03/25/19 18:19*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*03/25/19 18:19*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/25/19 18:19*	*1*

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

Lab Sample ID: LCS 590-21468/1003
Matrix: Water
Analysis Batch: 21468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	11.3		ug/L		113	80 - 120
Ethylbenzene	10.0	11.0		ug/L		110	80 - 120
m,p-Xylene	10.0	11.2		ug/L		112	80 - 120
o-Xylene	10.0	11.3		ug/L		113	80 - 120
Toluene	10.0	11.0		ug/L		110	80 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 125*
4-Bromofluorobenzene (Surr)	*93*		*69 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 590-21468/6
Matrix: Water
Analysis Batch: 21468

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	11.9		ug/L		119	80 - 120	5	25
Ethylbenzene	10.0	11.6		ug/L		116	80 - 120	6	25
m,p-Xylene	10.0	11.8		ug/L		118	80 - 120	5	25
o-Xylene	10.0	11.9		ug/L		119	80 - 120	5	25
Toluene	10.0	11.6		ug/L		116	80 - 123	5	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 125*
4-Bromofluorobenzene (Surr)	*92*		*69 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

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

Lab Sample ID: MB 590-21430/5
Matrix: Water
Analysis Batch: 21430

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 13:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*68.7 - 141*		*03/22/19 13:46*	*1*

Lab Sample ID: LCS 590-21430/1004
Matrix: Water
Analysis Batch: 21430

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1000	922		ug/L		92	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		68.7 - 141

Lab Sample ID: LCSD 590-21430/1015
Matrix: Water
Analysis Batch: 21430

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1000	900		ug/L		90	80 - 120	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		68.7 - 141

Lab Sample ID: MB 590-21433/5
Matrix: Water
Analysis Batch: 21433

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/22/19 12:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		68.7 - 141		03/22/19 12:44	1

Lab Sample ID: LCS 590-21433/1004
Matrix: Water
Analysis Batch: 21433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1000	1100		ug/L		110	80 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		68.7 - 141

Lab Sample ID: LCSD 590-21433/1015
Matrix: Water
Analysis Batch: 21433

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1000	1080		ug/L		108	80 - 120	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		68.7 - 141

Lab Sample ID: MB 590-21469/5
Matrix: Water
Analysis Batch: 21469

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			03/25/19 18:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		68.7 - 141		03/25/19 18:19	1

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

Lab Sample ID: LCS 590-21469/1004
Matrix: Water
Analysis Batch: 21469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1000	1120		ug/L		112	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*68.7 - 141*

Lab Sample ID: LCSD 590-21469/1017
Matrix: Water
Analysis Batch: 21469

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1000	1090		ug/L		109	80 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*68.7 - 141*

Lab Sample ID: 590-10615-5 MS
Matrix: Water
Analysis Batch: 21469

Client Sample ID: RW-5R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	540		1000	1700		ug/L		116	55.6 - 126		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*68.7 - 141*

Lab Sample ID: 590-10615-5 MSD
Matrix: Water
Analysis Batch: 21469

Client Sample ID: RW-5R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	540		1000	1720		ug/L		119	55.6 - 126	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*68.7 - 141*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-21391/1-A
Matrix: Water
Analysis Batch: 21388

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21391

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.090	0.053	ug/L		03/20/19 13:51	03/20/19 14:34	1
2-Methylnaphthalene	ND		0.090	0.044	ug/L		03/20/19 13:51	03/20/19 14:34	1
1-Methylnaphthalene	ND		0.090	0.023	ug/L		03/20/19 13:51	03/20/19 14:34	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 590-21391/1-A
Matrix: Water
Analysis Batch: 21388

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21391

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	90		45 - 126	03/20/19 13:51	03/20/19 14:34	1

Lab Sample ID: LCS 590-21391/2-A
Matrix: Water
Analysis Batch: 21388

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21391

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	1.60	1.16		ug/L		72	52 - 121
2-Methylnaphthalene	1.60	1.16		ug/L		73	44 - 134
1-Methylnaphthalene	1.60	1.19		ug/L		75	56 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	87		45 - 126

Lab Sample ID: LCSD 590-21391/3-A
Matrix: Water
Analysis Batch: 21388

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21391

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	1.60	1.12		ug/L		70	52 - 121	3	30
2-Methylnaphthalene	1.60	1.12		ug/L		70	44 - 134	4	30
1-Methylnaphthalene	1.60	1.15		ug/L		72	56 - 123	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5	92		45 - 126

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

Lab Sample ID: MB 590-21441/1-A
Matrix: Water
Analysis Batch: 21435

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.24	0.11	mg/L		03/22/19 16:36	03/23/19 07:43	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		03/22/19 16:36	03/23/19 07:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	90		50 - 150	03/22/19 16:36	03/23/19 07:43	1
n-Triacontane-d62	87		50 - 150	03/22/19 16:36	03/23/19 07:43	1

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

Lab Sample ID: LCS 590-21441/2-A
Matrix: Water
Analysis Batch: 21435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	1.60	1.21		mg/L		76	50 - 150
Residual Range Organics (RRO) (C25-C36)	1.60	1.51		mg/L		95	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*88*		*50 - 150*
n-Triacontane-d62	*92*		*50 - 150*

Lab Sample ID: LCSD 590-21441/3-A
Matrix: Water
Analysis Batch: 21435

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21441

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	1.60	1.16		mg/L		72	50 - 150	4	25
Residual Range Organics (RRO) (C25-C36)	1.60	1.50		mg/L		94	50 - 150	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*89*		*50 - 150*
n-Triacontane-d62	*91*		*50 - 150*

Lab Sample ID: 590-10615-5 MS
Matrix: Water
Analysis Batch: 21435

Client Sample ID: RW-5R
Prep Type: Total/NA
Prep Batch: 21441

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	0.57		1.77	1.76		mg/L		68	54.5 - 136
Residual Range Organics (RRO) (C25-C36)	0.31	J	1.77	1.80		mg/L		84	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*81*		*50 - 150*
n-Triacontane-d62	*84*		*50 - 150*

Lab Sample ID: 590-10615-5 MSD
Matrix: Water
Analysis Batch: 21435

Client Sample ID: RW-5R
Prep Type: Total/NA
Prep Batch: 21441

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	0.57		1.77	1.83		mg/L		71	54.5 - 136	4	32.5
Residual Range Organics (RRO) (C25-C36)	0.31	J	1.77	1.87		mg/L		88	50 - 150	4	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*82*		*50 - 150*

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

Lab Sample ID: 590-10615-5 MSD
Matrix: Water
Analysis Batch: 21435

Client Sample ID: RW-5R
Prep Type: Total/NA
Prep Batch: 21441

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Triacontane-d62	86		50 - 150

Lab Sample ID: MB 590-21485/1-A
Matrix: Water
Analysis Batch: 21487

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21485

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.24	0.11	mg/L		03/27/19 11:23	03/27/19 13:39	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		03/27/19 11:23	03/27/19 13:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	03/27/19 11:23	03/27/19 13:39	1
n-Triacontane-d62	82		50 - 150	03/27/19 11:23	03/27/19 13:39	1

Lab Sample ID: LCS 590-21485/2-A
Matrix: Water
Analysis Batch: 21487

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21485

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	1.60	1.17		mg/L		73	50 - 150
Residual Range Organics (RRO) (C25-C36)	1.60	1.42		mg/L		89	50 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	86		50 - 150
n-Triacontane-d62	87		50 - 150

Lab Sample ID: LCSD 590-21485/3-A
Matrix: Water
Analysis Batch: 21487

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21485

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	1.60	1.13		mg/L		71	50 - 150	3	25
Residual Range Organics (RRO) (C25-C36)	1.60	1.42		mg/L		89	50 - 150	0	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	90		50 - 150
n-Triacontane-d62	92		50 - 150

GC/MS VOA

Analysis Batch: 21430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-1	B-19	Total/NA	Water	NWTPH-Gx	
590-10615-2	DMW-4	Total/NA	Water	NWTPH-Gx	
590-10615-3	RW-8	Total/NA	Water	NWTPH-Gx	
590-10615-4	T-2	Total/NA	Water	NWTPH-Gx	
590-10615-5	RW-5R	Total/NA	Water	NWTPH-Gx	
MB 590-21430/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-21430/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 590-21430/1015	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 21431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-1	B-19	Total/NA	Water	8260C	
590-10615-2	DMW-4	Total/NA	Water	8260C	
590-10615-3	RW-8	Total/NA	Water	8260C	
590-10615-4	T-2	Total/NA	Water	8260C	
590-10615-5	RW-5R	Total/NA	Water	8260C	
590-10615-6	T-3	Total/NA	Water	8260C	
590-10615-7	G-18	Total/NA	Water	8260C	
590-10615-8	FW-5R	Total/NA	Water	8260C	
590-10615-9	RR-2	Total/NA	Water	8260C	
590-10615-10	RR-4	Total/NA	Water	8260C	
MB 590-21431/5	Method Blank	Total/NA	Water	8260C	
LCS 590-21431/1003	Lab Control Sample	Total/NA	Water	8260C	
LCSD 590-21431/6	Lab Control Sample Dup	Total/NA	Water	8260C	
590-10615-5 MS	RW-5R	Total/NA	Water	8260C	
590-10615-5 MSD	RW-5R	Total/NA	Water	8260C	

Analysis Batch: 21432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-11	RR-4-DUP	Total/NA	Water	8260C	
590-10615-12	E-21	Total/NA	Water	8260C	
590-10615-13	E-21-DUP	Total/NA	Water	8260C	
590-10615-14	B-31	Total/NA	Water	8260C	
590-10615-15	HC-111	Total/NA	Water	8260C	
590-10615-16	E-22	Total/NA	Water	8260C	
590-10615-17	FW-14	Total/NA	Water	8260C	
590-10615-18	FW-13	Total/NA	Water	8260C	
590-10615-19	DMW-2	Total/NA	Water	8260C	
590-10615-20	RR-5	Total/NA	Water	8260C	
590-10615-21	RR-1	Total/NA	Water	8260C	
590-10615-22	B-34	Total/NA	Water	8260C	
590-10615-23	B-25	Total/NA	Water	8260C	
590-10615-24	Trip Blank	Total/NA	Water	8260C	
MB 590-21432/5	Method Blank	Total/NA	Water	8260C	
LCS 590-21432/1003	Lab Control Sample	Total/NA	Water	8260C	
LCSD 590-21432/6	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 21433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-11	RR-4-DUP	Total/NA	Water	NWTPH-Gx	
590-10615-12	E-21	Total/NA	Water	NWTPH-Gx	

GC/MS VOA (Continued)

Analysis Batch: 21433 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-13	E-21-DUP	Total/NA	Water	NWTPH-Gx	
590-10615-14	B-31	Total/NA	Water	NWTPH-Gx	
590-10615-15	HC-111	Total/NA	Water	NWTPH-Gx	
590-10615-16	E-22	Total/NA	Water	NWTPH-Gx	
590-10615-17	FW-14	Total/NA	Water	NWTPH-Gx	
590-10615-18	FW-13	Total/NA	Water	NWTPH-Gx	
590-10615-19	DMW-2	Total/NA	Water	NWTPH-Gx	
590-10615-20	RR-5	Total/NA	Water	NWTPH-Gx	
590-10615-21	RR-1	Total/NA	Water	NWTPH-Gx	
590-10615-22	B-34	Total/NA	Water	NWTPH-Gx	
590-10615-23	B-25	Total/NA	Water	NWTPH-Gx	
MB 590-21433/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-21433/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 590-21433/1015	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 21468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-22	B-34	Total/NA	Water	8260C	
MB 590-21468/5	Method Blank	Total/NA	Water	8260C	
LCS 590-21468/1003	Lab Control Sample	Total/NA	Water	8260C	
LCSD 590-21468/6	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 21469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-6	T-3	Total/NA	Water	NWTPH-Gx	
590-10615-7	G-18	Total/NA	Water	NWTPH-Gx	
590-10615-8	FW-5R	Total/NA	Water	NWTPH-Gx	
590-10615-9	RR-2	Total/NA	Water	NWTPH-Gx	
590-10615-10	RR-4	Total/NA	Water	NWTPH-Gx	
MB 590-21469/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-21469/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 590-21469/1017	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
590-10615-5 MS	RW-5R	Total/NA	Water	NWTPH-Gx	
590-10615-5 MSD	RW-5R	Total/NA	Water	NWTPH-Gx	

GC/MS Semi VOA

Analysis Batch: 21388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-8	FW-5R	Total/NA	Water	8270D SIM	21391
590-10615-8	FW-5R	Total/NA	Water	8270D SIM	21391
590-10615-9	RR-2	Total/NA	Water	8270D SIM	21391
590-10615-17	FW-14	Total/NA	Water	8270D SIM	21391
MB 590-21391/1-A	Method Blank	Total/NA	Water	8270D SIM	21391
LCS 590-21391/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	21391
LCSD 590-21391/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	21391

Prep Batch: 21391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-8	FW-5R	Total/NA	Water	3510C	

GC/MS Semi VOA (Continued)

Prep Batch: 21391 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-9	RR-2	Total/NA	Water	3510C	
590-10615-17	FW-14	Total/NA	Water	3510C	
MB 590-21391/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-21391/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-21391/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

GC Semi VOA

Analysis Batch: 21435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-1	B-19	Total/NA	Water	NWTPH-Dx	21441
590-10615-2	DMW-4	Total/NA	Water	NWTPH-Dx	21441
590-10615-3	RW-8	Total/NA	Water	NWTPH-Dx	21441
590-10615-4	T-2	Total/NA	Water	NWTPH-Dx	21441
590-10615-5	RW-5R	Total/NA	Water	NWTPH-Dx	21441
590-10615-6	T-3	Total/NA	Water	NWTPH-Dx	21441
590-10615-7	G-18	Total/NA	Water	NWTPH-Dx	21441
590-10615-8	FW-5R	Total/NA	Water	NWTPH-Dx	21441
590-10615-9	RR-2	Total/NA	Water	NWTPH-Dx	21441
590-10615-10	RR-4	Total/NA	Water	NWTPH-Dx	21441
590-10615-11	RR-4-DUP	Total/NA	Water	NWTPH-Dx	21441
590-10615-12	E-21	Total/NA	Water	NWTPH-Dx	21441
590-10615-13	E-21-DUP	Total/NA	Water	NWTPH-Dx	21441
590-10615-14	B-31	Total/NA	Water	NWTPH-Dx	21441
MB 590-21441/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	21441
LCS 590-21441/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	21441
LCSD 590-21441/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	21441
590-10615-5 MS	RW-5R	Total/NA	Water	NWTPH-Dx	21441
590-10615-5 MSD	RW-5R	Total/NA	Water	NWTPH-Dx	21441

Prep Batch: 21441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-1	B-19	Total/NA	Water	3510C	
590-10615-2	DMW-4	Total/NA	Water	3510C	
590-10615-3	RW-8	Total/NA	Water	3510C	
590-10615-4	T-2	Total/NA	Water	3510C	
590-10615-5	RW-5R	Total/NA	Water	3510C	
590-10615-6	T-3	Total/NA	Water	3510C	
590-10615-7	G-18	Total/NA	Water	3510C	
590-10615-8	FW-5R	Total/NA	Water	3510C	
590-10615-9	RR-2	Total/NA	Water	3510C	
590-10615-10	RR-4	Total/NA	Water	3510C	
590-10615-11	RR-4-DUP	Total/NA	Water	3510C	
590-10615-12	E-21	Total/NA	Water	3510C	
590-10615-13	E-21-DUP	Total/NA	Water	3510C	
590-10615-14	B-31	Total/NA	Water	3510C	
MB 590-21441/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-21441/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-21441/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
590-10615-5 MS	RW-5R	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 21441 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-5 MSD	RW-5R	Total/NA	Water	3510C	

Prep Batch: 21485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-15	HC-111	Total/NA	Water	3510C	
590-10615-16	E-22	Total/NA	Water	3510C	
590-10615-17	FW-14	Total/NA	Water	3510C	
590-10615-18	FW-13	Total/NA	Water	3510C	
590-10615-19	DMW-2	Total/NA	Water	3510C	
590-10615-20	RR-5	Total/NA	Water	3510C	
590-10615-21	RR-1	Total/NA	Water	3510C	
590-10615-22	B-34	Total/NA	Water	3510C	
590-10615-23	B-25	Total/NA	Water	3510C	
MB 590-21485/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-21485/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-21485/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 21487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-10615-15	HC-111	Total/NA	Water	NWTPH-Dx	21485
590-10615-16	E-22	Total/NA	Water	NWTPH-Dx	21485
590-10615-17	FW-14	Total/NA	Water	NWTPH-Dx	21485
590-10615-18	FW-13	Total/NA	Water	NWTPH-Dx	21485
590-10615-19	DMW-2	Total/NA	Water	NWTPH-Dx	21485
590-10615-20	RR-5	Total/NA	Water	NWTPH-Dx	21485
590-10615-21	RR-1	Total/NA	Water	NWTPH-Dx	21485
590-10615-22	B-34	Total/NA	Water	NWTPH-Dx	21485
590-10615-23	B-25	Total/NA	Water	NWTPH-Dx	21485
MB 590-21485/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	21485
LCS 590-21485/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	21485
LCSD 590-21485/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	21485

Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Client Sample ID: B-19
Date Collected: 03/12/19 11:13
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 18:48	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21430	03/22/19 18:48	MRS	TAL SPK
Total/NA	Prep	3510C			223.6 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 10:20	NMI	TAL SPK

Client Sample ID: DMW-4
Date Collected: 03/12/19 11:25
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 19:10	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21430	03/22/19 19:10	MRS	TAL SPK
Total/NA	Prep	3510C			261.2 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 10:40	NMI	TAL SPK

Client Sample ID: RW-8
Date Collected: 03/12/19 12:18
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 19:33	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21430	03/22/19 19:33	MRS	TAL SPK
Total/NA	Prep	3510C			228.3 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 10:59	NMI	TAL SPK

Client Sample ID: T-2
Date Collected: 03/12/19 12:50
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 19:55	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21430	03/22/19 19:55	MRS	TAL SPK
Total/NA	Prep	3510C			268.4 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 11:19	NMI	TAL SPK

Client Sample ID: RW-5R
Date Collected: 03/12/19 13:37
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 20:17	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21430	03/22/19 20:17	MRS	TAL SPK

Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			211.9 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 11:38	NMI	TAL SPK

Client Sample ID: T-3
Lab Sample ID: 590-10615-6

Date Collected: 03/12/19 14:10
Matrix: Water
Date Received: 03/19/19 08:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 21:46	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21469	03/25/19 20:48	MRS	TAL SPK
Total/NA	Prep	3510C			259 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 12:58	NMI	TAL SPK

Client Sample ID: G-18
Lab Sample ID: 590-10615-7

Date Collected: 03/12/19 15:04
Matrix: Water
Date Received: 03/19/19 08:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 22:08	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21469	03/25/19 21:09	MRS	TAL SPK
Total/NA	Prep	3510C			231.6 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 13:17	NMI	TAL SPK

Client Sample ID: FW-5R
Lab Sample ID: 590-10615-8

Date Collected: 03/12/19 15:05
Matrix: Water
Date Received: 03/19/19 08:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 22:30	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21469	03/25/19 21:30	MRS	TAL SPK
Total/NA	Prep	3510C			253 mL	2 mL	21391	03/20/19 13:51	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			21388	03/20/19 15:53	NMI	TAL SPK
Total/NA	Prep	3510C			253 mL	2 mL	21391	03/20/19 13:51	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		100			21388	03/20/19 17:13	NMI	TAL SPK
Total/NA	Prep	3510C			262.1 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 13:37	NMI	TAL SPK

Client Sample ID: RR-2
Lab Sample ID: 590-10615-9

Date Collected: 03/12/19 16:00
Matrix: Water
Date Received: 03/19/19 08:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 22:53	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21469	03/25/19 21:52	MRS	TAL SPK
Total/NA	Prep	3510C			267.3 mL	2 mL	21391	03/20/19 13:51	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			21388	03/20/19 16:20	NMI	TAL SPK

Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Client Sample ID: RR-2
Date Collected: 03/12/19 16:00
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			269.6 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 13:57	NMI	TAL SPK

Client Sample ID: RR-4
Date Collected: 03/12/19 16:21
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21431	03/22/19 23:15	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21469	03/25/19 22:13	MRS	TAL SPK
Total/NA	Prep	3510C			232.7 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 14:17	NMI	TAL SPK

Client Sample ID: RR-4-DUP
Date Collected: 03/12/19 15:54
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 13:49	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 13:49	MRS	TAL SPK
Total/NA	Prep	3510C			237.8 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 14:36	NMI	TAL SPK

Client Sample ID: E-21
Date Collected: 03/13/19 08:54
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 14:11	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 14:11	MRS	TAL SPK
Total/NA	Prep	3510C			229.6 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 14:56	NMI	TAL SPK

Client Sample ID: E-21-DUP
Date Collected: 03/13/19 08:54
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 14:32	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 14:32	MRS	TAL SPK
Total/NA	Prep	3510C			227 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 15:16	NMI	TAL SPK

Client Sample ID: B-31

Lab Sample ID: 590-10615-14

Date Collected: 03/13/19 09:25
Date Received: 03/19/19 08:23

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 14:53	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 14:53	MRS	TAL SPK
Total/NA	Prep	3510C			259.7 mL	2 mL	21441	03/22/19 16:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21435	03/23/19 15:36	NMI	TAL SPK

Client Sample ID: HC-111

Lab Sample ID: 590-10615-15

Date Collected: 03/13/19 11:00
Date Received: 03/19/19 08:23

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	43 mL	43 mL	21432	03/22/19 15:13	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		20	43 mL	43 mL	21433	03/22/19 15:13	MRS	TAL SPK
Total/NA	Prep	3510C			262.3 mL	2 mL	21485	03/27/19 11:23	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21487	03/27/19 14:38	NMI	TAL SPK

Client Sample ID: E-22

Lab Sample ID: 590-10615-16

Date Collected: 03/13/19 11:03
Date Received: 03/19/19 08:23

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 15:34	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 15:34	MRS	TAL SPK
Total/NA	Prep	3510C			225.6 mL	2 mL	21485	03/27/19 11:23	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21487	03/27/19 14:57	NMI	TAL SPK

Client Sample ID: FW-14

Lab Sample ID: 590-10615-17

Date Collected: 03/13/19 12:05
Date Received: 03/19/19 08:23

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 15:57	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 15:57	MRS	TAL SPK
Total/NA	Prep	3510C			265.3 mL	2 mL	21391	03/20/19 13:51	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			21388	03/20/19 16:46	NMI	TAL SPK
Total/NA	Prep	3510C			267.8 mL	2 mL	21485	03/27/19 11:23	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21487	03/27/19 15:17	NMI	TAL SPK

Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Client Sample ID: FW-13
Date Collected: 03/13/19 12:43
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 16:18	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 16:18	MRS	TAL SPK
Total/NA	Prep	3510C			228.2 mL	2 mL	21485	03/27/19 11:23	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21487	03/27/19 15:37	NMI	TAL SPK

Client Sample ID: DMW-2
Date Collected: 03/13/19 13:00
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 17:01	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 17:01	MRS	TAL SPK
Total/NA	Prep	3510C			262.5 mL	2 mL	21485	03/27/19 11:23	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21487	03/27/19 15:56	NMI	TAL SPK

Client Sample ID: RR-5
Date Collected: 03/13/19 17:15
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-20
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 17:22	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 17:22	MRS	TAL SPK
Total/NA	Prep	3510C			257.1 mL	2 mL	21485	03/27/19 11:23	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21487	03/27/19 16:16	NMI	TAL SPK

Client Sample ID: RR-1
Date Collected: 03/13/19 17:17
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-21
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 17:43	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 17:43	MRS	TAL SPK
Total/NA	Prep	3510C			241.5 mL	2 mL	21485	03/27/19 11:23	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21487	03/27/19 16:35	NMI	TAL SPK

Client Sample ID: B-34
Date Collected: 03/14/19 10:53
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-22
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 18:04	MRS	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	21468	03/25/19 22:55	MRS	TAL SPK

Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Client Sample ID: B-34
Date Collected: 03/14/19 10:53
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-22
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	21433	03/22/19 18:04	MRS	TAL SPK
Total/NA	Prep	3510C			226.2 mL	2 mL	21485	03/27/19 11:23	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21487	03/27/19 17:14	NMI	TAL SPK

Client Sample ID: B-25
Date Collected: 03/14/19 11:10
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-23
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	21432	03/22/19 18:26	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	21433	03/22/19 18:26	MRS	TAL SPK
Total/NA	Prep	3510C			261.5 mL	2 mL	21485	03/27/19 11:23	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			21487	03/27/19 17:33	NMI	TAL SPK

Client Sample ID: Trip Blank
Date Collected: 03/12/19 08:00
Date Received: 03/19/19 08:23

Lab Sample ID: 590-10615-24
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	21432	03/22/19 18:47	MRS	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Definitions/Glossary

Client: AECOM
Project/Site: Tacoma D St Terminal-Phillips 66

TestAmerica Job ID: 590-10615-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: AECOM
TestAmerica Job ID: 590-10615-1
Project/Site: Tacoma D St Terminal-Phillips 66

Laboratory: TestAmerica Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C569	01-06-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☐ TESTAMERICA (_____)
☐ Other (_____)
Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name: TYLER HEMRY
PO #:
PlaNet Site or Project ID:
GSAP Project ID:
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 3/14/2019
PAGE: 1 of 3

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 111 SW Columbia Ste 1500
PROJECT CONTACT (Hardcopy or PDF Report to): Tyler Hemry
TELEPHONE: (503) 222-7200
FAX:
Bill To Contact E-MAIL: TYLER.HEMRY@AECOM.COM

SITE ADDRESS: Street and City: D Street Terminal Tacoma
State: WA
AECOM Project / Task Number:
EDF DELIVERABLE TO (Name, Company, Office Location):
PHONE NO.:
E-MAIL:
AECOM Other ID:
SAMPLER NAME(S) (Print): M. TAUSCHER & R. TURTORELLO
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☐ LEVEL 4 ☐ OTHER (SPECIFY) _____
TEMPERATURE ON RECEIPT C°: Cooler #1 2.1 Cooler #2 2.4 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
RW-5R has an MS/MSD volume

☒ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☐ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST: NW-TPH-Gx	NWTPH-Dx	BTEX 8260B	Naph 8270SIM	NON-UNIT COST
-1	B-19	3/12/19	11:13	GW	X					3	X	X	X		
	DMW-4	3/12/19	11:25	GW	X					3	X	X	X		
-3	RW-8	3/12/19	12:18	GW	X					3	X	X	X		
	T-2	3/12/19	12:50	GW	X					3	X	X	X		
-5	RW-5R	3/12/19	13:37	GW	X					9	X	X	X		
	T-3	3/12/19	1410	GW	X					3	X	X	X		
-7	G-18	3/12/19	15:04	GW	X					3	X	X	X		
	FW-5R	3/12/19	15:05	GW	X			X		5	X	X	X	X	
-9	RR-2	3/12/19	1600	GW	X			X		5	X	X	X	X	
	RR-4	3/12/19	1621	GW	X					3	X	X	X		

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

Therm. ID: A2 Cor: 1.4 ° Unc: 1.6 °
Cooler Dsc: Lrg Blue
Packing: Bubble
Cust. Seal: Yes ___ No ^
Blue Ice, Wet, Dry, None
FedEx: ___ UPS: ___ Lab Cour: ___ Other: Client

Therm. ID: A2 Cor: 1.3 ° Unc: 1.5 °
Cooler Dsc: Lrg Blue
Packing: Bubble
Cust. Seal: Yes ___ No ^
Blue Ice, Wet, Dry, None
FedEx: ___ UPS: ___ Lab Cour: ___ Other: Client

590-10615 Chain of Custody

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
REBECCA TURTORELLO	B. Lee SRATA 3-14-19 1305	3/14/19	
3/18/19 T4-Sea Tom Blankenship	Matthew Suda TA-SPK	3.14.19	1615

Version: 14Dec15

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☐ TESTAMERICA (_____)
☐ Other (_____)
Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name: TYLER HEMRY
PlaNet Site or Project ID:
PO #:
GSAP Project ID:
☐ CHECK IF NO INCIDENT # APPLIES
DATE: _____
PAGE: 2 of 3

SAMPLING COMPANY: AECOM
LOG CODE:
SITE ADDRESS: Street and City: D Street Terminal, Tacoma
State: WA
AECOM Project / Task Number:
ADDRESS: 111 SW Columbia Ste 1500
EDF DELIVERABLE TO (Name, Company, Office Location):
PHONE NO.:
E-MAIL:
AECOM Other ID:
PROJECT CONTACT (Hardcopy or PDF Report to): TYLER HEMRY
SAMPLER NAME(S) (Print): M. TAUSCHER & R. TORTURELLO
TELEPHONE: 503-222-7200
FAX:
Bill To Contact E-MAIL: TYLER.HEMRY@AECOM.COM
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☐ LEVEL 4 ☐ OTHER (SPECIFY) _____
TEMPERATURE ON RECEIPT C°: Cooler #1 2.1 Cooler #2 2.4 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
☒ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☐ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST: NWTPH-Gx	NWTPH-Dx	BTEX 8260B	Naph 8270SIM	NON-UNIT COST	FIELD NOTES: Container PID Readings or Laboratory Notes
-11	RR-4-DUP	3/12/19	15:54	GW	X					3	X	X	X			
	E-21	3/13/19	08:54	GW	X					3	X	X	X			
-13	E-21-DUP	3/13/19	08:54	GW	X					3	X	X	X			
	B-31	3/13/19	09:25	GW	X					3	X	X	X			
-15	HC-111	3/13/19	11:00	GW	X					3	X	X	X			
	E-22	3/13/19	11:03	GW	X					3	X	X	X			
-17	FW-14	3/13/19	12:05	GW	X			X		5	X	X	X	X		
	FW-13	3/13/19	12:43	GW	X					3	X	X	X			
-19	DMW-2	3/13/19	13:00	GW	X					3	X	X	X			
	RR-5	3/13/19	17:15	GW	X					3	X	X	X			

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
REBECCA TICHENOR	B. Hall SEA TA 3.14.19 1305	3/14/19	
Tom Blaney 3/18/19	Matt Sida TA-SPO	3.19.19	1615

Version: 14Dec15

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☐ TESTAMERICA (_____)
☐ Other (_____)
Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name: TYLER HENRY
PO #:
PlaNet Site or Project ID:
GSAP Project ID:
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 3/14/19
PAGE: 3 of 3

SAMPLING COMPANY: AECOM
LOG CODE:
SITE ADDRESS: Street and City: D Street Terminal, Tacoma
State: WA
AECOM Project / Task Number:
ADDRESS: 111 SW Columbia Ste 1500
EDF DELIVERABLE TO (Name, Company, Office Location):
PHONE NO.:
E-MAIL:
AECOM Other ID:
PROJECT CONTACT (Hardcopy or PDF Report to): TYLER HENRY
TELEPHONE: 503.222.7200
FAX:
Bill To Contact E-MAIL: TYLER.HENRY@AECOM.COM
SAMPLER NAME(S) (Print): M. TAUSCHER + R. TURTORELLO
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☐ LEVEL 4 ☐ OTHER (SPECIFY) _____
TEMPERATURE ON RECEIPT C°: Cooler #1 2.1 Cooler #2 2.4 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
☒ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☐ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS
UNIT COST: NWTPH-Gx; NW-TPH-Dx; 8260B BTEX
NON-UNIT COST

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	NWTPH-Gx	NW-TPH-Dx	8260B BTEX
-21	RR-1	3/13/19	17:17	GW	X					3	X	X	X
	B-34	3/14/19	10:53	GW	X					3	X	X	X
-23	B-25	3/14/19	11:10	GW	X					3	X	X	X
	TRIP blanks	—	—	W	X								X

Relinquished by: (Signature) REBECCA TURTORELLO — Received by: (Signature) B. [illegible] SRA TA 3.14.19 1305 — Date: 3/14/19 — Time:
Relinquished by: (Signature) Tom Blankenship 3/18/19 — Received by: (Signature) Matt Suda TA-SPO — Date: 3.19.19 — Time: 1445
Relinquished by: (Signature) — Received by: (Signature) — Date: — Time:

Version: 14Dec15

Login Sample Receipt Checklist

Client: AECOM

Job Number: 590-10615-1

Login Number: 10615
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	496639,496638
Sample custody seals, if present, are 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 containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
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	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

APPENDIX B
Summary Data Quality Review

AECOM
1111 3rd Ave
Suite 1600
Seattle, WA 98101
www.aecom.com

206 438 2700 tel
866 495 5288 fax

Memorandum

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To	Rebecca Tortorello, Project Manager	Info	FINAL
Subject	Summary Data Quality Review Phillips 66 – D Street Terminal, Tacoma Washington 2019 First Quarter Groundwater Sampling		
From	Lucy Panteleeff, Chemist Jennifer B. Garner, Chemist		
Date	September 19, 2019		

The summary data quality review of 23 groundwater samples and 1 trip blank collected between March 12 and March 14, 2019, has been completed. The samples were analyzed at TestAmerica Laboratories, Incorporated (TA) located in Spokane, Washington for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260C; total petroleum hydrocarbons (TPHs) by Washington State Department of Ecology (Ecology) Methods NWTPH-Gx (gasoline-range TPH) and NWTPH-Dx (diesel-range and heavy oil-range TPH); and/or naphthalenes by EPA Method 8270D modified by selected ion monitoring (SIM). The laboratory provided a summary report containing sample results and associated quality assurance (QA) and quality control (QC) data for all samples. The following samples are associated with TA laboratory group 590-10615-1:

Sample ID	Laboratory ID	Requested Analyses
B-19	590-10615-1	BTEX, TPH-Gx, TPH-Dx
DMW-4	590-10615-2	BTEX, TPH-Gx, TPH-Dx
RW-8	590-10615-3	BTEX, TPH-Gx, TPH-Dx
T-2	590-10615-4	BTEX, TPH-Gx, TPH-Dx
RW-5R	590-10615-5	BTEX, TPH-Gx, TPH-Dx
T-3	590-10615-6	BTEX, TPH-Gx, TPH-Dx
G-18	590-10615-7	BTEX, TPH-Gx, TPH-Dx
FW-5R	590-10615-8	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
RR-2	590-10615-9	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
RR-4	590-10615-10	BTEX, TPH-Gx, TPH-Dx
RR-4-DUP (Duplicate of RR-4)	590-10615-11	BTEX, TPH-Gx, TPH-Dx
E-21	590-10615-12	BTEX, TPH-Gx, TPH-Dx
E-21-DUP (Duplicate of E-21)	590-10615-13	BTEX, TPH-Gx, TPH-Dx
B-31	590-10615-14	BTEX, TPH-Gx, TPH-Dx
HC-111	590-10615-15	BTEX, TPH-Gx, TPH-Dx
E-22	590-10615-16	BTEX, TPH-Gx, TPH-Dx
FW-14	590-10615-17	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
FW-13	590-10615-18	BTEX, TPH-Gx, TPH-Dx
DMW-2	590-10615-19	BTEX, TPH-Gx, TPH-Dx
RR-5	590-10615-20	BTEX, TPH-Gx, TPH-Dx
RR-1	590-10615-21	BTEX, TPH-Gx, TPH-Dx
B-34	590-10615-22	BTEX, TPH-Gx, TPH-Dx
B-25	590-10615-23	BTEX, TPH-Gx, TPH-Dx
Trip Blank	590-10615-24	BTEX, TPH-Gx

AECOM

Summary Data Quality Review
Phillips 66 - D Street Terminal, Tacoma, Washington
2019 First Quarter Groundwater Sampling
Laboratory Group: 590-10615-1

Data were evaluated based on validation criteria established in the *National Functional Guidelines for Organic Superfund Methods Data Review*, dated January 2017, as applied to the reported methodology.

The following data components were reviewed during the limited data validation procedure for compliance with method specific or laboratory control charted criteria where appropriate: chain of custody forms, holding times, field/method/trip/instrument blanks, surrogate recoveries, matrix spike/matrix spike duplicate recoveries, laboratory and field duplicate results, laboratory control sample/laboratory control sample duplicate recoveries, reporting limits, and electronic data deliverables.

A summary of qualifiers that may be assigned to results in this laboratory group are included in Table 1. Qualifiers that may be assigned to results include:

- U - The analyte was analyzed for but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
- DNR - Do Not Report. Another result is available that is more reliable or appropriate.

Sample Receipt

Upon receipt by the laboratory, the sample jar information was compared to the chain-of-custody (COC) and the cooler temperatures were recorded. No discrepancies related to sample identifications were noted by the laboratory and the coolers were received at temperatures within the EPA recommended temperature limits of greater than 0°C and less than or equal to 6°C.

One 250 milliliter amber glass bottle submitted for sample B-31 was received by the laboratory broken with a cracked lid. Sample was not lost or contaminated; therefore, analysis proceeded as requested on the COC.

The laboratory noted that all three vials submitted for the trip blank had headspace present. The results for all BTEX analytes in the trip blank were qualified as estimated and flagged ‘UJ’ based on the presence of headspace.

Organic Analyses

Samples were analyzed for BTEX, TPHs, and/or naphthalenes by the methods identified in the introduction of this report.

AECOM

Summary Data Quality Review
Phillips 66 - D Street Terminal, Tacoma, Washington
2019 First Quarter Groundwater Sampling
Laboratory Group: 590-10615-1

1. Holding Times – Acceptable except as noted below:

   Naphthalenes by EPA Method 8270D-SIM – Samples FW-5R and RR-2 were extracted outside the method-recommended holding time of 7 days. The results for naphthalenes in FW-5R and RR-2 were qualified as estimated and flagged 'J' or 'UJ' based on holding time exceedance.

2. Blanks – Acceptable

3. Surrogates – Acceptable except as noted below:

   Naphthalenes by EPA Method 8270D-SIM – The percent recovery for nitrobenzene-d5 (171%) exceeded the control limits of 45-126% in the dilution (100x) performed for FW-5R. The surrogate recovery in the undiluted analysis was acceptable; therefore, data were not qualified based on the surrogate recovery in the dilution.

4. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable

5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable

   General – MS/MSDs for all organic analyses except naphthalenes were performed using RW-5R. Results were acceptable.

   Precision and accuracy for naphthalenes was assessed using the LCS/LCSD results.

6. Field Duplicate (applicable to BTEX and TPH analyses only) – Acceptable

   General – Field duplicates were submitted for RR-4 and E-21 and identified as RR-4-DUP and E-21-Dup, respectively. Results were comparable.

7. Reporting Limits – Acceptable except as noted below:

   General – One or more results were flagged 'J' by the laboratory to indicate a concentration that was less than the reporting limit, but above the method detection limit (MDL). Laboratory 'J'-flagged results are considered estimated. As the result is between the MDL and the reporting limit, there is a greater level of uncertainty associated with the numerical result.

   BTEX by 8260C – The MDLs and reporting limits for ethylbenzene and/or o-xylene in HC-111 and B-25 were elevated due to dilution. The elevated reporting limits do not exceed the applicable cleanup levels.

8. Other Items of Note:

   Diesel-range TPH by NWTPH-Dx – The laboratory noted that the following:

   - Detected hydrocarbons in the diesel range appear to be due to heavily weathered diesel in DMW-4, T-3, G-18, B-31, E-22, FW-14, FW-13, DMW-2, RR-5, and RR-1.

- Detected hydrocarbons in the diesel range appear to be due to gasoline overlap, heavily weathered diesel, and/or biogenic interferences in B-19, RW-8, and RW-5R.
- Detected hydrocarbons appear to be due to biogenic interference in T-2 and RR-2.
- Detected hydrocarbons in the diesel range appear to be due to heavily weathered diesel, a lightweight oil, and/or possible biogenic interference in E-21 and E-21-DUP.
- Detected hydrocarbons in the diesel range appear to be due to creosote or similar product in FW-5R.
- Detected hydrocarbons appear to be due to gasoline overlap and/or weathered diesel in HC-111, B-34, and B-25.

Overall Assessment of Data

The data reported in this laboratory group, as reported, are considered to be usable for meeting project objectives. The completeness for TestAmerica laboratory group 590-10615-1 is 100%.

Table 1 - Summary of Qualified Data

Sample ID	Laboratory ID	Analyte	Laboratory Result	Units	Final Result	Reason
FW-5R	590-10615-8	Naphthalene	1.9	ug/L	1.9 J	Holding Time
		2-Methylnaphthalene	290	ug/L	290 J	
		1-Methylnaphthalene	290	ug/L	290 J	
RR-2	590-10615-9	Naphthalene	0.050 U	ug/L	0.050 UJ	Holding Time
		2-Methylnaphthalene	0.041 U	ug/L	0.041 UJ	
		1-Methylnaphthalene	0.022 U	ug/L	0.022 UJ	

Notes:
J – estimated value
U – not detected above the MDL shown
UJ – not detected above the MDL shown, but the MDL is an estimated value
ug/L – microgram per liter