AECOM

May 28, 2021

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

Subject: Quarterly Progress Report – Fourth 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 fourth quarter (October 1, 2019 through December 31, 2019). An evaluation of the fourth quarter 2019 data and natural attenuation processes will be presented in the 2020 Annual Progress Report, which is completed following the third quarter (September) 2020 monitoring event.

1.0 Site Description

The Site is an approximately 17-acre 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 a pump station owned by Olympic Pipeline Company. 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 fourth quarter 2019 monitoring event included the following groundwater sampling activities conducted on December 10th and December 11th, 2019:

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- Water Level and Free Product Gauging
    - AECOM personnel gauged water levels and free product, where present, in 30 upper sand unit monitoring wells, six sentinel wells, six surface water compliance monitoring wells, and five lower sand unit 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 December 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 17 groundwater monitoring wells during this event:
        - Ten upper sand unit groundwater monitoring wells (B-25, B-31, B-34, E-22, FW-5R, FW-14, HC-111, RW-5R, RW-8, and T-2). Wells E-22, FW-5R, FW-14, and T-2 also 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 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-methylnapthalene, 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 fourth 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 data for this groundwater monitoring event is 100%. The data qualifiers assigned by the laboratory are shown on the laboratory reports. No additional data qualifiers were assigned 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 fourth 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 six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8) and two sentinel wells (E-22 and FW-5R). One well (B-25) was in exceedance of the groundwater cleanup standard of 0.16 milligrams per liter (mg/L). Three of the wells (B-34, HC-111, and RW-5R) were in exceedance of the surface water cleanup standard of 0.04 mg/L but did not exceed the groundwater cleanup standard. Benzene concentrations in the upper sand unit and resulting isocontours from this event are presented on Figure 3.
- Toluene was detected in six of the upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, 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 the lower sand unit wells sampled during this event.
- Ethylbenzene was detected in six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8) and one sentinel well (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 six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, 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 six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8), one sentinel well (FW-5R), one surface water compliance well (RR-5), and one lower sand unit well (DMW-4). 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 six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8), three sentinel wells (E-22, FW-5R, and T-2), two surface water compliance wells (RR-1 and RR-5), and all 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 six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8), two sentinel wells (E-22 and FW-5R), 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 2020 Annual Progress Report, which is completed following the third quarter (September) 2020 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-G was detected in one sentinel well (FW-5R), TPH-D was detected in three sentinel wells (E-22, FW-5R, and T-2), and TPH-O was detected in two sentinel wells (E-22 and FW-5R). Benzene was detected in sentinel wells E-22 and FW-5R. Toluene, ethylbenzene, and naphthalene were detected in sentinel well FW-5R. Total xylenes was not detected in any of the sentinel wells sampled during this event.

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-G and TPH-O were detected in one surface water compliance well (RR-5) and TPH-D was detected in two surface water compliance wells (RR-1 and RR-5). Benzene, ethylbenzene, toluene, total xylenes, 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 2020 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-G was detected in lower sand unit well DMW-4, TPH-D was detected in all three lower sand unit wells, and TPH-O was detected in lower sand unit wells DMW-2 and DMW-4. Benzene, ethylbenzene, toluene, and total xylenes were not detected in any of the lower sand unit wells sampled during this event.

8.0 Status of Recent and Upcoming Deliverables

- The 2019 Annual Progress Report was submitted in May 2021.
- The First Quarter 2020 Progress Report is anticipated to be submitted in May 2021.

If you have any questions regarding this progress report, please call me at (503) 948-7224.

Sincerely,

AECOM

RDigiustino

Rebecca Digiustino
Geologist/ Technical Manager

Renee Knecht
Senior Geologist/Project Manager

cc: Andrea Wing – Shell Oil Company (electronic only)
Marla Madden – 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), December 2019
Figure 4 – TPH-G Concentrations in Groundwater (Upper Sand Unit), December 2019
Figure 5 – TPH-D Concentrations in Groundwater (Upper Sand Unit), December 2019

Table 1 – Groundwater Elevation Data, Fourth Quarter 2019
Table 2 – Summary of Groundwater Analytical Results, Fourth Quarter 2019
Table 3 – Summary of Field Parameters, Fourth Quarter 2019

Appendix A – Laboratory Analytical Data
Appendix B – Data 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

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 1

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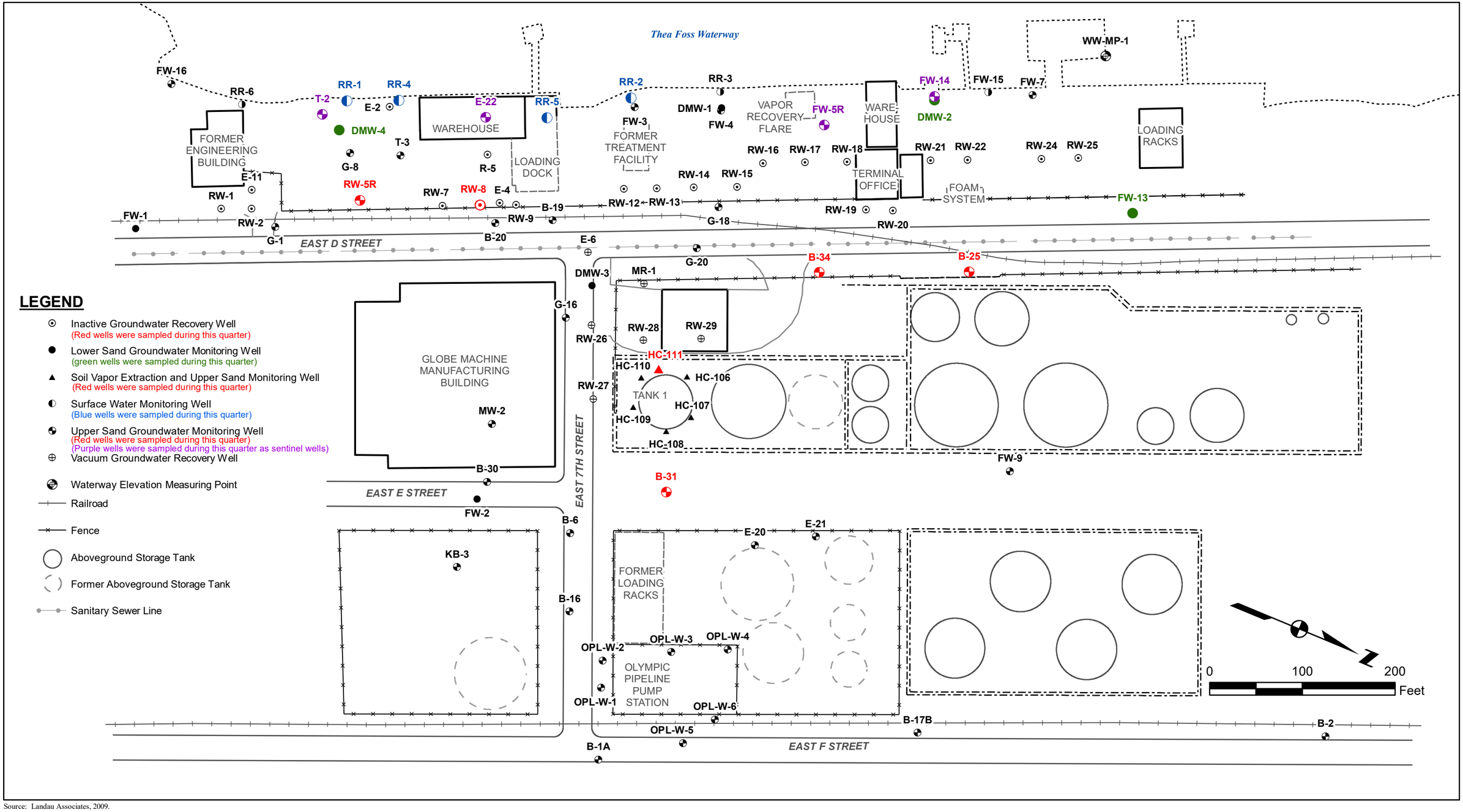

LEGEND

- 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.

SITE MAP

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 2

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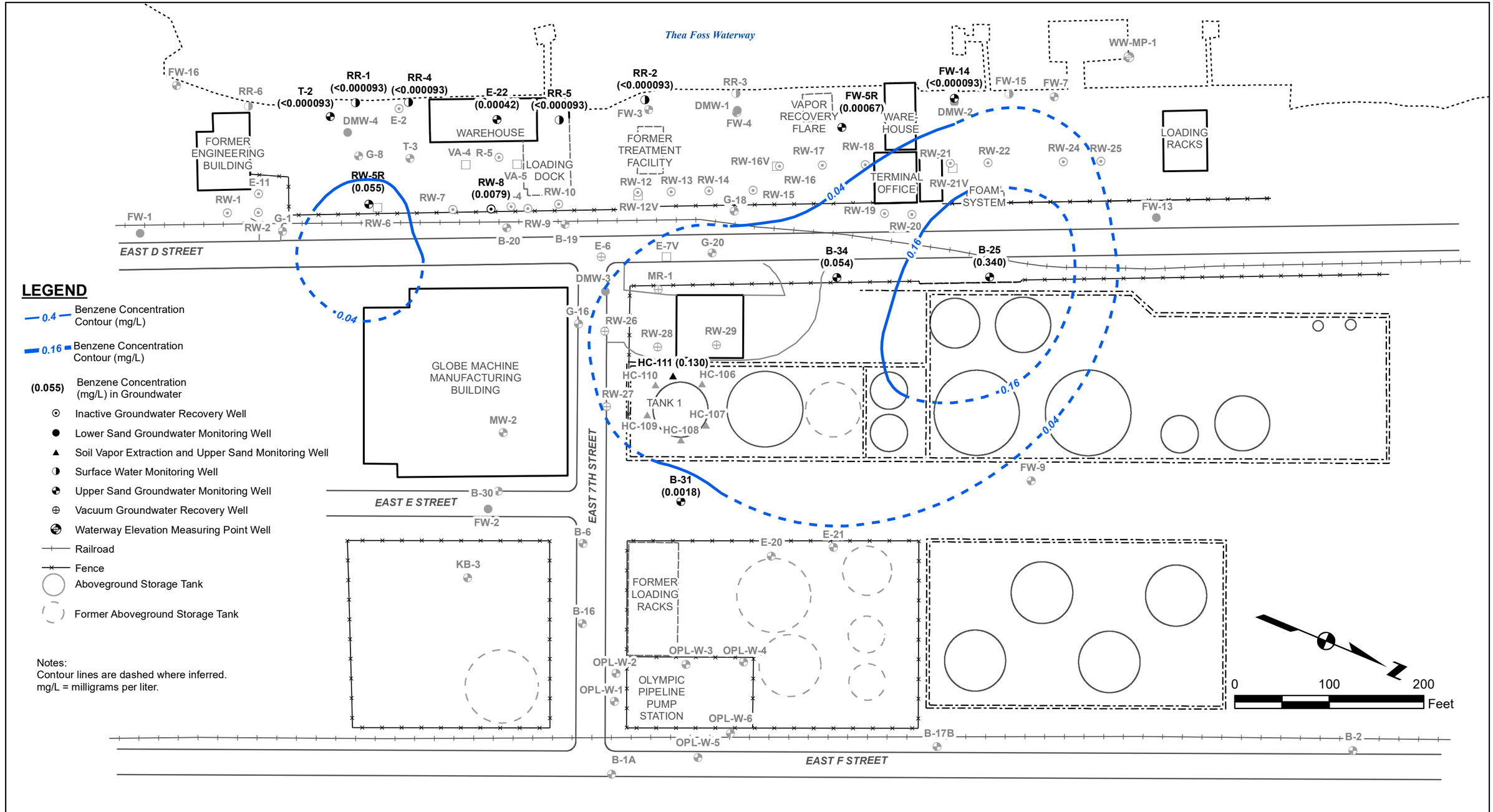

LEGEND

- 0.4 — Benzene Concentration Contour (mg/L)
- 0.16 — Benzene Concentration Contour (mg/L)
- (0.055) 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 Well
- Railroad
- Fence
- Aboveground Storage Tank
- Former Aboveground Storage Tank

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

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

BENZENE CONCENTRATIONS IN GROUNDWATER (UPPER SAND UNIT), DECEMBER 2019

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 3

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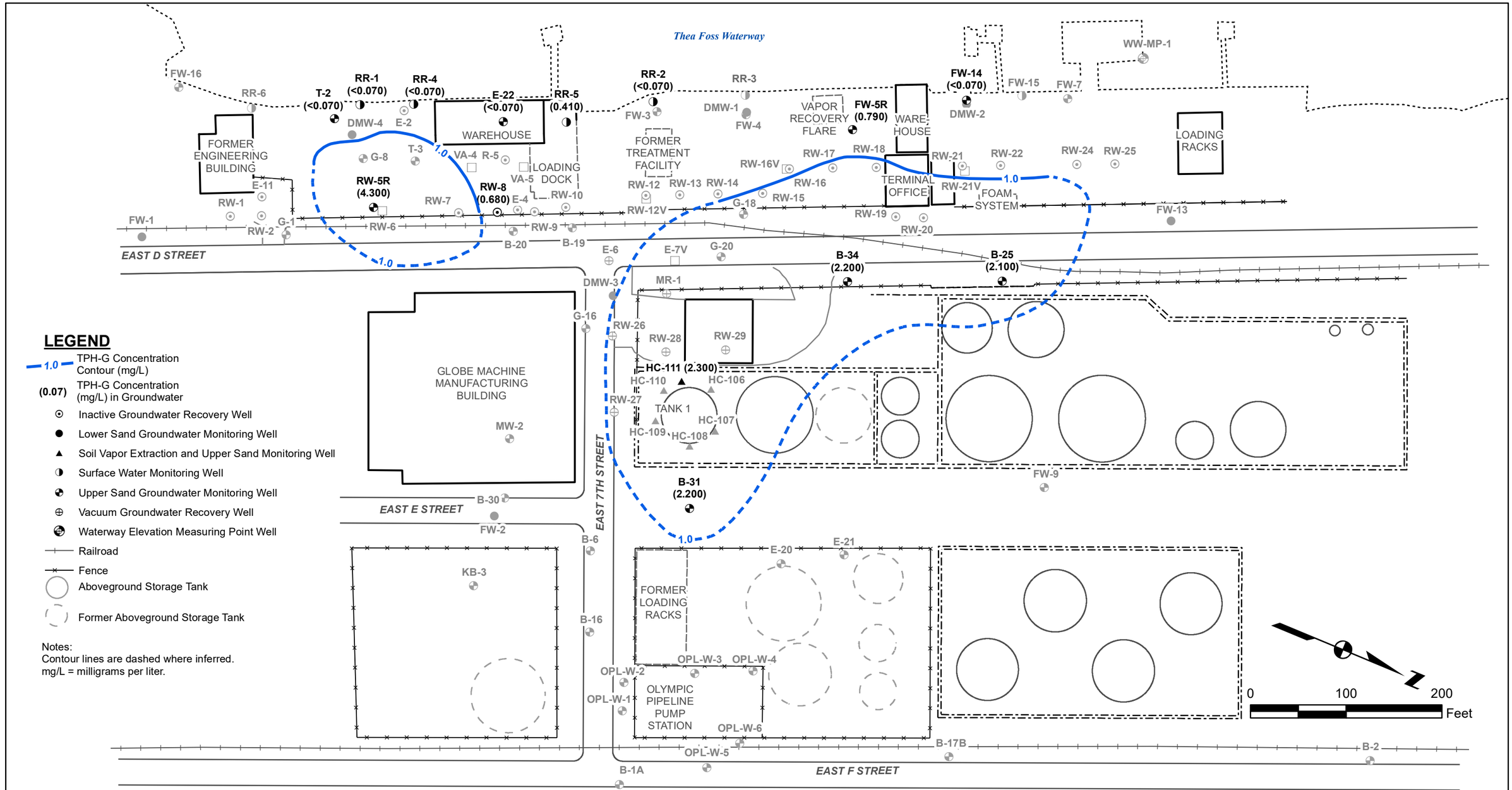

LEGEND

- 1.0 — TPH-G Concentration Contour (mg/L)
- (0.07) 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

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

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

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

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 4

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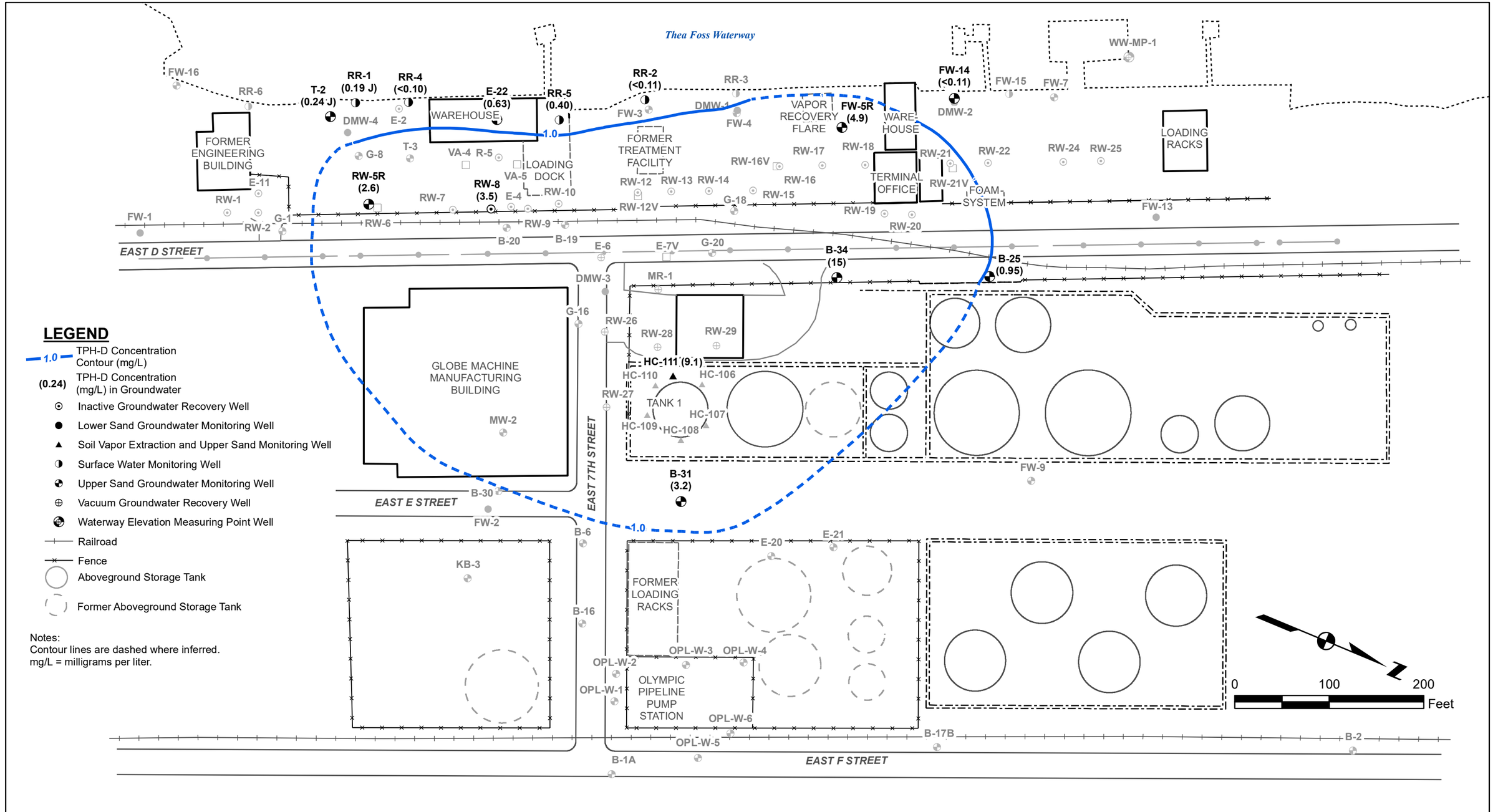

LEGEND

- 1.0 — TPH-D Concentration Contour (mg/L)
- (0.24) 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

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), DECEMBER 2019

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 5

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TABLES

Table 1
Groundwater Elevation Data
Fourth 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	NR	NR	NR	NR	NR	
B-2	13.78	12/11/2019	14:55	7.35	--	6.43	Located in street
B-6	14.25	NR	NR	NR	NR	NR	Located in street
B-16	14.40	NR	NR	NR	NR	NR	Located in street
B-17B	14.16	12/11/2019	14:58	7.35	--	6.81	
B-19	13.31	12/11/2019	14:12	6.89	--	6.42	
B-20	13.48	12/11/2019	14:17	7.16	--	6.32	
B-25	13.96	12/11/2019	11:27	7.69	--	6.27	
B-30	14.46	12/11/2019	14:54	8.21	--	6.25	
B-31	14.46	12/10/2019	15:15	8.14	--	6.32	
B-34	14.36	12/11/2019	9:15	8.06	--	6.30	
E-4	12.09	12/11/2019	13:51	5.95	--	6.14	
E-6	12.14	NR	NR	NR	NR	NR	Located in street
E-20	NS	12/11/2019	6:51	7.28	--	NR	
E-21	14.13	12/11/2019	6:49	7.70	--	6.43	
FW-16	12.35	NR	NR	NR	NR	NR	Car parked on top
G-1	13.43 (b)	12/11/2019	13:33	7.48	--	5.95	
G-8	13.25	12/11/2019	13:16	6.88	--	6.37	
G-16	13.23	12/11/2019	14:28	7.18	--	6.05	
G-18	13.54	12/11/2019	15:01	6.71	--	6.83	
G-20	13.11	NR	NR	NR	--	NR	Located in street
HC-108	15.30	12/11/2019	8:06	9.09	--	6.21	
HC-111	14.62	12/11/2019	8:01	8.42	--	6.20	
MR-1	14.26	NR	NR	NR	NR	NR	
R-5	11.69	NR	NR	NR	NR	NR	Inaccessible
RW-1	12.94	12/11/2019	13:30	6.88	--	6.06	
RW-2	12.76	12/11/2019	13:37	5.62	--	7.14	
RW-5R	13.76	12/11/2019	11:55	7.64	--	6.12	
RW-7	12.46	NR	NR	NR	--	NR	Inaccessible
RW-8	12.71	12/10/2019	12:02	6.67	--	6.04	
RW-9	12.59	12/11/2019	13:55	5.98	--	6.61	
RW-12	13.21	12/11/2019	15:10	6.59	--	6.62	
RW-13	13.94	12/11/2019	15:11	7.53	--	6.41	
RW-14	13.52	12/11/2019	15:13	6.82	--	6.70	
RW-15	13.15	12/11/2019	15:14	6.52	--	6.63	
RW-17	12.29	12/11/2019	15:16	5.78	--	6.51	
RW-19	12.97	12/11/2019	14:05	6.82	--	6.15	
RW-20	12.80	NR	NR	NR	NR	NR	Car parked on top
RW-22	12.72	NR	NR	NR	NR	NR	Slip cap stuck on (glued)
RW-24	13.63	12/11/2019	14:03	7.22	--	6.41	
RW-26	11.93	NR	NR	NR	NR	NR	Submerged
RW-28	14.62	NR	NR	NR	NR	NR	Loading rack occupied
RW-29	13.83	NR	NR	NR	--	NR	Loading rack occupied
T-3	13.03	12/11/2019	13:20	6.78	--	6.25	
Upper Sand Unit - Sentinel							
E-22	16.74	12/10/2019	13:50	9.98	--	6.76	
FW-3	14.11 (b)	12/11/2019	15:01	7.12	--	6.99	
FW-4	14.21	12/11/2019	15:03	7.50	--	6.71	
FW-5R	12.78	12/10/2019	15:32	6.46	--	6.32	
FW-14	13.17	12/10/2019	12:58	6.80	--	6.37	
T-2	11.62	12/10/2019	8:35	5.32	--	6.30	

Table 1
Groundwater Elevation Data
Fourth 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	NR	NR	NR	--	NR	Car parked on top
FW-2	14.32	NR	NR	NR	--	NR	Located in street
FW-13	13.13	12/10/2019	10:10	7.33	--	5.80	
DMW-1	13.72	12/11/2019	15:20	5.88	--	7.84	
DMW-2	12.97	12/10/2019	14:10	4.89	--	8.08	
DMW-3	12.83	12/11/2019	14:33	5.46	--	7.37	
DMW-4	11.72	12/10/2019	8:30	5.70	--	6.02	
Upper Sand Unit - Surface Water Compliance							
RR-1	14.79 (b)	12/10/2019	9:45	8.75	--	6.04	
RR-2	15.71 (b)	12/11/2019	10:15	9.01	--	6.70	
RR-3	15.78 (b)	NR	NR	NR	--	NR	
RR-4	13.19 (c)	12/10/2019	10:58	7.02	--	6.17	
RR-5	16.53	12/11/2019	10:46	7.92	--	8.61	
RR-6	11.31	12/11/2019	13:24	4.52	--	6.79	
FW-15	NS	12/11/2019	14:01	6.50	--	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
Fourth 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	**Laboratory ID**	**Date Collected**																							
Upper Sand Unit	B-25	590-12445-18	12/11/2019	2.100		0.95		0.13	J	**0.340**		0.0012		0.0037		0.00036	J	0.0027		0.0041		--		--		--	
	B-31	590-12445-11	12/10/2019	2.200		3.2		0.32	J	0.0018		0.020		0.023		0.0017		0.0079		0.025		--		--		--	
	B-31-DUP	590-12445-13	12/10/2019	2.300		3.4		0.34	J	0.0018		0.019		0.022		0.0018		0.0075		0.024		--		--		--	
	B-34	590-12445-15	12/11/2019	2.200		15		0.86		**0.054**		0.0070		0.00059	J	0.00038	J	0.0056		0.00097	J	--		--		--	
	HC-111	590-12445-14	12/11/2019	2.300		9.1		0.67		**0.130**		0.056		0.0026		0.00049	J	0.0072		0.0031		--		--		--	
	RW-5R	590-12445-19	12/11/2019	4.300		2.6		0.25	J	**0.055**		0.018		0.00033	J	0.00063	J	0.00091	J	0.00096	J	--		--		--	
	RW-8	590-12445-6	12/10/2019	0.680		3.5		0.54		0.0079		0.00036	J	0.0017	J	0.00083	J	0.00086	J	0.0026	J	--		--		--	
	RW-8-DUP	590-12445-10	12/10/2019	0.630		3.6		0.57		0.0078		0.00033	J	0.0016	J	0.00082	J	0.00089	J	0.0025	J	--		--		--	
Upper Sand Unit - Sentinel	E-22	590-12445-8	12/10/2019	0.070	U	0.63		0.13	J	0.00042		0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	FW-5R	590-12445-12	12/10/2019	0.790		4.9		0.39	J	0.00067		0.00033	J	0.00028	U	0.00016	U	0.00038	J	0.00044	U	0.0012		0.360		0.310	
	FW-14	590-12445-7	12/10/2019	0.070	U	0.11	U	0.12	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	0.000054	U	0.000045	U	0.000023	U
	T-2	590-12445-1	12/10/2019	0.070	U	0.24	J	0.13	U	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	590-12445-3	12/10/2019	0.070	U	0.19	J	0.13	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	RR-2	590-12445-17	12/11/2019	0.070	U	0.11	U	0.12	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	0.000049	U	0.000041	U	0.000021	U
	RR-4	590-12445-5	12/10/2019	0.070	U	0.10	U	0.11	U	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	RR-5	590-12445-16	12/11/2019	0.410		0.40		0.13	J	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
Lower Sand Unit	DMW-2	590-12445-9	12/10/2019	0.070	U	1.1		0.22	J	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	DMW-4	590-12445-2	12/10/2019	0.220		0.43		0.13	J	0.000093	U	0.00020	U	0.00028	U	0.00016	U	0.00031	U	0.00044	U	--		--		--	
	FW-13	590-12445-4	12/10/2019	0.070	U	0.37		0.12	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.
ID = Identification
J = The analyte is present in the sample; the reported concentration is an estimate.
TPH = Total Petroleum Hydrocarbons
TPH-D = Total Petroleum Hydrocarbons as Diesel range
TPH-G = Total Petroleum Hydrocarbons as Gasoline range
TPH-O = Total Petroleum Hydrocarbons as Oil range
U = Not detected above the reported quantitation limit
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
Fourth Quarter 2019
D Street Petroleum Site

	Sample ID	Date Collected	Temperature (°C)	pH	Conductivity (mS/cm)	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Dissolved Oxygen (mg/L)
Upper Sand Unit	B-25	12/11/2019	12.31	6.94	0.538	-168	2.7	3.69
	B-31	12/10/2019	12.30	6.68	0.697	-216	2.2	0.00
	B-34	12/11/2019	14.17	7.22	1.56	-109	25.4	0.00
	HC-111	12/11/2019	12.45	7.13	0.903	-87	29.2	0.00
	RW-5R	12/11/2019	13.19	7.29	6.50	-84	26.0	0.00
	RW-8	12/10/2019	14.31	6.98	3.91	-141	20.9	0.00
Upper Sand Unit - Sentinel	E-22	12/10/2019	12.82	7.37	21.3	-360	4.9	0.05
	FW-5R	12/10/2019	13.61	7.38	3.36	-162	15.6	0.00
	FW-14	12/10/2019	9.27	7.73	40.2	-12	6.7	4.75
	T-2	12/10/2019	11.21	6.96	38.5	-28	16.1	0.00
Upper Sand Unit - Surface Water Compliance	RR-1	12/10/2019	11.35	7.32	36.9	-289	5.4	0.36
	RR-2	12/11/2010	9.35	7.50	35.3	41	43.2	6.17
	RR-4	12/10/2019	9.37	7.54	39.0	-193	3.7	2.99
	RR-5	12/11/2019	11.46	6.29	29.4	-301	3.6	0.26
Lower Sand Unit	DMW-2	12/10/2019	11.43	7.82	14.4	-283	9.0	0.00
	DMW-4	12/10/2019	12.28	7.38	11.0	-249	3.5	0.26
	FW-13	12/10/2019	12.40	7.22	0.815	-164	1.5	0.00

Notes:

°C = degrees Celsius

mg/L = milligrams per liter

mS/m = millisiemens per meter

mV = millivolts

NTU = nephelometric turbidity units

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
Laboratory Analytical Data

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 590-12445-1
Client Project/Site: Tacoma D St Terminal-Phillips 66

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

Attn: Mr. Tyler Hemry

Authorized for release by:
12/26/2019 5:55:01 PM

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

Table of Contents

Job ID: 590-12445-1

Laboratory: Eurofins TestAmerica, Spokane

Narrative

Job Narrative
590-12445-1

Receipt
Twenty samples were received on 12/13/2019 10:59 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.5º C, 2.5º C and 3.8º C.

Receipt Exceptions

The following sample was received at the laboratory without a sample collection time documented on the chain of custody: RW-5R (590-12445-19). The sample was logged in according to the collection time listed on the containers.

GC/MS VOA
Method NWTPH-Gx: The Gasoline Range Organics (GRO) concentration reported for the following samples is due to the presence of discrete peaks: RW-8 (590-12445-6) and RW-8-DUP (590-12445-10). Gasoline

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

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

GC Semi VOA
Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to weathered diesel as well as possible biogenic interference for sample B-34 (590-12445-15).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to heavily weathered diesel as well as possible biogenic interference for samples DMW-4 (590-12445-2), RR-1 (590-12445-3), FW-13 (590-12445-4), RW-8 (590-12445-6), E-22 (590-12445-8), DMW-2 (590-12445-9) and RW-8-DUP (590-12445-10).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap as well as possible biogenic interference for samples T-2 (590-12445-1), B-25 (590-12445-18) and RW-5R (590-12445-19).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap as well as weathered diesel for samples B-31 (590-12445-11), B-31-DUP (590-12445-13), HC-111 (590-12445-14) and RR-5 (590-12445-16).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to diesel as well as individual peaks for sample FW-5R (590-12445-12).

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

Sample Summary

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
590-12445-1	T-2	Water	12/10/19 09:20	12/13/19 10:59	
590-12445-2	DMW-4	Water	12/10/19 09:28	12/13/19 10:59	
590-12445-3	RR-1	Water	12/10/19 10:40	12/13/19 10:59	
590-12445-4	FW-13	Water	12/10/19 11:25	12/13/19 10:59	
590-12445-5	RR-4	Water	12/10/19 11:50	12/13/19 10:59	
590-12445-6	RW-8	Water	12/10/19 13:13	12/13/19 10:59	
590-12445-7	FW-14	Water	12/10/19 13:50	12/13/19 10:59	
590-12445-8	E-22	Water	12/10/19 14:37	12/13/19 10:59	
590-12445-9	DMW-2	Water	12/10/19 14:55	12/13/19 10:59	
590-12445-10	RW-8-DUP	Water	12/10/19 13:13	12/13/19 10:59	
590-12445-11	B-31	Water	12/10/19 16:06	12/13/19 10:59	
590-12445-12	FW-5R	Water	12/10/19 16:15	12/13/19 10:59	
590-12445-13	B-31-DUP	Water	12/10/19 16:06	12/13/19 10:59	
590-12445-14	HC-111	Water	12/11/19 08:50	12/13/19 10:59	
590-12445-15	B-34	Water	12/11/19 09:50	12/13/19 10:59	
590-12445-16	RR-5	Water	12/11/19 10:46	12/13/19 10:59	
590-12445-17	RR-2	Water	12/11/19 11:10	12/13/19 10:59	
590-12445-18	B-25	Water	12/11/19 12:13	12/13/19 10:59	
590-12445-19	RW-5R	Water	12/11/19 12:45	12/13/19 10:59	
590-12445-20	Trip lank	Water	12/11/19 00:00	12/13/19 10:59	

Method Summary

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

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

Detection Summary

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

Client Sample ID: T-2 — Lab Sample ID: 590-12445-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.24	J	0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DMW-4 — Lab Sample ID: 590-12445-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	220		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.43		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.13	J	0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-1 — Lab Sample ID: 590-12445-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.19	J	0.25	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-13 — Lab Sample ID: 590-12445-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.37		0.24	0.11	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-4 — Lab Sample ID: 590-12445-5

No Detections.

Client Sample ID: RW-8 — Lab Sample ID: 590-12445-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.9		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	1.7	J	2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.83	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	0.86	J	1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	2.6	J	3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	680		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	3.5		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.54		0.44	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-14 — Lab Sample ID: 590-12445-7

No Detections.

Client Sample ID: E-22 — Lab Sample ID: 590-12445-8

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
Diesel Range Organics (DRO) (C10-C25)	0.63		0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.13	J	0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

Client Sample ID: DMW-2 — Lab Sample ID: 590-12445-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	1.1		0.24	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.22	J	0.40	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RW-8-DUP — Lab Sample ID: 590-12445-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.8		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	1.6	J	2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.82	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	0.89	J	1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	2.5	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)	3.6		0.27	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.57		0.44	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-31 — Lab Sample ID: 590-12445-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.8		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	20		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	23		2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	1.7		1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	7.9		1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	25		3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	2200		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	3.2		0.24	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.32	J	0.40	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-5R — Lab Sample ID: 590-12445-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.67		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	0.33	J	1.0	0.20	ug/L	1		8260C	Total/NA
Toluene	0.38	J	1.0	0.31	ug/L	1		8260C	Total/NA
Gasoline	790		150	70	ug/L	1		NWTPH-Gx	Total/NA
Naphthalene	1.2		0.11	0.064	ug/L	1		8270D SIM	Total/NA
2-Methylnaphthalene	360		2.2	1.1	ug/L	20		8270D SIM	Total/NA
1-Methylnaphthalene	310		2.2	0.55	ug/L	20		8270D SIM	Total/NA
Diesel Range Organics (DRO) (C10-C25)	4.9		0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.39	J	0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-31-DUP — Lab Sample ID: 590-12445-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.8		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	19		1.0	0.20	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-31-DUP (Continued) — Lab Sample ID: 590-12445-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
m,p-Xylene	22		2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	1.8		1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	7.5		1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	24		3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	2300		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	3.4		0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.34	J	0.42	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: HC-111 — Lab Sample ID: 590-12445-14

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	56		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	2.6		2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.49	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	7.2		1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	3.1		3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	2300		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	9.1		0.23	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.67		0.39	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-34 — Lab Sample ID: 590-12445-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	54		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	7.0		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	0.59	J	2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.38	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	5.6		1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	0.97	J	3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	2200		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	15		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.86		0.44	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-5 — Lab Sample ID: 590-12445-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	410		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.40		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.13	J	0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-2 — Lab Sample ID: 590-12445-17

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 590-12445-1

Client Sample ID: B-25 — Lab Sample ID: 590-12445-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	340		4.0	0.93	ug/L	10		8260C	Total/NA
Ethylbenzene	1.2		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	3.7		2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.36	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	2.7		1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	4.1		3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	2100		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.95		0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.13	J	0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RW-5R — Lab Sample ID: 590-12445-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	55		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	18		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	0.33	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	0.91	J	1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	0.96	J	3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	4300		1500	700	ug/L	10		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	2.6		0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.25	J	0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: Trip lank — Lab Sample ID: 590-12445-20

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: T-2
Lab Sample ID: 590-12445-1
Date Collected: 12/10/19 09:20
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 13:13	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 13:13	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 13:13	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 13:13	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 13:13	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*12/16/19 13:13*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/19 13:13*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*12/16/19 13:13*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/16/19 13:13*	*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			12/16/19 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*68.7 - 141*		*12/16/19 13:13*	*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)	**0.24**	**J**	0.26	0.12	mg/L		12/23/19 11:58	12/23/19 16:17	1
Residual Range Organics (RRO) (C25-C36)	ND		0.43	0.13	mg/L		12/23/19 11:58	12/23/19 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*12/23/19 11:58*	*12/23/19 16:17*	*1*
n-Triacontane-d62	*102*		*50 - 150*	*12/23/19 11:58*	*12/23/19 16:17*	*1*

Client Sample ID: DMW-4
Lab Sample ID: 590-12445-2
Date Collected: 12/10/19 09:28
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 13:35	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 13:35	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 13:35	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 13:35	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 13:35	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 13:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/16/19 13:35*	*1*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*		*12/16/19 13:35*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*12/16/19 13:35*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/16/19 13:35*	*1*

Client Sample ID: DMW-4
Lab Sample ID: 590-12445-2
Date Collected: 12/10/19 09:28
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**220**		150	70	ug/L			12/16/19 13:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*68.7 - 141*		*12/16/19 13:35*	*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)	**0.43**		0.26	0.12	mg/L		12/23/19 11:58	12/23/19 16:38	1
Residual Range Organics (RRO) (C25-C36)	**0.13**	**J**	0.43	0.13	mg/L		12/23/19 11:58	12/23/19 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*12/23/19 11:58*	*12/23/19 16:38*	*1*
n-Triacontane-d62	*101*		*50 - 150*	*12/23/19 11:58*	*12/23/19 16:38*	*1*

Client Sample ID: RR-1
Lab Sample ID: 590-12445-3
Date Collected: 12/10/19 10:40
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 13:57	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 13:57	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 13:57	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 13:57	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 13:57	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/16/19 13:57*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/16/19 13:57*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/16/19 13:57*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*12/16/19 13:57*	*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			12/16/19 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*68.7 - 141*		*12/16/19 13:57*	*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)	**0.19**	**J**	0.25	0.12	mg/L		12/23/19 11:58	12/23/19 16:59	1
Residual Range Organics (RRO) (C25-C36)	ND		0.42	0.13	mg/L		12/23/19 11:58	12/23/19 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*81*		*50 - 150*	*12/23/19 11:58*	*12/23/19 16:59*	*1*
n-Triacontane-d62	*88*		*50 - 150*	*12/23/19 11:58*	*12/23/19 16:59*	*1*

Client Sample ID: FW-13
Lab Sample ID: 590-12445-4
Date Collected: 12/10/19 11:25
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 14:19	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 14:19	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 14:19	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 14:19	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 14:19	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*12/16/19 14:19*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/16/19 14:19*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/16/19 14:19*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/16/19 14:19*	*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			12/16/19 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*68.7 - 141*		*12/16/19 14:19*	*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)	**0.37**		0.24	0.11	mg/L		12/23/19 11:58	12/23/19 17:20	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		12/23/19 11:58	12/23/19 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*12/23/19 11:58*	*12/23/19 17:20*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*12/23/19 11:58*	*12/23/19 17:20*	*1*

Client Sample ID: RR-4
Lab Sample ID: 590-12445-5
Date Collected: 12/10/19 11:50
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 15:47	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 15:47	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 15:47	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 15:47	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 15:47	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*12/16/19 15:47*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/19 15:47*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/16/19 15:47*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/16/19 15:47*	*1*

Client Sample ID: RR-4
Lab Sample ID: 590-12445-5
Date Collected: 12/10/19 11:50
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*68.7 - 141*		*12/16/19 15:47*	*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		0.22	0.10	mg/L		12/23/19 11:58	12/23/19 18:23	1
Residual Range Organics (RRO) (C25-C36)	ND		0.37	0.11	mg/L		12/23/19 11:58	12/23/19 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*50 - 150*	*12/23/19 11:58*	*12/23/19 18:23*	*1*
n-Triacontane-d62	*82*		*50 - 150*	*12/23/19 11:58*	*12/23/19 18:23*	*1*

Client Sample ID: RW-8
Lab Sample ID: 590-12445-6
Date Collected: 12/10/19 13:13
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**7.9**		0.40	0.093	ug/L			12/16/19 16:09	1
Ethylbenzene	**0.36**	**J**	1.0	0.20	ug/L			12/16/19 16:09	1
m,p-Xylene	**1.7**	**J**	2.0	0.28	ug/L			12/16/19 16:09	1
o-Xylene	**0.83**	**J**	1.0	0.16	ug/L			12/16/19 16:09	1
Toluene	**0.86**	**J**	1.0	0.31	ug/L			12/16/19 16:09	1
Xylenes, Total	**2.6**	**J**	3.0	0.44	ug/L			12/16/19 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/16/19 16:09*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/19 16:09*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*12/16/19 16:09*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/16/19 16:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**680**		150	70	ug/L			12/16/19 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*68.7 - 141*		*12/16/19 16:09*	*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)	**3.5**		0.26	0.12	mg/L		12/23/19 11:58	12/23/19 19:05	1
Residual Range Organics (RRO) (C25-C36)	**0.54**		0.44	0.13	mg/L		12/23/19 11:58	12/23/19 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*12/23/19 11:58*	*12/23/19 19:05*	*1*
n-Triacontane-d62	*99*		*50 - 150*	*12/23/19 11:58*	*12/23/19 19:05*	*1*

Client Sample ID: FW-14
Lab Sample ID: 590-12445-7
Date Collected: 12/10/19 13:50
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 16:31	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 16:31	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 16:31	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 16:31	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 16:31	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/16/19 16:31*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*12/16/19 16:31*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/16/19 16:31*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/16/19 16:31*	*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			12/16/19 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*68.7 - 141*		*12/16/19 16:31*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.091	0.054	ug/L		12/17/19 12:31	12/17/19 15:55	1
2-Methylnaphthalene	ND		0.091	0.045	ug/L		12/17/19 12:31	12/17/19 15:55	1
1-Methylnaphthalene	ND		0.091	0.023	ug/L		12/17/19 12:31	12/17/19 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*80*		*36 - 126*	*12/17/19 12:31*	*12/17/19 15:55*	*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)	ND		0.24	0.11	mg/L		12/23/19 11:58	12/23/19 19:26	1
Residual Range Organics (RRO) (C25-C36)	ND		0.41	0.12	mg/L		12/23/19 11:58	12/23/19 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*12/23/19 11:58*	*12/23/19 19:26*	*1*
n-Triacontane-d62	*84*		*50 - 150*	*12/23/19 11:58*	*12/23/19 19:26*	*1*

Client Sample ID: E-22
Lab Sample ID: 590-12445-8
Date Collected: 12/10/19 14:37
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 16:53	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 16:53	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 16:53	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 16:53	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 16:53	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 16:53	1

Client Sample ID: E-22
Lab Sample ID: 590-12445-8
Date Collected: 12/10/19 14:37
Matrix: Water
Date Received: 12/13/19 10:59

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/16/19 16:53*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/19 16:53*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*12/16/19 16:53*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/16/19 16:53*	*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			12/16/19 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*68.7 - 141*		*12/16/19 16:53*	*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)	**0.63**		0.25	0.11	mg/L		12/23/19 11:58	12/23/19 19:47	1
Residual Range Organics (RRO) (C25-C36)	**0.13**	**J**	0.41	0.12	mg/L		12/23/19 11:58	12/23/19 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*82*		*50 - 150*	*12/23/19 11:58*	*12/23/19 19:47*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*12/23/19 11:58*	*12/23/19 19:47*	*1*

Client Sample ID: DMW-2
Lab Sample ID: 590-12445-9
Date Collected: 12/10/19 14:55
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 17:15	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 17:15	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 17:15	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 17:15	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 17:15	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/16/19 17:15*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*12/16/19 17:15*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/16/19 17:15*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/16/19 17:15*	*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			12/16/19 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*68.7 - 141*		*12/16/19 17:15*	*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)	**1.1**		0.24	0.11	mg/L		12/23/19 11:58	12/23/19 20:08	1

Client Sample ID: DMW-2
Lab Sample ID: 590-12445-9
Date Collected: 12/10/19 14:55
Matrix: Water
Date Received: 12/13/19 10:59

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)	0.22	J	0.40	0.12	mg/L		12/23/19 11:58	12/23/19 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*12/23/19 11:58*	*12/23/19 20:08*	*1*
n-Triacontane-d62	*96*		*50 - 150*	*12/23/19 11:58*	*12/23/19 20:08*	*1*

Client Sample ID: RW-8-DUP
Lab Sample ID: 590-12445-10
Date Collected: 12/10/19 13:13
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	7.8		0.40	0.093	ug/L			12/16/19 17:37	1
Ethylbenzene	0.33	J	1.0	0.20	ug/L			12/16/19 17:37	1
m,p-Xylene	1.6	J	2.0	0.28	ug/L			12/16/19 17:37	1
o-Xylene	0.82	J	1.0	0.16	ug/L			12/16/19 17:37	1
Toluene	0.89	J	1.0	0.31	ug/L			12/16/19 17:37	1
Xylenes, Total	2.5	J	3.0	0.44	ug/L			12/16/19 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/16/19 17:37*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/16/19 17:37*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*12/16/19 17:37*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/16/19 17:37*	*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			12/16/19 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*68.7 - 141*		*12/16/19 17:37*	*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)	3.6		0.27	0.12	mg/L		12/23/19 11:58	12/23/19 20:29	1
Residual Range Organics (RRO) (C25-C36)	0.57		0.44	0.13	mg/L		12/23/19 11:58	12/23/19 20:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*12/23/19 11:58*	*12/23/19 20:29*	*1*
n-Triacontane-d62	*96*		*50 - 150*	*12/23/19 11:58*	*12/23/19 20:29*	*1*

Client Sample ID: B-31
Lab Sample ID: 590-12445-11
Date Collected: 12/10/19 16:06
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.8		0.40	0.093	ug/L			12/16/19 17:59	1
Ethylbenzene	20		1.0	0.20	ug/L			12/16/19 17:59	1
m,p-Xylene	23		2.0	0.28	ug/L			12/16/19 17:59	1

Client Sample ID: B-31
Lab Sample ID: 590-12445-11
Date Collected: 12/10/19 16:06
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	1.7		1.0	0.16	ug/L			12/16/19 17:59	1
Toluene	7.9		1.0	0.31	ug/L			12/16/19 17:59	1
Xylenes, Total	25		3.0	0.44	ug/L			12/16/19 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*12/16/19 17:59*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/16/19 17:59*	*1*
Dibromofluoromethane (Surr)	*86*		*80 - 120*		*12/16/19 17:59*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*12/16/19 17:59*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2200		150	70	ug/L			12/16/19 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*68.7 - 141*		*12/16/19 17:59*	*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)	3.2		0.24	0.11	mg/L		12/23/19 11:58	12/23/19 20:50	1
Residual Range Organics (RRO) (C25-C36)	0.32	J	0.40	0.12	mg/L		12/23/19 11:58	12/23/19 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*12/23/19 11:58*	*12/23/19 20:50*	*1*
n-Triacontane-d62	*92*		*50 - 150*	*12/23/19 11:58*	*12/23/19 20:50*	*1*

Client Sample ID: FW-5R
Lab Sample ID: 590-12445-12
Date Collected: 12/10/19 16:15
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.67		0.40	0.093	ug/L			12/16/19 18:21	1
Ethylbenzene	0.33	J	1.0	0.20	ug/L			12/16/19 18:21	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 18:21	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 18:21	1
Toluene	0.38	J	1.0	0.31	ug/L			12/16/19 18:21	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/16/19 18:21*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/16/19 18:21*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/16/19 18:21*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/16/19 18:21*	*1*

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			12/16/19 18:21	1

Client Sample ID: FW-5R
Lab Sample ID: 590-12445-12
Date Collected: 12/10/19 16:15
Matrix: Water
Date Received: 12/13/19 10:59

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*68.7 - 141*		*12/16/19 18:21*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**1.2**		0.11	0.064	ug/L		12/17/19 12:31	12/17/19 16:18	1
2-Methylnaphthalene	**360**		2.2	1.1	ug/L		12/17/19 12:31	12/18/19 11:24	20
1-Methylnaphthalene	**310**		2.2	0.55	ug/L		12/17/19 12:31	12/18/19 11:24	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*75*		*36 - 126*	*12/17/19 12:31*	*12/17/19 16:18*	*1*
Nitrobenzene-d5	*69*		*36 - 126*	*12/17/19 12:31*	*12/18/19 11:24*	*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)	**4.9**		0.25	0.11	mg/L		12/23/19 11:58	12/23/19 21:11	1
Residual Range Organics (RRO) (C25-C36)	**0.39**	**J**	0.41	0.12	mg/L		12/23/19 11:58	12/23/19 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*103*		*50 - 150*	*12/23/19 11:58*	*12/23/19 21:11*	*1*
n-Triacontane-d62	*106*		*50 - 150*	*12/23/19 11:58*	*12/23/19 21:11*	*1*

Client Sample ID: B-31-DUP
Lab Sample ID: 590-12445-13
Date Collected: 12/10/19 16:06
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.8**		0.40	0.093	ug/L			12/16/19 18:43	1
Ethylbenzene	**19**		1.0	0.20	ug/L			12/16/19 18:43	1
m,p-Xylene	**22**		2.0	0.28	ug/L			12/16/19 18:43	1
o-Xylene	**1.8**		1.0	0.16	ug/L			12/16/19 18:43	1
Toluene	**7.5**		1.0	0.31	ug/L			12/16/19 18:43	1
Xylenes, Total	**24**		3.0	0.44	ug/L			12/16/19 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*12/16/19 18:43*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/16/19 18:43*	*1*
Dibromofluoromethane (Surr)	*87*		*80 - 120*		*12/16/19 18:43*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/16/19 18:43*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**2300**		150	70	ug/L			12/16/19 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*68.7 - 141*		*12/16/19 18:43*	*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)	**3.4**		0.25	0.11	mg/L		12/23/19 11:58	12/23/19 21:32	1

Client Sample ID: B-31-DUP
Lab Sample ID: 590-12445-13
Date Collected: 12/10/19 16:06
Matrix: Water
Date Received: 12/13/19 10:59

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)	0.34	J	0.42	0.12	mg/L		12/23/19 11:58	12/23/19 21:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*12/23/19 11:58*	*12/23/19 21:32*	*1*
n-Triacontane-d62	*102*		*50 - 150*	*12/23/19 11:58*	*12/23/19 21:32*	*1*

Client Sample ID: HC-111
Lab Sample ID: 590-12445-14
Date Collected: 12/11/19 08:50
Matrix: Water
Date Received: 12/13/19 10:59

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			12/18/19 12:42	10
Ethylbenzene	56		1.0	0.20	ug/L			12/16/19 13:08	1
m,p-Xylene	2.6		2.0	0.28	ug/L			12/16/19 13:08	1
o-Xylene	0.49	J	1.0	0.16	ug/L			12/16/19 13:08	1
Toluene	7.2		1.0	0.31	ug/L			12/16/19 13:08	1
Xylenes, Total	3.1		3.0	0.44	ug/L			12/16/19 13:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*12/16/19 13:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*12/18/19 12:42*	*10*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*12/16/19 13:08*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*12/18/19 12:42*	*10*
Dibromofluoromethane (Surr)	*87*		*80 - 120*		*12/16/19 13:08*	*1*
Dibromofluoromethane (Surr)	*90*		*80 - 120*		*12/18/19 12:42*	*10*
Toluene-d8 (Surr)	*93*		*80 - 120*		*12/16/19 13:08*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/18/19 12:42*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2300		150	70	ug/L			12/16/19 13:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*68.7 - 141*		*12/16/19 13:08*	*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)	9.1		0.23	0.11	mg/L		12/23/19 11:58	12/23/19 21:53	1
Residual Range Organics (RRO) (C25-C36)	0.67		0.39	0.12	mg/L		12/23/19 11:58	12/23/19 21:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*12/23/19 11:58*	*12/23/19 21:53*	*1*
n-Triacontane-d62	*100*		*50 - 150*	*12/23/19 11:58*	*12/23/19 21:53*	*1*

Client Sample ID: B-34
Lab Sample ID: 590-12445-15
Date Collected: 12/11/19 09:50
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**54**		0.40	0.093	ug/L			12/16/19 13:29	1
Ethylbenzene	**7.0**		1.0	0.20	ug/L			12/16/19 13:29	1
m,p-Xylene	**0.59**	**J**	2.0	0.28	ug/L			12/16/19 13:29	1
o-Xylene	**0.38**	**J**	1.0	0.16	ug/L			12/16/19 13:29	1
Toluene	**5.6**		1.0	0.31	ug/L			12/16/19 13:29	1
Xylenes, Total	**0.97**	**J**	3.0	0.44	ug/L			12/16/19 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*		*12/16/19 13:29*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*12/16/19 13:29*	*1*
Dibromofluoromethane (Surr)	*86*		*80 - 120*		*12/16/19 13:29*	*1*
Toluene-d8 (Surr)	*90*		*80 - 120*		*12/16/19 13:29*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**2200**		150	70	ug/L			12/16/19 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*68.7 - 141*		*12/16/19 13:29*	*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)	**15**		0.26	0.12	mg/L		12/23/19 11:58	12/23/19 22:14	1
Residual Range Organics (RRO) (C25-C36)	**0.86**		0.44	0.13	mg/L		12/23/19 11:58	12/23/19 22:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*12/23/19 11:58*	*12/23/19 22:14*	*1*
n-Triacontane-d62	*96*		*50 - 150*	*12/23/19 11:58*	*12/23/19 22:14*	*1*

Client Sample ID: RR-5
Lab Sample ID: 590-12445-16
Date Collected: 12/11/19 10:46
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 13:50	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 13:50	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 13:50	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 13:50	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 13:50	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/16/19 13:50*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/16/19 13:50*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*12/16/19 13:50*	*1*
Toluene-d8 (Surr)	*88*		*80 - 120*		*12/16/19 13:50*	*1*

Client Sample ID: RR-5
Lab Sample ID: 590-12445-16
Date Collected: 12/11/19 10:46
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	410		150	70	ug/L			12/16/19 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*68.7 - 141*		*12/16/19 13:50*	*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)	0.40		0.26	0.12	mg/L		12/23/19 11:58	12/23/19 22:56	1
Residual Range Organics (RRO) (C25-C36)	0.13	J	0.43	0.13	mg/L		12/23/19 11:58	12/23/19 22:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*12/23/19 11:58*	*12/23/19 22:56*	*1*
n-Triacontane-d62	*103*		*50 - 150*	*12/23/19 11:58*	*12/23/19 22:56*	*1*

Client Sample ID: RR-2
Lab Sample ID: 590-12445-17
Date Collected: 12/11/19 11:10
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 14:11	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 14:11	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 14:11	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 14:11	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 14:11	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/16/19 14:11*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/16/19 14:11*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/16/19 14:11*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/16/19 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			12/16/19 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*68.7 - 141*		*12/16/19 14:11*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.084	0.049	ug/L		12/17/19 12:31	12/17/19 16:41	1
2-Methylnaphthalene	ND		0.084	0.041	ug/L		12/17/19 12:31	12/17/19 16:41	1
1-Methylnaphthalene	ND		0.084	0.021	ug/L		12/17/19 12:31	12/17/19 16:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*89*		*36 - 126*	*12/17/19 12:31*	*12/17/19 16:41*	*1*

Client Sample ID: RR-2
Lab Sample ID: 590-12445-17
Date Collected: 12/11/19 11:10
Matrix: Water
Date Received: 12/13/19 10:59

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		0.24	0.11	mg/L		12/23/19 11:58	12/23/19 23:17	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		12/23/19 11:58	12/23/19 23:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*79*		*50 - 150*	*12/23/19 11:58*	*12/23/19 23:17*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*12/23/19 11:58*	*12/23/19 23:17*	*1*

Client Sample ID: B-25
Lab Sample ID: 590-12445-18
Date Collected: 12/11/19 12:13
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**340**		4.0	0.93	ug/L			12/18/19 13:45	10
Ethylbenzene	**1.2**		1.0	0.20	ug/L			12/16/19 14:32	1
m,p-Xylene	**3.7**		2.0	0.28	ug/L			12/16/19 14:32	1
o-Xylene	**0.36**	**J**	1.0	0.16	ug/L			12/16/19 14:32	1
Toluene	**2.7**		1.0	0.31	ug/L			12/16/19 14:32	1
Xylenes, Total	**4.1**		3.0	0.44	ug/L			12/16/19 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*		*12/16/19 14:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*12/18/19 13:45*	*10*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*12/16/19 14:32*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*12/18/19 13:45*	*10*
Dibromofluoromethane (Surr)	*87*		*80 - 120*		*12/16/19 14:32*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*12/18/19 13:45*	*10*
Toluene-d8 (Surr)	*90*		*80 - 120*		*12/16/19 14:32*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/18/19 13:45*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**2100**		150	70	ug/L			12/16/19 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*68.7 - 141*		*12/16/19 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)	**0.95**		0.25	0.11	mg/L		12/23/19 11:58	12/23/19 23:38	1
Residual Range Organics (RRO) (C25-C36)	**0.13**	**J**	0.41	0.12	mg/L		12/23/19 11:58	12/23/19 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*12/23/19 11:58*	*12/23/19 23:38*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*12/23/19 11:58*	*12/23/19 23:38*	*1*

Client Sample ID: RW-5R
Lab Sample ID: 590-12445-19
Date Collected: 12/11/19 12:45
Matrix: Water
Date Received: 12/13/19 10:59

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	55		0.40	0.093	ug/L			12/16/19 14:53	1
Ethylbenzene	18		1.0	0.20	ug/L			12/16/19 14:53	1
m,p-Xylene	0.33	J	2.0	0.28	ug/L			12/16/19 14:53	1
o-Xylene	0.63	J	1.0	0.16	ug/L			12/16/19 14:53	1
Toluene	0.91	J	1.0	0.31	ug/L			12/16/19 14:53	1
Xylenes, Total	0.96	J	3.0	0.44	ug/L			12/16/19 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*		*12/16/19 14:53*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*12/16/19 14:53*	*1*
Dibromofluoromethane (Surr)	*87*		*80 - 120*		*12/16/19 14:53*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*12/16/19 14:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	4300		1500	700	ug/L			12/18/19 14:07	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*68.7 - 141*		*12/18/19 14:07*	*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)	2.6		0.25	0.11	mg/L		12/23/19 11:58	12/23/19 23:58	1
Residual Range Organics (RRO) (C25-C36)	0.25	J	0.41	0.12	mg/L		12/23/19 11:58	12/23/19 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*12/23/19 11:58*	*12/23/19 23:58*	*1*
n-Triacontane-d62	*96*		*50 - 150*	*12/23/19 11:58*	*12/23/19 23:58*	*1*

Client Sample ID: Trip lank
Lab Sample ID: 590-12445-20
Date Collected: 12/11/19 00:00
Matrix: Water
Date Received: 12/13/19 10:59

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			12/16/19 16:56	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 16:56	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 16:56	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 16:56	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 16:56	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/16/19 16:56*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*12/16/19 16:56*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/16/19 16:56*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/16/19 16:56*	*1*

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

Lab Sample ID: MB 590-25659/5
Matrix: Water
Analysis Batch: 25659

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			12/16/19 10:13	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 10:13	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 10:13	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 10:13	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 10:13	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 10:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/16/19 10:13*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/16/19 10:13*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/16/19 10:13*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/16/19 10:13*	*1*

Lab Sample ID: LCS 590-25659/1003
Matrix: Water
Analysis Batch: 25659

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	9.75		ug/L		97	80 - 126
Ethylbenzene	10.0	9.74		ug/L		97	80 - 120
m,p-Xylene	10.0	9.67		ug/L		97	80 - 120
o-Xylene	10.0	9.66		ug/L		97	80 - 120
Toluene	10.0	9.95		ug/L		100	80 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 590-25659/6
Matrix: Water
Analysis Batch: 25659

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	10.0		ug/L		100	80 - 126	3	25
Ethylbenzene	10.0	9.90		ug/L		99	80 - 120	2	25
m,p-Xylene	10.0	9.83		ug/L		98	80 - 120	2	25
o-Xylene	10.0	9.90		ug/L		99	80 - 120	2	25
Toluene	10.0	10.2		ug/L		102	80 - 123	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*97*		*80 - 120*

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

Lab Sample ID: 590-12445-4 MS
Matrix: Water
Analysis Batch: 25659

Client Sample ID: FW-13
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		10.0	10.9		ug/L		109	80 - 126
Ethylbenzene	ND		10.0	10.7		ug/L		107	80 - 120
m,p-Xylene	ND		10.0	10.0		ug/L		100	80 - 120
o-Xylene	ND		10.0	10.4		ug/L		104	80 - 120
Toluene	ND		10.0	10.9		ug/L		109	80 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: 590-12445-4 MSD
Matrix: Water
Analysis Batch: 25659

Client Sample ID: FW-13
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		10.0	9.25		ug/L		93	80 - 126	17	25
Ethylbenzene	ND		10.0	9.30		ug/L		93	80 - 120	14	25
m,p-Xylene	ND		10.0	8.47		ug/L		85	80 - 120	17	25
o-Xylene	ND		10.0	8.82		ug/L		88	80 - 120	17	25
Toluene	ND		10.0	9.45		ug/L		94	80 - 123	14	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 590-25661/5
Matrix: Water
Analysis Batch: 25661

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			12/16/19 10:11	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/19 10:11	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/19 10:11	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/19 10:11	1
Toluene	ND		1.0	0.31	ug/L			12/16/19 10:11	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/19 10:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*		*12/16/19 10:11*	*1*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*12/16/19 10:11*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*12/16/19 10:11*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*12/16/19 10:11*	*1*

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

Lab Sample ID: LCS 590-25661/1003
Matrix: Water
Analysis Batch: 25661

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	11.1		ug/L		111	80 - 126		
Ethylbenzene			10.0	11.2		ug/L		112	80 - 120		
m,p-Xylene			10.0	11.6		ug/L		116	80 - 120		
o-Xylene			10.0	11.6		ug/L		116	80 - 120		
Toluene			10.0	10.4		ug/L		104	80 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: LCSD 590-25661/6
Matrix: Water
Analysis Batch: 25661

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	10.1		ug/L		101	80 - 126	9	25
Ethylbenzene			10.0	10.3		ug/L		103	80 - 120	8	25
m,p-Xylene			10.0	11.0		ug/L		110	80 - 120	5	25
o-Xylene			10.0	10.5		ug/L		105	80 - 120	10	25
Toluene			10.0	9.65		ug/L		97	80 - 123	8	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: MB 590-25712/5
Matrix: Water
Analysis Batch: 25712

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			12/18/19 11:17	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/18/19 11:17	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/18/19 11:17	1
o-Xylene	ND		1.0	0.16	ug/L			12/18/19 11:17	1
Toluene	ND		1.0	0.31	ug/L			12/18/19 11:17	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/18/19 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/18/19 11:17*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/18/19 11:17*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*12/18/19 11:17*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/18/19 11:17*	*1*

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

Lab Sample ID: LCS 590-25712/1003
Matrix: Water
Analysis Batch: 25712

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	10.9		ug/L		109	80 - 126		
Ethylbenzene			10.0	10.7		ug/L		107	80 - 120		
m,p-Xylene			10.0	10.9		ug/L		109	80 - 120		
o-Xylene			10.0	10.7		ug/L		107	80 - 120		
Toluene			10.0	10.2		ug/L		102	80 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*92*		*80 - 120*

Lab Sample ID: LCSD 590-25712/6
Matrix: Water
Analysis Batch: 25712

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	10.8		ug/L		108	80 - 126	1	25
Ethylbenzene			10.0	10.7		ug/L		107	80 - 120	0	25
m,p-Xylene			10.0	10.9		ug/L		109	80 - 120	0	25
o-Xylene			10.0	10.7		ug/L		107	80 - 120	0	25
Toluene			10.0	9.76		ug/L		98	80 - 123	4	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: 590-12445-14 MS
Matrix: Water
Analysis Batch: 25712

Client Sample ID: HC-111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	130		100	226		ug/L		101	80 - 126		
Ethylbenzene	55		100	163		ug/L		109	80 - 120		
m,p-Xylene	3.0	J	100	117		ug/L		114	80 - 120		
o-Xylene	ND		100	111		ug/L		111	80 - 120		
Toluene	7.0	J	100	110		ug/L		103	80 - 123		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
Toluene-d8 (Surr)	*91*		*80 - 120*

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

Lab Sample ID: 590-12445-14 MSD
Matrix: Water
Analysis Batch: 25712

Client Sample ID: HC-111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	130		100	222		ug/L		97	80 - 126	2	25
Ethylbenzene	55		100	166		ug/L		111	80 - 120	1	25
m,p-Xylene	3.0	J	100	120		ug/L		117	80 - 120	2	25
o-Xylene	ND		100	114		ug/L		114	80 - 120	3	25
Toluene	7.0	J	100	114		ug/L		107	80 - 123	3	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

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

Lab Sample ID: MB 590-25658/5
Matrix: Water
Analysis Batch: 25658

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			12/16/19 10:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*68.7 - 141*		*12/16/19 10:13*	*1*

Lab Sample ID: LCS 590-25658/1004
Matrix: Water
Analysis Batch: 25658

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1000	920		ug/L		92	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*68.7 - 141*

Lab Sample ID: 590-12445-4 MS
Matrix: Water
Analysis Batch: 25658

Client Sample ID: FW-13
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	ND		1000	989		ug/L		99	55.6 - 126		

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

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

Lab Sample ID: 590-12445-4 MSD
Matrix: Water
Analysis Batch: 25658

Client Sample ID: FW-13
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	ND		1000	1020		ug/L		102	55.6 - 126	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*68.7 - 141*

Lab Sample ID: MB 590-25663/5
Matrix: Water
Analysis Batch: 25663

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			12/16/19 10:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*68.7 - 141*		*12/16/19 10:11*	*1*

Lab Sample ID: LCS 590-25663/1004
Matrix: Water
Analysis Batch: 25663

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)	*99*		*68.7 - 141*

Lab Sample ID: MB 590-25714/5
Matrix: Water
Analysis Batch: 25714

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			12/18/19 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*68.7 - 141*		*12/18/19 11:17*	*1*

Lab Sample ID: LCS 590-25714/1004
Matrix: Water
Analysis Batch: 25714

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*

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

Lab Sample ID: MB 590-25695/1-A
Matrix: Water
Analysis Batch: 25688

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25695

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.090	0.053	ug/L		12/17/19 12:31	12/17/19 14:22	1
2-Methylnaphthalene	ND		0.090	0.044	ug/L		12/17/19 12:31	12/17/19 14:22	1
1-Methylnaphthalene	ND		0.090	0.023	ug/L		12/17/19 12:31	12/17/19 14:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*78*		*36 - 126*	*12/17/19 12:31*	*12/17/19 14:22*	*1*

Lab Sample ID: LCS 590-25695/2-A
Matrix: Water
Analysis Batch: 25688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25695

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	1.60	1.18		ug/L		74	52 - 120
2-Methylnaphthalene	1.60	1.23		ug/L		77	44 - 120
1-Methylnaphthalene	1.60	1.22		ug/L		76	49 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*76*		*36 - 126*

Lab Sample ID: LCSD 590-25695/3-A
Matrix: Water
Analysis Batch: 25688

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 25695

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	1.60	1.29		ug/L		81	52 - 120	9	30
2-Methylnaphthalene	1.60	1.34		ug/L		84	44 - 120	8	35
1-Methylnaphthalene	1.60	1.33		ug/L		83	49 - 120	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Nitrobenzene-d5	*87*		*36 - 126*

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

Lab Sample ID: MB 590-25775/1-A
Matrix: Water
Analysis Batch: 25771

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25775

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		12/23/19 11:58	12/23/19 15:12	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		12/23/19 11:58	12/23/19 15:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*79*		*50 - 150*	*12/23/19 11:58*	*12/23/19 15:12*	*1*
n-Triacontane-d62	*86*		*50 - 150*	*12/23/19 11:58*	*12/23/19 15:12*	*1*

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

Lab Sample ID: LCS 590-25775/2-A
Matrix: Water
Analysis Batch: 25771

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25775

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			1.60	1.36		mg/L		85	50 - 150		
Residual Range Organics (RRO) (C25-C36)			1.60	1.54		mg/L		96	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*89*		*50 - 150*
n-Triacontane-d62	*99*		*50 - 150*

Lab Sample ID: LCSD 590-25775/3-A
Matrix: Water
Analysis Batch: 25771

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 25775

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)			1.60	1.41		mg/L		88	50 - 150	4	25
Residual Range Organics (RRO) (C25-C36)			1.60	1.56		mg/L		97	50 - 150	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*88*		*50 - 150*
n-Triacontane-d62	*96*		*50 - 150*

Lab Sample ID: 590-12445-4 MS
Matrix: Water
Analysis Batch: 25771

Client Sample ID: FW-13
Prep Type: Total/NA
Prep Batch: 25775

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)	0.37		1.68	1.79		mg/L		84	54.5 - 136		
Residual Range Organics (RRO) (C25-C36)	ND		1.68	1.69		mg/L		101	50 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*87*		*50 - 150*
n-Triacontane-d62	*95*		*50 - 150*

Lab Sample ID: 590-12445-4 MSD
Matrix: Water
Analysis Batch: 25771

Client Sample ID: FW-13
Prep Type: Total/NA
Prep Batch: 25775

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)	0.37		1.75	1.97		mg/L		91	54.5 - 136	10	32.5
Residual Range Organics (RRO) (C25-C36)	ND		1.75	1.83		mg/L		104	50 - 150	8	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*93*		*50 - 150*

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

Lab Sample ID: 590-12445-4 MSD
Matrix: Water
Analysis Batch: 25771

Client Sample ID: FW-13
Prep Type: Total/NA
Prep Batch: 25775

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Triacontane-d62	99		50 - 150

GC/MS VOA

Analysis Batch: 25658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-1	T-2	Total/NA	Water	NWTPH-Gx	
590-12445-2	DMW-4	Total/NA	Water	NWTPH-Gx	
590-12445-3	RR-1	Total/NA	Water	NWTPH-Gx	
590-12445-4	FW-13	Total/NA	Water	NWTPH-Gx	
590-12445-5	RR-4	Total/NA	Water	NWTPH-Gx	
590-12445-6	RW-8	Total/NA	Water	NWTPH-Gx	
590-12445-7	FW-14	Total/NA	Water	NWTPH-Gx	
590-12445-8	E-22	Total/NA	Water	NWTPH-Gx	
590-12445-9	DMW-2	Total/NA	Water	NWTPH-Gx	
590-12445-10	RW-8-DUP	Total/NA	Water	NWTPH-Gx	
590-12445-11	B-31	Total/NA	Water	NWTPH-Gx	
590-12445-12	FW-5R	Total/NA	Water	NWTPH-Gx	
590-12445-13	B-31-DUP	Total/NA	Water	NWTPH-Gx	
MB 590-25658/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-25658/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
590-12445-4 MS	FW-13	Total/NA	Water	NWTPH-Gx	
590-12445-4 MSD	FW-13	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 25659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-1	T-2	Total/NA	Water	8260C	
590-12445-2	DMW-4	Total/NA	Water	8260C	
590-12445-3	RR-1	Total/NA	Water	8260C	
590-12445-4	FW-13	Total/NA	Water	8260C	
590-12445-5	RR-4	Total/NA	Water	8260C	
590-12445-6	RW-8	Total/NA	Water	8260C	
590-12445-7	FW-14	Total/NA	Water	8260C	
590-12445-8	E-22	Total/NA	Water	8260C	
590-12445-9	DMW-2	Total/NA	Water	8260C	
590-12445-10	RW-8-DUP	Total/NA	Water	8260C	
590-12445-11	B-31	Total/NA	Water	8260C	
590-12445-12	FW-5R	Total/NA	Water	8260C	
590-12445-13	B-31-DUP	Total/NA	Water	8260C	
MB 590-25659/5	Method Blank	Total/NA	Water	8260C	
LCS 590-25659/1003	Lab Control Sample	Total/NA	Water	8260C	
LCSD 590-25659/6	Lab Control Sample Dup	Total/NA	Water	8260C	
590-12445-4 MS	FW-13	Total/NA	Water	8260C	
590-12445-4 MSD	FW-13	Total/NA	Water	8260C	

Analysis Batch: 25661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-14	HC-111	Total/NA	Water	8260C	
590-12445-15	B-34	Total/NA	Water	8260C	
590-12445-16	RR-5	Total/NA	Water	8260C	
590-12445-17	RR-2	Total/NA	Water	8260C	
590-12445-18	B-25	Total/NA	Water	8260C	
590-12445-19	RW-5R	Total/NA	Water	8260C	
590-12445-20	Trip lank	Total/NA	Water	8260C	
MB 590-25661/5	Method Blank	Total/NA	Water	8260C	
LCS 590-25661/1003	Lab Control Sample	Total/NA	Water	8260C	
LCSD 590-25661/6	Lab Control Sample Dup	Total/NA	Water	8260C	

QC Association Summary

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

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Analysis Batch: 25663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-14	HC-111	Total/NA	Water	NWTPH-Gx	
590-12445-15	B-34	Total/NA	Water	NWTPH-Gx	
590-12445-16	RR-5	Total/NA	Water	NWTPH-Gx	
590-12445-17	RR-2	Total/NA	Water	NWTPH-Gx	
590-12445-18	B-25	Total/NA	Water	NWTPH-Gx	
MB 590-25663/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-25663/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 25712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-14	HC-111	Total/NA	Water	8260C	
590-12445-18	B-25	Total/NA	Water	8260C	
MB 590-25712/5	Method Blank	Total/NA	Water	8260C	
LCS 590-25712/1003	Lab Control Sample	Total/NA	Water	8260C	
LCSD 590-25712/6	Lab Control Sample Dup	Total/NA	Water	8260C	
590-12445-14 MS	HC-111	Total/NA	Water	8260C	
590-12445-14 MSD	HC-111	Total/NA	Water	8260C	

Analysis Batch: 25714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-19	RW-5R	Total/NA	Water	NWTPH-Gx	
MB 590-25714/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-25714/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	

GC/MS Semi VOA

Analysis Batch: 25688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-7	FW-14	Total/NA	Water	8270D SIM	25695
590-12445-12	FW-5R	Total/NA	Water	8270D SIM	25695
590-12445-17	RR-2	Total/NA	Water	8270D SIM	25695
MB 590-25695/1-A	Method Blank	Total/NA	Water	8270D SIM	25695
LCS 590-25695/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	25695
LCSD 590-25695/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	25695

Prep Batch: 25695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-7	FW-14	Total/NA	Water	3510C	
590-12445-12	FW-5R	Total/NA	Water	3510C	
590-12445-17	RR-2	Total/NA	Water	3510C	
MB 590-25695/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-25695/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-25695/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 25719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-12	FW-5R	Total/NA	Water	8270D SIM	25695

QC Association Summary

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

GC Semi VOA

Analysis Batch: 25771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-1	T-2	Total/NA	Water	NWTPH-Dx	25775
590-12445-2	DMW-4	Total/NA	Water	NWTPH-Dx	25775
590-12445-3	RR-1	Total/NA	Water	NWTPH-Dx	25775
590-12445-4	FW-13	Total/NA	Water	NWTPH-Dx	25775
590-12445-5	RR-4	Total/NA	Water	NWTPH-Dx	25775
590-12445-6	RW-8	Total/NA	Water	NWTPH-Dx	25775
590-12445-7	FW-14	Total/NA	Water	NWTPH-Dx	25775
590-12445-8	E-22	Total/NA	Water	NWTPH-Dx	25775
590-12445-9	DMW-2	Total/NA	Water	NWTPH-Dx	25775
590-12445-10	RW-8-DUP	Total/NA	Water	NWTPH-Dx	25775
590-12445-11	B-31	Total/NA	Water	NWTPH-Dx	25775
590-12445-12	FW-5R	Total/NA	Water	NWTPH-Dx	25775
590-12445-13	B-31-DUP	Total/NA	Water	NWTPH-Dx	25775
590-12445-14	HC-111	Total/NA	Water	NWTPH-Dx	25775
590-12445-15	B-34	Total/NA	Water	NWTPH-Dx	25775
590-12445-16	RR-5	Total/NA	Water	NWTPH-Dx	25775
590-12445-17	RR-2	Total/NA	Water	NWTPH-Dx	25775
590-12445-18	B-25	Total/NA	Water	NWTPH-Dx	25775
590-12445-19	RW-5R	Total/NA	Water	NWTPH-Dx	25775
MB 590-25775/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	25775
LCS 590-25775/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	25775
LCSD 590-25775/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	25775
590-12445-4 MS	FW-13	Total/NA	Water	NWTPH-Dx	25775
590-12445-4 MSD	FW-13	Total/NA	Water	NWTPH-Dx	25775

Prep Batch: 25775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12445-1	T-2	Total/NA	Water	3510C	
590-12445-2	DMW-4	Total/NA	Water	3510C	
590-12445-3	RR-1	Total/NA	Water	3510C	
590-12445-4	FW-13	Total/NA	Water	3510C	
590-12445-5	RR-4	Total/NA	Water	3510C	
590-12445-6	RW-8	Total/NA	Water	3510C	
590-12445-7	FW-14	Total/NA	Water	3510C	
590-12445-8	E-22	Total/NA	Water	3510C	
590-12445-9	DMW-2	Total/NA	Water	3510C	
590-12445-10	RW-8-DUP	Total/NA	Water	3510C	
590-12445-11	B-31	Total/NA	Water	3510C	
590-12445-12	FW-5R	Total/NA	Water	3510C	
590-12445-13	B-31-DUP	Total/NA	Water	3510C	
590-12445-14	HC-111	Total/NA	Water	3510C	
590-12445-15	B-34	Total/NA	Water	3510C	
590-12445-16	RR-5	Total/NA	Water	3510C	
590-12445-17	RR-2	Total/NA	Water	3510C	
590-12445-18	B-25	Total/NA	Water	3510C	
590-12445-19	RW-5R	Total/NA	Water	3510C	
MB 590-25775/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-25775/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-25775/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
590-12445-4 MS	FW-13	Total/NA	Water	3510C	
590-12445-4 MSD	FW-13	Total/NA	Water	3510C	

Lab Chronicle

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

Client Sample ID: T-2
Lab Sample ID: 590-12445-1
Date Collected: 12/10/19 09:20
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 13:13	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 13:13	JSP	TAL SPK
Total/NA	Prep	3510C			230.5 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 16:17	NMI	TAL SPK

Client Sample ID: DMW-4
Lab Sample ID: 590-12445-2
Date Collected: 12/10/19 09:28
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 13:35	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 13:35	JSP	TAL SPK
Total/NA	Prep	3510C			234.2 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 16:38	NMI	TAL SPK

Client Sample ID: RR-1
Lab Sample ID: 590-12445-3
Date Collected: 12/10/19 10:40
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 13:57	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 13:57	JSP	TAL SPK
Total/NA	Prep	3510C			235.9 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 16:59	NMI	TAL SPK

Client Sample ID: FW-13
Lab Sample ID: 590-12445-4
Date Collected: 12/10/19 11:25
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 14:19	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 14:19	JSP	TAL SPK
Total/NA	Prep	3510C			247.8 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 17:20	NMI	TAL SPK

Client Sample ID: RR-4
Lab Sample ID: 590-12445-5
Date Collected: 12/10/19 11:50
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 15:47	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 15:47	JSP	TAL SPK
Total/NA	Prep	3510C			271.1 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 18:23	NMI	TAL SPK

Lab Chronicle

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

Client Sample ID: RW-8
Lab Sample ID: 590-12445-6
Date Collected: 12/10/19 13:13
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 16:09	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 16:09	JSP	TAL SPK
Total/NA	Prep	3510C			226.8 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 19:05	NMI	TAL SPK

Client Sample ID: FW-14
Lab Sample ID: 590-12445-7
Date Collected: 12/10/19 13:50
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 16:31	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 16:31	JSP	TAL SPK
Total/NA	Prep	3510C			246.6 mL	2 mL	25695	12/17/19 12:31	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			25688	12/17/19 15:55	NMI	TAL SPK
Total/NA	Prep	3510C			246.5 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 19:26	NMI	TAL SPK

Client Sample ID: E-22
Lab Sample ID: 590-12445-8
Date Collected: 12/10/19 14:37
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 16:53	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 16:53	JSP	TAL SPK
Total/NA	Prep	3510C			243.1 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 19:47	NMI	TAL SPK

Client Sample ID: DMW-2
Lab Sample ID: 590-12445-9
Date Collected: 12/10/19 14:55
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 17:15	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 17:15	JSP	TAL SPK
Total/NA	Prep	3510C			250.2 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 20:08	NMI	TAL SPK

Client Sample ID: RW-8-DUP
Lab Sample ID: 590-12445-10
Date Collected: 12/10/19 13:13
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 17:37	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 17:37	JSP	TAL SPK

Lab Chronicle

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

Client Sample ID: RW-8-DUP
Lab Sample ID: 590-12445-10
Date Collected: 12/10/19 13:13
Matrix: Water
Date Received: 12/13/19 10:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			226.4 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 20:29	NMI	TAL SPK

Client Sample ID: B-31
Lab Sample ID: 590-12445-11
Date Collected: 12/10/19 16:06
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 17:59	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 17:59	JSP	TAL SPK
Total/NA	Prep	3510C			251.1 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 20:50	NMI	TAL SPK

Client Sample ID: FW-5R
Lab Sample ID: 590-12445-12
Date Collected: 12/10/19 16:15
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 18:21	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 18:21	JSP	TAL SPK
Total/NA	Prep	3510C			207.6 mL	2 mL	25695	12/17/19 12:31	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			25688	12/17/19 16:18	NMI	TAL SPK
Total/NA	Prep	3510C			207.6 mL	2 mL	25695	12/17/19 12:31	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		20			25719	12/18/19 11:24	NMI	TAL SPK
Total/NA	Prep	3510C			242.9 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 21:11	NMI	TAL SPK

Client Sample ID: B-31-DUP
Lab Sample ID: 590-12445-13
Date Collected: 12/10/19 16:06
Matrix: Water
Date Received: 12/13/19 10:59

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	25659	12/16/19 18:43	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25658	12/16/19 18:43	JSP	TAL SPK
Total/NA	Prep	3510C			240.9 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 21:32	NMI	TAL SPK

Client Sample ID: HC-111
Lab Sample ID: 590-12445-14
Date Collected: 12/11/19 08:50
Matrix: Water
Date Received: 12/13/19 10:59

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	25661	12/16/19 13:08	JSP	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	25712	12/18/19 12:42	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25663	12/16/19 13:08	JSP	TAL SPK

Lab Chronicle

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

Client Sample ID: HC-111
Lab Sample ID: 590-12445-14
Date Collected: 12/11/19 08:50
Matrix: Water
Date Received: 12/13/19 10:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			259.4 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 21:53	NMI	TAL SPK

Client Sample ID: B-34
Lab Sample ID: 590-12445-15
Date Collected: 12/11/19 09:50
Matrix: Water
Date Received: 12/13/19 10:59

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	25661	12/16/19 13:29	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25663	12/16/19 13:29	JSP	TAL SPK
Total/NA	Prep	3510C			226.7 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 22:14	NMI	TAL SPK

Client Sample ID: RR-5
Lab Sample ID: 590-12445-16
Date Collected: 12/11/19 10:46
Matrix: Water
Date Received: 12/13/19 10:59

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	25661	12/16/19 13:50	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25663	12/16/19 13:50	JSP	TAL SPK
Total/NA	Prep	3510C			233.8 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 22:56	NMI	TAL SPK

Client Sample ID: RR-2
Lab Sample ID: 590-12445-17
Date Collected: 12/11/19 11:10
Matrix: Water
Date Received: 12/13/19 10:59

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	25661	12/16/19 14:11	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25663	12/16/19 14:11	JSP	TAL SPK
Total/NA	Prep	3510C			268.4 mL	2 mL	25695	12/17/19 12:31	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			25688	12/17/19 16:41	NMI	TAL SPK
Total/NA	Prep	3510C			250.4 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 23:17	NMI	TAL SPK

Client Sample ID: B-25
Lab Sample ID: 590-12445-18
Date Collected: 12/11/19 12:13
Matrix: Water
Date Received: 12/13/19 10:59

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	25661	12/16/19 14:32	JSP	TAL SPK
Total/NA	Analysis	8260C		10	43 mL	43 mL	25712	12/18/19 13:45	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	25663	12/16/19 14:32	JSP	TAL SPK
Total/NA	Prep	3510C			244.3 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 23:38	NMI	TAL SPK

Lab Chronicle

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

Client Sample ID: RW-5R
Lab Sample ID: 590-12445-19
Date Collected: 12/11/19 12:45
Matrix: Water
Date Received: 12/13/19 10:59

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	25661	12/16/19 14:53	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		10	43 mL	43 mL	25714	12/18/19 14:07	JSP	TAL SPK
Total/NA	Prep	3510C			244.6 mL	2 mL	25775	12/23/19 11:58	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25771	12/23/19 23:58	NMI	TAL SPK

Client Sample ID: Trip lank
Lab Sample ID: 590-12445-20
Date Collected: 12/11/19 00:00
Matrix: Water
Date Received: 12/13/19 10:59

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	25661	12/16/19 16:56	JSP	TAL SPK

Laboratory References:

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

Definitions/Glossary

Client: AECOM
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

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 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
Job ID: 590-12445-1
Project/Site: Tacoma D St Terminal-Phillips 66

Laboratory: Eurofins TestAmerica, Spokane

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

Authority	Program	Identification Number	Expiration Date
Washington	State Program	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

Eurofins TestAmerica, Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone: 509-924-9200 Fax: 509-924-9290

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: R. Digiustino + N. Gwyn	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-5236-1640.1
Client Contact: ~~Clifford Pearson~~ Tyler Henry	Phone: (503) 222-7200	E-Mail: randee.arrington@testamericainc.com		Page: Page 1 of 3
Company: AECOM				Job #:
Address: 111 SW Columbia Street, Suite 1500	Due Date Requested:			
City: Portland	TAT Requested (days):			
State, Zip: OR, 97201				
Phone: 913-344-1000(Tel) 913-344-1011(Fax)	PO #: 60537458			
Email: Tylee.Henry clifford.pearson@aecom.com	WO #: 60537458			
Project Name: Tacoma D St Terminal-~~Phillips 66/60537745~~ Shell	Project #: 59000882			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3

590-12445 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - DRO and RRO	8260C, NWTPH_Gx_MS	8270D_SIM - Naphthalenes	8260C - (MOD) BTEX only	Total Num	Special Instructions/Note:
Preservation Code:							A	A	N	A		
T-2	12/10/19	09:20	G	Water	N	N	X	X		X	3	
DMW-4		09:28		Water	N	N	X	X		X	3	
RR-1		10:40		Water	N	N	X	X		X	3	
FW-13		11:25		Water	N	Y	X	X		X	9	
RR-4		11:50		Water	N	N	X	X		X	3	
RW-8		13:13		Water	N	N	X	X		X	3	
FW-14		13:50		Water	N	N	X	X	X	X	5	
E-22		14:37		Water	N	N	X	X		X	3	
DMW-2		14:55		Water	N	N	X	X		X	3	
RW-8-DUP		13:13		Water	N	N	X	X		X	3	
B-31		16:06		Water	N	N	X	X		X	3	

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Relinquished by:	Date:	Time:	Method of Shipment:
~~Empty Kit~~ Relinquished by:	12-12-19	1505	

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
REBECCA DIGIUSTINO	12/11/2019 16:15	ACOM		12-11-19 1615	TASPC
				Date/Time:	Company
				Date/Time:	Company

Therm. ID:	Cor:	Unc:	Therm. ID:	Cor:	Unc:	Therm. ID:	Cor:	Unc:
7	1.3	1.6	7	2.5	2.8	7	3.1	3.4
Cooler Dsc: HR			Cooler Dsc: SB			Cooler Dsc: LB		
Packing: Bub			Packing: Bub			Packing: Bub		
Cust. Seal: Yes___ No X	FedEx:		Cust. Seal: Yes___ No X	FedEx:		Cust. Seal: Yes___ No X	FedEx:	
Blue Ice, Wet, Dry, None	UPS:		Blue Ice, Wet, Dry, None	UPS:		Blue Ice, Wet, Dry, None	UPS:	
	Lab Cour:			Lab Cour:			Lab Cour:	
	Other: CP			Other: CP			Other: CP	

Warrie 0706 12/13/19 10:54

2.3-2.5

3.6-3.8°C

Ver: 01/16/2019

12/26/2019

Eurofins TestAmerica, Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone: 509-924-9200 Fax: 509-924-9290

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: RD + NG	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-5236-1640.2
Client Contact: ~~Clifford Pearson~~ Tyler Hemky	Phone: (503) 222-7200	E-Mail: randee.arrington@testamericainc.com		Page: Page 2 of 3
Company: AECOM				Job #:

Address: 111 SW Columbia Street, Suite 1500	Due Date Requested:
City: Portland	TAT Requested (days):
State, Zip: OR, 97201	
Phone: 913-344-1000(Tel) 913-344-1011(Fax)	PO #: 60537458
Email: clifford.pearson@aecom.com	WO #: 60537458
Project Name: Tacoma D St Terminal-~~Phillips 66/60537745~~ Shell	Project #: 59000882
Site:	SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - DRO and RRO	8260C, NWTPH_Gx_MS	8270D_SIM - Naphthalenes	8260C - (MOD) BTEX only	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	A		
FW-5R	12/10/19	16:15	G	Water	N	N	X	X	X	X	5	
B-31-DUP	12/10/19	16:06	G	Water	N	N	X	X		X	3	
HC-111	12/11/19	08:50	G	Water	N	N	X	X		X	3	
B-34		09:50	G	Water	N	N	X	X		X	3	
RR-5		10:46	G	Water	N	N	X	X		X	3	
RR-2		11:10	G	Water	N	N	X	X	X	X	5	
B-25		12:13	G	Water	N	N	X	X		X	3	
RW-5R	↓		G	Water	N	N	X	X		X	3	
Trip blank	—	—	G	Water	N	N				X	2	
				Water								
				Water								

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
REBECCA DIGIUSTINO	12/11/2019 16:15	ARCOM		12-11-19 1615	TASEA
Relinquished by:	Date/Time:	Company	Received by: Maria Moore	Date/Time: 12/13/19 10:59	Company TASPU
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.5 3.8 0.5

Ver: 01/16/2019

12/26/2019

Login Sample Receipt Checklist

Client: AECOM

Job Number: 590-12445-1

Login Number: 12445
List Number: 1
Creator: O'Toole, Maria C

List Source: Eurofins 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	1054128/1054129/494454
Sample custody seals, if present, are intact.	N/A	
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.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
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").	True	
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
Data Review

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

206 438 2700 tel
866 495 5288 fax

Memorandum

To	Rebecca Digiustino, Project Manager	Info	FINAL
Subject	Summary Data Quality Review Phillips 66 – D Street Terminal, Tacoma Washington 2019 Fourth Quarter Groundwater Sampling		
From	Lucy Panteleeff, Chemist Jennifer B. Garner, Chemist		
Date	May 27, 2020		

The summary data quality review of 19 groundwater samples and 1 trip blank collected on December 10 and December 11, 2020, 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 residual-range TPH); and/or naphthalenes by EPA Method 8270D modified by selected ion monitoring (SIM). The laboratory provided summary a 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 590-12445-1:

Sample ID	**Laboratory ID**	**Requested Analyses**
T-2	590-12445-1	BTEX, TPH-Gx, TPH-Dx
DMW-4	590-12445-2	BTEX, TPH-Gx, TPH-Dx
RR-1	590-12445-3	BTEX, TPH-Gx, TPH-Dx
FW-13	590-12445-4	BTEX, TPH-Gx, TPH-Dx
RR-4	590-12445-5	BTEX, TPH-Gx, TPH-Dx
RW-8	590-12445-6	BTEX, TPH-Gx, TPH-Dx
FW-14	590-12445-7	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
E-22	590-12445-8	BTEX, TPH-Gx, TPH-Dx
DMW-2	590-12445-9	BTEX, TPH-Gx, TPH-Dx
RW-8-DUP (Field Duplicate of RW-8)	590-12445-10	BTEX, TPH-Gx, TPH-Dx
B-31	590-12445-11	BTEX, TPH-Gx, TPH-Dx
FW-5R	590-12445-12	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
B-31-DUP (Field Duplicate of B-31)	590-12445-13	BTEX, TPH-Gx, TPH-Dx
HC-111	590-12445-14	BTEX, TPH-Gx, TPH-Dx
B-34	590-12445-15	BTEX, TPH-Gx, TPH-Dx
RR-5	590-12445-16	BTEX, TPH-Gx, TPH-Dx
RR-2	590-12445-17	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
B-25	590-12445-18	BTEX, TPH-Gx, TPH-Dx
FW-5R	590-12445-19	BTEX, TPH-Gx, TPH-Dx
Trip Blank	590-12445-20	BTEX, TPH-Gx, TPH-Dx

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. 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. No sample time was provided on the COC for sample RW-5R. The laboratory logged RW-5R using the sample collection time indicated on the sample container labels.

Organic Analyses

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

1. Holding Times – Acceptable

2. Blanks – Acceptable

3. Surrogates – Acceptable

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

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

   BTEX by Method 8260C – MS/MSDs were performed using FW-13 and HC-111. Results were acceptable.

Gasoline-range TPH by NWTPH-Gx – An MS/MSD was performed using FW-13. Results were acceptable.

Diesel-range and residual-range TPH by NWTPH-Dx – An MS/MSD was performed using FW-13. Results were acceptable.

Naphthalenes by EPA Method 8270D-SIM – An MS/MSD was not performed in association with this analysis. Precision and accuracy were assessed using the LCS/LCSD results.

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

General – Field duplicates were submitted for RW-8 and B-31 and identified as RW-8-DUP B-31-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.

8. Other Items of Note:

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

- Detected hydrocarbons in the gasoline range appear to be due to the presence of discrete peaks in RW-8 and RW-8-DUP.
- Detected hydrocarbons in the diesel range appear to be due to weathered diesel as well as possible biogenic interference in B-34.
- Detected hydrocarbons in the diesel range appear to be due to heavily weathered diesel as well as possible biogenic interference in DMW-4, RR-1, FW-13, RW-8, E-22, DMW-2, and RW-8-DUP.
- Detected hydrocarbons diesel range appear to be due to gasoline overlap as well as possible biogenic interference in T-2, B-25, and RW-5R.
- Detected hydrocarbons in the diesel range appear to be due to gasoline overlap as well as weathered diesel B-31, B-31-DUP, HC-111, and RR-5.
- Detected hydrocarbons in the diesel range appear to be due to diesel as well as individual peaks in FW-5R.

No data qualifiers were assigned based on these qualitative observations.

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 590-12445-1 is 100%.

AECOM

Summary Data Quality Review
Phillips 66 - D Street Terminal, Tacoma, Washington
2019 Fourth Quarter Groundwater Sampling
Laboratory Group: 590-12445-1

Table 1 - Summary of Qualified Data

Sample ID	Laboratory ID	Analyte	Laboratory Result	Units	Final Result	Reason
No data qualifiers were assigned based on this data validation.						