



November 12, 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 – First Quarter 2021
D Street Petroleum Site, Tacoma, Washington
CONSENT DECREE 91-2-2012-1

Dear Mr. Balaraju:

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

A groundwater sampling and monitored natural attenuation program was implemented after the remedial system at the Site was turned off in October 2006. Groundwater monitoring is conducted in accordance with the Sampling and Analysis Plan for Groundwater Performance Monitoring Program and Work Plan for Well Installation/Decommissioning Activities, dated September 2011. This progress report covers the environmental monitoring data collected during the first quarter (January 1, 2021 through March 31, 2021). An evaluation of the first quarter 2021 data and natural attenuation processes will be presented in the 2021 Annual Progress Report, which is completed following the third quarter (September) 2021 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 first quarter 2021 monitoring event included the following groundwater sampling activities conducted from March 29th to March 31st, 2021:



- Water Level and Free Product Gauging
 - AECOM personnel gauged water levels and free product, where present, in 33 upper sand unit monitoring wells, six sentinel wells, seven surface water compliance monitoring wells, and five lower sand unit monitoring wells. Measurable free product was not observed in the monitoring wells gauged during this event.
 - The depths to groundwater and the calculated groundwater elevations based on the March 2021 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 20 groundwater monitoring wells during this event:
 - Fourteen upper sand unit groundwater monitoring wells (B-19, B-25, B-31, B-34, E-21, E-22, FW-5R, FW-14, G-18, HC-111, RW-5R, RW-8, T-2, and T-3). Wells E-22, FW-5R, FW-14, and T-2 also serve as sentinel wells.
 - Two lower sand unit groundwater monitoring wells (DMW-2 and FW-13). DMW-4 was scheduled to be sampled during the first quarter 2021 monitoring event; however, the well monument was severely damaged, and the well casing was inaccessible.
 - 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 Eurofins 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 8260D
 - Gasoline-range total petroleum hydrocarbons (TPH-G) by Northwest total petroleum hydrocarbons Method NWTPH-Gx
 - Diesel-range total petroleum hydrocarbons (TPH-D) and total petroleum hydrocarbons in the heavy oil range (TPH-O) by Northwest total petroleum hydrocarbons Method NWTPH-Dx
 - Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene by EPA Method 8270E selected ion monitoring (SIM)
- Purge water generated during this event was placed in a 55-gallon drum stored at the Site. The contents of the drum will be removed for disposal prior to the next quarterly groundwater monitoring event.

3.0 Summary of Data Validation Completed for Period Sampling Event



A data validation review was completed for the first quarter 2021 analytical data. The data was reviewed based on the EPA Contract Laboratory Program's *National Functional Guidelines for Organic Superfund Methods Data Review* dated January 2017 and standard laboratory quality control criteria.

The completeness of the analytical data for this groundwater monitoring event is 100%. The data qualifiers assigned by the laboratory are shown on the laboratory reports. Additional data qualifiers were assigned to seven samples (B-31, E-22, FW-13, T-2, T-3, RR-5, and RW-8) based on the data validation review. Sample results and associated data qualifiers are presented in Table 2. The completed data review memorandum for this quarterly sampling event is provided in Appendix B.

4.0 Summary of Analytical Results for Period Sampling Event

This section provides a summary of the groundwater monitoring results from this event. Table 2 summarizes analytical results for groundwater monitoring wells sampled during the first quarter 2021. A copy of the laboratory analytical reports 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 five upper sand unit wells (B-25, B-34, G-18, HC-111, and RW-8) and one surface water compliance well (RR-5). Two of the wells (B-25 and B-34) were in exceedance of the surface water cleanup standard of 0.04 mg/L but did not exceed the groundwater cleanup standard. Benzene was not detected in the sentinel wells or lower sand unit wells sampled during this event. Benzene concentrations in the upper sand unit and resulting isocontours from this event are presented in Figure 3.
- Toluene was detected in four of the upper sand unit wells (B-25, B-34, HC-111, and RW-8), one sentinel well (FW-5R), and one surface water compliance well (RR-5). No 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 lower sand unit wells sampled during this event.
- Ethylbenzene was detected in six upper sand unit wells (B-19, B-25, B-31, B-34, HC-111, and RW-8), one surface compliance well (RR-5), and one lower sand unit well (DMW-2). 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 sentinel wells sampled during this event.
- Total xylenes were detected in five upper sand unit wells (B-25, B-31, B-34, HC-111, and RW-8). Total xylenes were not detected in the sentinel wells, surface water compliance wells, or lower sand unit wells sampled during this event. There are no cleanup standards for total xylenes for the Site.
- TPH-G was detected in nine upper sand unit wells (B-19, B-25, B-31, B-34, G-18, HC-111, RW-5R, RW-8, and T-3), two sentinel wells (E-22 and FW-5R), and two surface water compliance wells (RR-1 and RR-5). There are no cleanup standards for TPH-G for the Site. TPH-G was not detected in the lower sand unit wells. TPH-G concentrations in the upper sand unit and resulting isocontours from this event are presented in Figure 4.
- TPH-D was detected in all ten upper sand unit wells (B-19, B-25, B-31, B-34, E-21, G-18, HC-111, RW-5R, RW-8, and T-3), three sentinel wells (E-22, FW-5R, and T-2), two surface water compliance wells (RR-1 and RR-5), and two lower sand unit wells (DMW-2 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 in Figure 5.
- TPH-O was detected in seven upper sand unit wells (B-19, B-31, B-34, E-21, G-18, HC-111, and RW-5R), one sentinel well (FW-5R), and one lower sand unit well (DMW-2). There are no cleanup standards for TPH-O for the Site.



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- Naphthalene was analyzed in three select wells (FW-5R, FW-14, and RR-2) during this quarterly sampling event. Naphthalene was detected in sentinel well FW-5R. 2-Methylnaphthalene and 1-methylnaphthalene were detected in sentinel well FW-5R and surface compliance well RR-2. 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 2021 Annual Progress Report, which is completed following the third quarter (September) 2021 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 two sentinel wells (E-22 and FW-5R) and TPH-D was detected in three sentinel wells (E-22, FW-5R, and T-2). TPH-O, toluene, naphthalene, 2-methylnaphthalene, and 1-methylnaphthalene were detected in sentinel well FW-5R. Benzene, ethylbenzene, and total xylenes were not detected in the sampled sentinel wells.

There were no exceedances of site groundwater or surface water cleanup standards in the surface water compliance wells (RR-1, RR-2, RR-4, and RR-5) sampled during this event. TPH-G and TPH-D were detected in two surface water compliance wells (RR-1 and RR-5). Benzene, toluene, and ethylbenzene were detected in surface water compliance well RR-5. 2-Methylnaphthalene and 1-methylnaphthalene were detected in surface compliance well RR-2. Total xylenes and naphthalene were not detected in the sampled surface water compliance wells. Further evaluation of this area will be provided in the 2021 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 and FW-13). TPH-D was detected in both lower sand unit wells. TPH-O and ethylbenzene were detected in DMW-2. TPH-G, benzene, toluene, and total xylenes were not detected in the lower sand unit wells.

8.0 Status of Recent and Upcoming Deliverables

- The Fourth Quarter 2020 Progress Report was submitted on October 5, 2021.
- The Second Quarter 2021 Progress Report is anticipated to be submitted in November 2021.

If you have any questions regarding this progress report, please call me at (206) 403-4259.

Sincerely,
AECOM

Rebecca Digiustino
Geologist/ Technical Manager

Renee Knecht
Senior Geologist/Project Manager



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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), March 2021
Figure 4 – TPH-G Concentrations in Groundwater (Upper Sand Unit), March 2021
Figure 5 – TPH-D Concentrations in Groundwater (Upper Sand Unit), March 2021

Table 1 – Groundwater Elevation Data, First Quarter 2021
Table 2 – Summary of Groundwater Analytical Results, First Quarter 2021
Table 3 – Summary of Field Parameters, First Quarter 2021

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

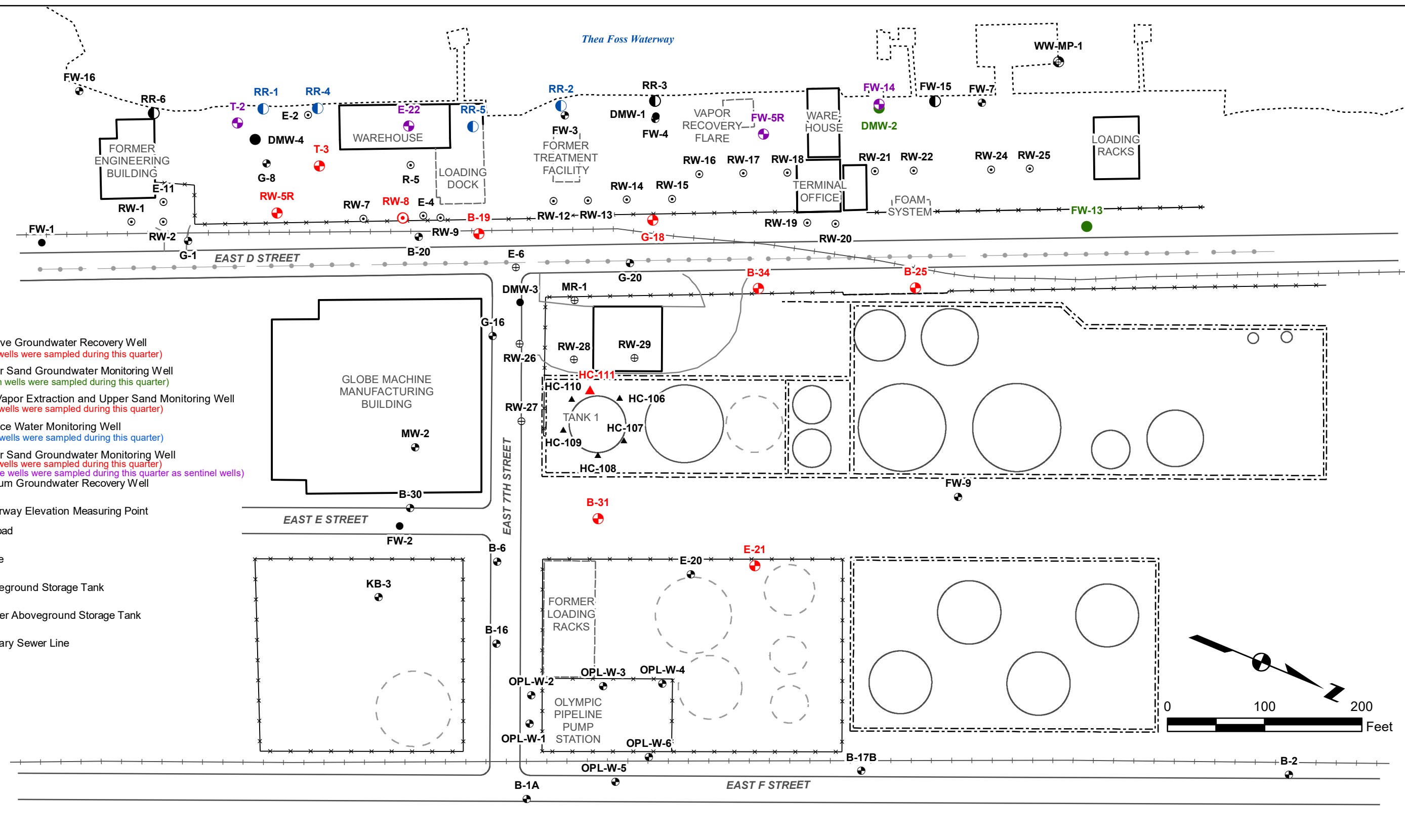
AECOM

0 2,000 4,000
Feet

VICINITY MAP

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 1



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

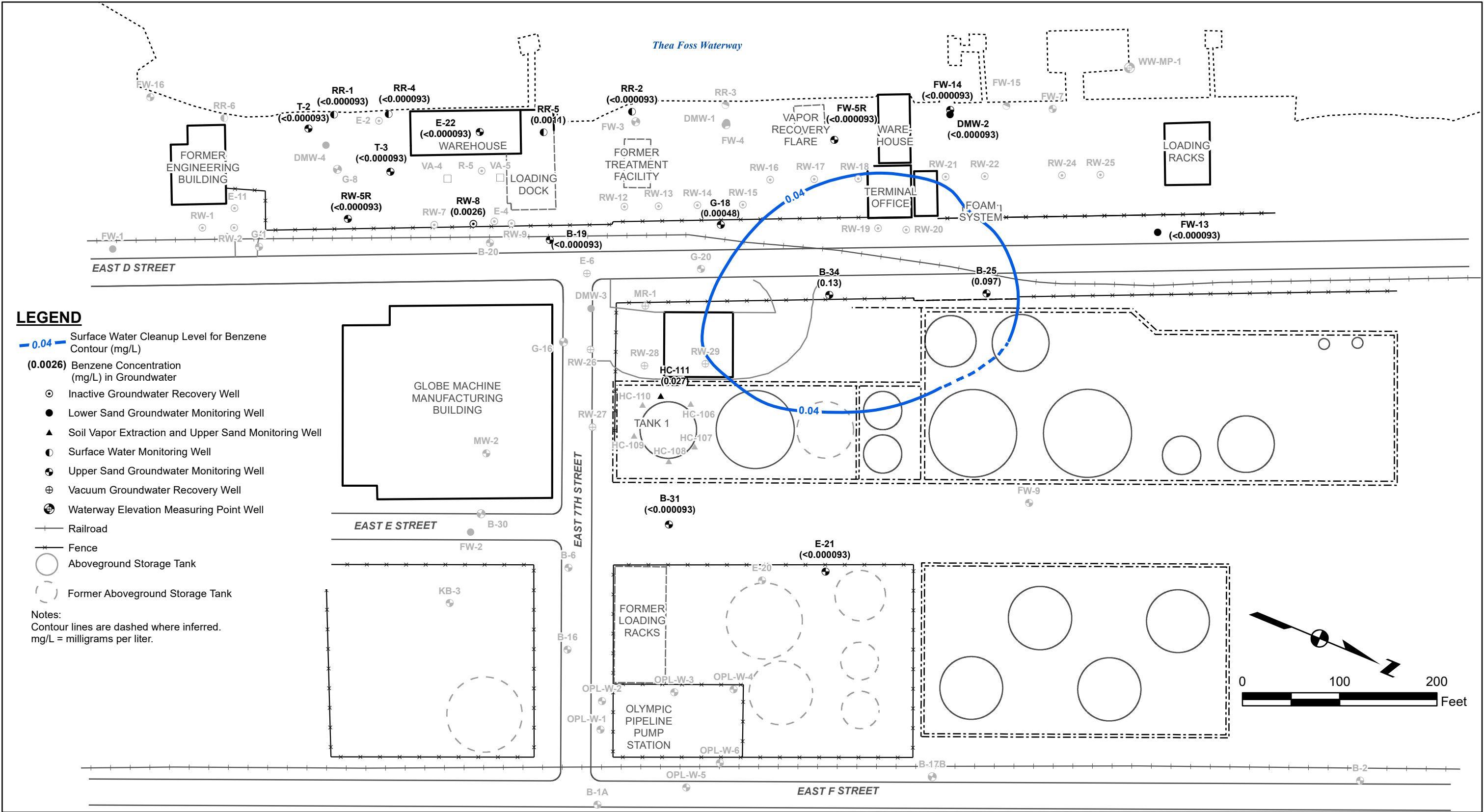


SITE MAP

D STREET PETROLEUM SITE
 TACOMA, WASHINGTON

FIGURE 2

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**BENZENE CONCENTRATIONS IN GROUNDWATER
(UPPER SAND UNIT) MARCH 2021**

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

TABLES

Table 1
Groundwater Elevation Data
First Quarter 2021
D Street Petroleum Site

Well ID	Well Elevation (ft) (a)	Date	Time	Depth to Groundwater (ft)	Product Thickness (ft)	Groundwater Elevation (ft)	
Upper Sand Unit							
B-1A	14.15	NR	NR	NR	--	NR	Cannot locate
B-2	13.78	NR	NR	NR	--	NR	Located in street
B-6	14.25	NR	NR	NR	--	NR	Located in street
B-16	14.40	NR	NR	NR	--	NR	Located in street
B-17B	14.16	3/29/2021	15:40	6.52	--	7.64	
B-19	13.31	3/30/2021	10:55	6.80	--	6.51	
B-20	13.48	3/31/2021	9:07	6.90	--	6.58	
B-25	13.96	3/31/2021	11:45	7.24	--	6.72	
B-30	14.46	3/29/2021	15:44	7.50	--	6.96	
B-31	14.46	3/29/2021	14:34	7.89	--	6.57	
B-34	14.36	3/30/2021	14:15	7.66	--	6.70	
E-4	12.09	3/31/2021	9:02	5.88	--	6.21	
E-6	12.14	NR	NR	NR	--	NR	Located in street
E-20	NS	3/29/2021	14:00	6.41	--	NR	
E-21	14.13	3/29/2021	12:58	6.72	--	7.41	
FW-7	13.33	NR	NR	NR	--	NR	
FW-16	12.35	NR	NR	NR	--	NR	Truck parked on top of well.
G-1	13.43 (b)	3/31/2021	8:55	7.32	--	6.11	
G-8	13.25	NR	NR	NR	--	NR	Truck parked on top of well.
G-16	13.23	3/31/2021	9:13	6.70	--	6.53	
G-18	13.54	3/30/2021	9:00	6.91	--	6.63	
G-20	13.11	3/31/2021	10:15	6.32	--	6.79	Located in street
HC-108	15.30	3/30/2021	9:21	8.18	--	7.12	
HC-111	14.62	3/30/2021	8:40	7.63	--	6.99	
MR-1	14.26	NR	NR	NR	--	NR	Inaccessible
MW-2	NS	3/31/2021	13:35	8.09	--	NS	
R-5	11.69	NR	NR	NR	--	NR	Well casing sealed shut
RW-1	12.94	3/31/2021	8:50	6.44	--	6.50	
RW-2	12.76	3/31/2021	8:45	6.24	--	6.52	
RW-5R	13.76	3/31/2021	8:57	7.51	--	6.25	
RW-7	12.46	NR	NR	NR	--	NR	Inaccessible
RW-8	12.71	3/29/2021	14:45	6.45	--	6.26	
RW-9	12.59	3/31/2021	9:05	5.92	--	6.67	
RW-12	13.21	3/31/2021	12:53	6.55	--	6.66	
RW-13	13.94	3/31/2021	12:55	7.42	--	6.52	
RW-14	13.52	3/31/2021	12:57	7.08	--	6.44	
RW-15	13.15	3/31/2021	12:59	6.64	--	6.51	
RW-16	12.43	NR	NR	NR	--	NR	
RW-17	12.29	3/31/2021	13:01	5.76	--	6.53	
RW-18	12.53	NR	NR	NR	--	NR	
RW-19	12.97	3/31/2021	16:00	6.52	--	6.45	
RW-20	12.80	3/31/2021	15:53	6.38	--	6.42	
RW-21	13.35	NR	NR	NR	--	NR	
RW-22	12.72	NR	NR	NR	--	NR	Slip cap stuck on (glued)
RW-24	13.63	3/31/2021	11:20	7.34	--	6.29	
RW-25	13.07	NR	NR	NR	--	NR	
RW-26	11.93	NR	NR	NR	--	NR	Vault lid is broken
RW-28	14.62	3/31/2021	10:18	7.25	--	7.37	
RW-29	13.83	3/31/2021	10:22	6.60	--	7.23	
T-3	13.03	3/29/2021	13:30	6.88	--	6.15	
W-1	NR	NR	NR	NR	--	NR	
Upper Sand Unit - Sentinel							
E-22	16.74	3/29/2021	10:35	10.42	--	6.32	
FW-3	14.11 (b)	3/30/2021	12:48	7.50	--	6.61	
FW-4	14.21	3/31/2021	13:05	7.60	--	6.61	
FW-5R	12.78	3/30/2021	14:33	6.45	--	6.33	
FW-14	13.17	3/30/2021	10:08	7.26	--	5.91	
T-2	11.62	3/26/2021	10:30	5.48	--	6.14	

Table 1
Groundwater Elevation Data
First Quarter 2021
D Street Petroleum Site

Well ID	Well Elevation (ft) (a)	Date	Time	Depth to Groundwater (ft)	Product Thickness (ft)	Groundwater Elevation (ft)	
Lower Sand Unit							
FW-1	13.63	3/31/2021	8:52	6.37	--	7.26	
FW-2	14.32	NR	NR	NR	--	NR	Paved over
FW-13	13.13	3/31/2021	10:45	7.28	--	5.85	
DMW-1	13.72	3/31/2021	13:02	11.51	--	2.21	
DMW-2	12.97	3/30/2021	11:04	10.04	--	2.93	
DMW-3	12.83	3/31/2021	9:10	5.60	--	7.23	
DMW-4	11.72	NR	NR	NR	--	NR	Well casing damaged
Upper Sand Unit - Surface Water Compliance							
RR-1	14.79 (b)	3/29/2021	12:00	9.02	--	5.77	
RR-2	15.71 (b)	3/30/2021	12:44	9.84	--	5.87	
RR-3	15.78 (b)	3/31/2021	13:20	9.74	--	6.04	
RR-4	13.19 (c)	3/30/2021	12:55	7.42	--	5.77	
RR-5	16.53	3/29/2021	12:05	10.53	--	6.00	
RR-6	11.31	3/31/2021	8:32	4.05	--	7.26	
FW-15	NS	3/30/2021	10:50	7.36	--	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

DRY = Dry well, no water detected

Table 2
Summary of Groundwater Analytical Results
First Quarter 2021
D Street Petroleum Site

Analyte:			TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene
Surface Water Cleanup Standards:			---	---	---	0.04	5	0.43	---	---	---	---
Groundwater Cleanup Standards:			---	---	---	0.16	20	1.7	---	---	---	---
Sample ID	Date Collected											
Upper Sand Unit	B-19	3/30/2021	0.33	0.46	0.15 J	0.000093 U	0.00031 U	0.00094 J	0.00044 U	--	--	--
	B-25	3/31/2021	1.3	0.61	0.12 U	0.097	0.00084 J	0.00030 J	0.0011 J	--	--	--
	B-31	3/29/2021	0.34	3.7	0.51 J	0.000093 U	0.00031 U	0.00040 J	0.0017 J	--	--	--
	B-34	3/30/2021	2.1	6.2	0.58	0.13	0.0062	0.0036	0.00076 J	--	--	--
	E-21	3/29/2021	0.070 U	2.7	0.88	0.000093 U	0.00031 U	0.00020 U	0.00044 U	--	--	--
	E-21 (DUP)	3/29/2021	0.070 U	2.9	0.94 B	0.000093 U	0.00031 U	0.00020 U	0.00044 U	--	--	--
	G-18	3/30/2021	0.077 J	0.67	0.28 J	0.00048	0.00031 U	0.00020 U	0.00044 U	--	--	--
	HC-111	3/30/2021	0.63	3.6	0.58	0.027	0.0016	0.016	0.0021 J	--	--	--
	RW-5R	3/30/2021	0.20	0.24 J	0.13 J	0.000093 U	0.00031 U	0.00020 U	0.00044 U	--	--	--
	RW-8	3/29/2021	0.16	1.0	0.40 U	0.0026	0.0017	0.22	0.032	--	--	--
Upper Sand Unit - Sentinel	T-3	3/29/2021	1.1	0.71	0.41 U	0.000093 U	0.00031 U	0.0002 U	0.00044 U	--	--	--
	E-22	3/29/2021	1.3	0.56	0.41 U	0.000093 U	0.00031 U	0.00020 U	0.00044 U	--	--	--
	FW-5R	3/30/2021	0.59	3.5	0.30 J	0.000093 U	0.00034 J	0.00020 U	0.00044 U	0.0021	0.560	0.370
	FW-14	3/30/2021	0.070 U	0.12 U	0.13 U	0.000093 U	0.00031 U	0.00020 U	0.00044 U	0.000057 U	0.000047 U	0.000025 U
	T-2	3/29/2021	0.070 U	0.16 J	0.43 U	0.000093 U	0.00031 U	0.00020 U	0.00044 U	--	--	--
Upper Sand Unit - Surface Water Compliance	RR-1	3/29/2021	0.13 J	0.20 J	0.41 U	0.000093 U	0.00031 U	0.00020 U	0.00044 U	--	--	--
	RR-2	3/30/2021	0.070 U	0.12 U	0.13 U	0.000093 U	0.00031 U	0.00020 U	0.00044 U	0.000057 U	0.000071 J	0.000033 J
	RR-4	3/30/2021	0.070 U	0.11 U	0.12 U	0.000093 U	0.00031 U	0.00020 U	0.00044 U	--	--	--
	RR-5	3/29/2021	0.13 J	0.27	0.41 U	0.0011	0.00042 J	0.0027	0.00044 U	--	--	--
Lower Sand Unit	DMW-2	3/30/2021	0.070 U	0.72	0.18 J	0.000093 U	0.00031 U	0.00020 J	0.00044 U	--	--	--
	DMW-2 (DUP)	3/30/2021	0.070 U	0.80	0.21 J	0.000093 U	0.00031 U	0.00020 U	0.00044 U	--	--	--
	FW-13	3/31/2021	0.070 U	0.16 J	0.38 U	0.000093 U	0.00031 U	0.00020 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

UJ = Not detected above the reported quantitation limit. The quantitation limit is estimated.

Bold indicates an exceedance of surface water cleanup levels.

Bold indicates an exceedance of groundwater cleanup levels.

Site-Specific Surface Cleanup Level, Consent Decree No. 91-2-2012-1, effective 9/3/91

Site-Specific Groundwater Cleanup Level, Consent Decree No. 91-2-2012-1, effective 9/3/91

Table 3
Summary of Field Parameters
First Quarter 2021
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-19	3/30/2021	11.55	7.25	0.539	-182	19.9	3.79
	B-25	3/31/2021	11.43	6.92	0.345	-114	0.8	0.48
	B-31	3/29/2021	13.46	6.50	0.534	-24	44.7	0.69
	B-34	3/30/2021	14.14	6.76	0.904	-150	11.2	3.42
	E-21	3/29/2021	14.34	7.10	0.330	-202	1.5	0.89
	G-18	3/30/2021	11.79	6.50	0.325	-113	9.8	0.00
	HC-111	3/30/2021	9.24	6.58	0.855	-50	18.0	1.37
	RW-5R	3/30/2021	14.25	7.08	0.630	-163	26.5	0.00
	RW-8	3/29/2021	15.40	7.26	0.868	-266	32.0	5.17
	T-3	3/29/2021	13.66	7.73	0.248	-358	0.0	8.34
Upper Sand Unit - Sentinel	E-22	3/29/2021	14.63	7.00	0.679	-349	8.1	17.28
	FW-5R	3/30/2021	15.94	6.92	0.608	-106	0.0	0.58
	FW-14	3/30/2021	11.03	6.80	29.7	22	0.0	3.54
	T-2	3/29/2021	10.45	6.49	5.50	-22	0.0	1.37
Upper Sand Unit - Surface Water Compliance	RR-1	3/29/2021	12.23	7.50	27.4	-314	0.0	0.84
	RR-2	3/30/2021	14.02	6.78	29.6	-98	0.0	5.97
	RR-4	3/30/2021	11.79	6.61	35.1	-123	22.8	0.00
	RR-5	3/29/2021	13.54	6.35	0.616	-299	0.0	7.44
Lower Sand Unit	DMW-2	3/30/2021	15.20	7.15	15.2	-168	0.0	0.51
	FW-13	3/31/2021	12.78	7.24	0.305	51	15.9	1.16

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.

APPENDIX A

Laboratory Analytical Data

ANALYTICAL REPORT

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

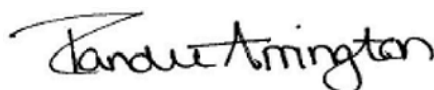
Laboratory Job ID: 590-14860-1

Client Project/Site: Tacoma D St Terminal/60626737

For:

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

Attn: Mr. Tyler Hemry



*Authorized for release by:
4/12/2021 3:30:02 PM*

Randee Arrington, Lab Director
(509)924-9200

Randee.Arrington@Eurofinset.com

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

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Job ID: 590-14860-1

Laboratory: Eurofins TestAmerica, Spokane

Narrative

Receipt

The samples were received on 3/31/2021 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

Receipt Exceptions

One of the two HCL voa containers for the following sample was received broken: HC-111 (590-14860-1).

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): B-34 (590-14860-11). The container labels list B-34, while the COC lists B-31. The client was contacted, and the lab was instructed to log the sample in as B-34.

The collection time for the following sample was taken off of the container due to a tear on the COC: DMW-2 (590-14860-5).

GC/MS VOA

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 590-31166 recovered outside control limits for the following analytes: m,p-Xylene and Toluene.

Method 8260D: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 590-31172.

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

GC/MS Semi VOA

Method 8270E SIM: Surrogate recovery for the following sample was outside control limits: FW-5R (590-14860-10). Evidence of matrix interference due to non-target analytes is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

Method NWTPH-Dx: Detected hydrocarbons appear to be due to heavily weathered diesel as well as possible biogenic interference in the following samples: HC-111 (590-14860-1), G-18 (590-14860-2), DMW-2 (590-14860-5) and DMW-2-DUP (590-14860-6).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap as well as heavily weathered diesel and/or biogenic interference in the following samples: B-19 (590-14860-4) and RW-5R (590-14860-7).

Method NWTPH-Dx: Detected hydrocarbons appear to be due to weathered diesel in the following sample: B-34 (590-14860-11).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be a non-typical hydrocarbon pattern in the following sample: FW-5R (590-14860-10).

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

Organic Prep

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

VOA Prep

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

Sample Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
590-14860-1	HC-111	Water	03/30/21 09:13	03/31/21 10:05	
590-14860-2	G-18	Water	03/30/21 09:40	03/31/21 10:05	
590-14860-3	FW-14	Water	03/30/21 10:47	03/31/21 10:05	
590-14860-4	B-19	Water	03/30/21 10:55	03/31/21 10:05	
590-14860-5	DMW-2	Water	03/30/21 11:37	03/31/21 10:05	
590-14860-6	DMW-2-DUP	Water	03/30/21 11:37	03/31/21 10:05	
590-14860-7	RW-5R	Water	03/30/21 12:15	03/31/21 10:05	
590-14860-8	RR-2	Water	03/30/21 13:17	03/31/21 10:05	
590-14860-9	RR-4	Water	03/30/21 13:40	03/31/21 10:05	
590-14860-10	FW-5R	Water	03/30/21 14:33	03/31/21 10:05	
590-14860-11	B-34	Water	03/30/21 15:10	03/31/21 10:05	
590-14860-12	Trip Blank	Water	03/30/21 00:00	03/31/21 10:05	

Method Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270E 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: 590-14860-1

Project/Site: Tacoma D St Terminal/60626737

Client Sample ID: HC-111

Lab Sample ID: 590-14860-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	27		0.40	0.093	ug/L	1		8260D	Total/NA
Ethylbenzene	16		1.0	0.20	ug/L	1		8260D	Total/NA
m,p-Xylene	1.4	J *1	2.0	0.28	ug/L	1		8260D	Total/NA
o-Xylene	0.68	J	1.0	0.16	ug/L	1		8260D	Total/NA
Toluene	1.6	*1	1.0	0.31	ug/L	1		8260D	Total/NA
Xylenes, Total	2.1	J	3.0	0.44	ug/L	1		8260D	Total/NA
Gasoline	630		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	3.6		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.58		0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: G-18

Lab Sample ID: 590-14860-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.48		0.40	0.093	ug/L	1		8260D	Total/NA
Gasoline	77	J	150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.67		0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.28	J	0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-14

Lab Sample ID: 590-14860-3

No Detections.

Client Sample ID: B-19

Lab Sample ID: 590-14860-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.94	J	1.0	0.20	ug/L	1		8260D	Total/NA
Gasoline	330		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.46		0.25	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.15	J	0.42	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DMW-2

Lab Sample ID: 590-14860-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.72		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.18	J	0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DMW-2-DUP

Lab Sample ID: 590-14860-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.80		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.21	J	0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RW-5R

Lab Sample ID: 590-14860-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	200		150	70	ug/L	1		NWTPH-Gx	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Spokane

Detection Summary

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: RW-5R (Continued)

Lab Sample ID: 590-14860-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.24	J	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: RR-2

Lab Sample ID: 590-14860-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.071	J	0.097	0.047	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.033	J	0.097	0.025	ug/L	1		8270E SIM	Total/NA

Client Sample ID: RR-4

Lab Sample ID: 590-14860-9

No Detections.

Client Sample ID: FW-5R

Lab Sample ID: 590-14860-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.34	J *1	1.0	0.31	ug/L	1		8260D	Total/NA
Gasoline	590		150	70	ug/L	1		NWTPH-Gx	Total/NA
Naphthalene	2.1		0.099	0.058	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	560		2.0	0.96	ug/L	20		8270E SIM	Total/NA
1-Methylnaphthalene	370		2.0	0.50	ug/L	20		8270E SIM	Total/NA
Diesel Range Organics (DRO) (C10-C25)	3.5		0.25	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.30	J	0.42	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-34

Lab Sample ID: 590-14860-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	130		4.0	0.93	ug/L	10		8260D	Total/NA
Ethylbenzene	3.6		1.0	0.20	ug/L	1		8260D	Total/NA
m,p-Xylene	0.76	J *1	2.0	0.28	ug/L	1		8260D	Total/NA
Toluene	6.2	*1	1.0	0.31	ug/L	1		8260D	Total/NA
Xylenes, Total	0.76	J	3.0	0.44	ug/L	1		8260D	Total/NA
Gasoline	2100		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	6.2		0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.58		0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 590-14860-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: HC-111

Lab Sample ID: 590-14860-1

Date Collected: 03/30/21 09:13

Matrix: Water

Date Received: 03/31/21 10:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	27		0.40	0.093	ug/L			04/06/21 22:09	1
Ethylbenzene	16		1.0	0.20	ug/L			04/06/21 22:09	1
m,p-Xylene	1.4	J *1	2.0	0.28	ug/L			04/06/21 22:09	1
o-Xylene	0.68	J	1.0	0.16	ug/L			04/06/21 22:09	1
Toluene	1.6	*1	1.0	0.31	ug/L			04/06/21 22:09	1
Xylenes, Total	2.1	J	3.0	0.44	ug/L			04/06/21 22:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		80 - 120		04/06/21 22:09	1
4-Bromofluorobenzene (Surr)	100		80 - 120		04/06/21 22:09	1
Dibromofluoromethane (Surr)	95		80 - 120		04/06/21 22:09	1
Toluene-d8 (Surr)	101		80 - 120		04/06/21 22:09	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			04/06/21 22:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141		04/06/21 22:09	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)	3.6		0.26	0.12	mg/L		04/08/21 11:14	04/08/21 17:05	1
Residual Range Organics (RRO) (C25-C36)	0.58		0.43	0.13	mg/L		04/08/21 11:14	04/08/21 17:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	93		50 - 150	04/08/21 11:14	04/08/21 17:05	1
n-Triacontane-d62	89		50 - 150	04/08/21 11:14	04/08/21 17:05	1

Client Sample ID: G-18

Lab Sample ID: 590-14860-2

Date Collected: 03/30/21 09:40

Matrix: Water

Date Received: 03/31/21 10:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.48		0.40	0.093	ug/L			04/06/21 22:31	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/06/21 22:31	1
m,p-Xylene	ND	*1	2.0	0.28	ug/L			04/06/21 22:31	1
o-Xylene	ND		1.0	0.16	ug/L			04/06/21 22:31	1
Toluene	ND	*1	1.0	0.31	ug/L			04/06/21 22:31	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/06/21 22:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		04/06/21 22:31	1
4-Bromofluorobenzene (Surr)	103		80 - 120		04/06/21 22:31	1
Dibromofluoromethane (Surr)	97		80 - 120		04/06/21 22:31	1
Toluene-d8 (Surr)	102		80 - 120		04/06/21 22:31	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: G-18

Date Collected: 03/30/21 09:40

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	77	J	150	70	ug/L			04/06/21 22:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		68.7 - 141		04/06/21 22:31	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)	0.67		0.25	0.11	mg/L		04/08/21 11:14	04/08/21 17:47	1
(C10-C25)									
Residual Range Organics (RRO)	0.28	J	0.41	0.12	mg/L		04/08/21 11:14	04/08/21 17:47	1
(C25-C36)									

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	88		50 - 150	04/08/21 11:14	04/08/21 17:47	1
n-Triacontane-d62	86		50 - 150	04/08/21 11:14	04/08/21 17:47	1

Client Sample ID: FW-14

Date Collected: 03/30/21 10:47

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-3

Matrix: Water

Method: 8260D - 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			04/06/21 22:52	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/06/21 22:52	1
m,p-Xylene	ND	*1	2.0	0.28	ug/L			04/06/21 22:52	1
o-Xylene	ND		1.0	0.16	ug/L			04/06/21 22:52	1
Toluene	ND	*1	1.0	0.31	ug/L			04/06/21 22:52	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/06/21 22:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		04/06/21 22:52	1
4-Bromofluorobenzene (Surr)	100		80 - 120		04/06/21 22:52	1
Dibromofluoromethane (Surr)	99		80 - 120		04/06/21 22:52	1
Toluene-d8 (Surr)	99		80 - 120		04/06/21 22:52	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			04/06/21 22:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141		04/06/21 22:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.096	0.057	ug/L		04/05/21 15:45	04/05/21 18:17	1
2-Methylnaphthalene	ND		0.096	0.047	ug/L		04/05/21 15:45	04/05/21 18:17	1
1-Methylnaphthalene	ND		0.096	0.025	ug/L		04/05/21 15:45	04/05/21 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	92		29 - 121	04/05/21 15:45	04/05/21 18:17	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: FW-14

Date Collected: 03/30/21 10:47

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.26	0.12	mg/L		04/08/21 11:14	04/08/21 18:08	1
Residual Range Organics (RRO) (C25-C36)	ND		0.44	0.13	mg/L		04/08/21 11:14	04/08/21 18:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		50 - 150				04/08/21 11:14	04/08/21 18:08	1
<i>n</i> -Triacontane-d62	79		50 - 150				04/08/21 11:14	04/08/21 18:08	1

Client Sample ID: B-19

Date Collected: 03/30/21 10:55

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-4

Matrix: Water

Method: 8260D - 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			04/07/21 23:35	1
Ethylbenzene	0.94	J	1.0	0.20	ug/L			04/07/21 23:35	1
<i>m,p</i> -Xylene	ND	*1	2.0	0.28	ug/L			04/07/21 23:35	1
<i>o</i> -Xylene	ND		1.0	0.16	ug/L			04/07/21 23:35	1
Toluene	ND	*1	1.0	0.31	ug/L			04/07/21 23:35	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 23:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120					04/07/21 23:35	1
4-Bromofluorobenzene (Surr)	94		80 - 120					04/07/21 23:35	1
Dibromofluoromethane (Surr)	93		80 - 120					04/07/21 23:35	1
Toluene-d8 (Surr)	101		80 - 120					04/07/21 23:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	330		150	70	ug/L			04/07/21 23:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		68.7 - 141					04/07/21 23:35	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)	0.46		0.25	0.12	mg/L		04/08/21 11:14	04/08/21 18:29	1
Residual Range Organics (RRO) (C25-C36)	0.15	J	0.42	0.13	mg/L		04/08/21 11:14	04/08/21 18:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	90		50 - 150				04/08/21 11:14	04/08/21 18:29	1
<i>n</i> -Triacontane-d62	92		50 - 150				04/08/21 11:14	04/08/21 18:29	1

Client Sample ID: DMW-2

Date Collected: 03/30/21 11:37

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-5

Matrix: Water

Method: 8260D - 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			04/07/21 23:56	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: DMW-2

Date Collected: 03/30/21 11:37

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 23:56	1
m,p-Xylene	ND	*1	2.0	0.28	ug/L			04/07/21 23:56	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 23:56	1
Toluene	ND	*1	1.0	0.31	ug/L			04/07/21 23:56	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 23:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		04/07/21 23:56	1
4-Bromofluorobenzene (Surr)	96		80 - 120		04/07/21 23:56	1
Dibromofluoromethane (Surr)	95		80 - 120		04/07/21 23:56	1
Toluene-d8 (Surr)	104		80 - 120		04/07/21 23:56	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			04/07/21 23:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		68.7 - 141					04/07/21 23:56	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)	0.72		0.26	0.12	mg/L		04/08/21 11:14	04/08/21 18:50	1
(C10-C25)									
Residual Range Organics (RRO)	0.18	J	0.43	0.13	mg/L		04/08/21 11:14	04/08/21 18:50	1
(C25-C36)									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150				04/08/21 11:14	04/08/21 18:50	1
n-Triacontane-d62	87		50 - 150				04/08/21 11:14	04/08/21 18:50	1

Client Sample ID: DMW-2-DUP

Date Collected: 03/30/21 11:37

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-6

Matrix: Water

Method: 8260D - 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			04/07/21 00:18	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 00:18	1
m,p-Xylene	ND	*1	2.0	0.28	ug/L			04/07/21 00:18	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 00:18	1
Toluene	ND	*1	1.0	0.31	ug/L			04/07/21 00:18	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 00:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		04/07/21 00:18	1
4-Bromofluorobenzene (Surr)	105		80 - 120		04/07/21 00:18	1
Dibromofluoromethane (Surr)	92		80 - 120		04/07/21 00:18	1
Toluene-d8 (Surr)	108		80 - 120		04/07/21 00:18	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			04/07/21 00:18	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM

Job ID: 590-14860-1

Project/Site: Tacoma D St Terminal/60626737

Client Sample ID: DMW-2-DUP

Lab Sample ID: 590-14860-6

Date Collected: 03/30/21 11:37

Matrix: Water

Date Received: 03/31/21 10:05

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		68.7 - 141					04/07/21 00:18	1
Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	0.80		0.26	0.12	mg/L		04/08/21 11:14	04/08/21 19:11	1
(C10-C25)									
Residual Range Organics (RRO)	0.21	J	0.43	0.13	mg/L		04/08/21 11:14	04/08/21 19:11	1
(C25-C36)									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	92		50 - 150				04/08/21 11:14	04/08/21 19:11	1
n-Triacontane-d62	93		50 - 150				04/08/21 11:14	04/08/21 19:11	1

Client Sample ID: RW-5R

Lab Sample ID: 590-14860-7

Date Collected: 03/30/21 12:15

Matrix: Water

Date Received: 03/31/21 10:05

Method: 8260D - 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			04/07/21 00:39	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 00:39	1
m,p-Xylene	ND	*1	2.0	0.28	ug/L			04/07/21 00:39	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 00:39	1
Toluene	ND	*1	1.0	0.31	ug/L			04/07/21 00:39	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 00:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120					04/07/21 00:39	1
4-Bromofluorobenzene (Surr)	103		80 - 120					04/07/21 00:39	1
Dibromofluoromethane (Surr)	98		80 - 120					04/07/21 00:39	1
Toluene-d8 (Surr)	97		80 - 120					04/07/21 00:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	200		150	70	ug/L			04/07/21 00:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		68.7 - 141					04/07/21 00:39	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	0.25	0.11	mg/L		04/08/21 11:14	04/08/21 19:32	1
Residual Range Organics (RRO) (C25-C36)	0.13	J	0.41	0.12	mg/L		04/08/21 11:14	04/08/21 19:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150				04/08/21 11:14	04/08/21 19:32	1
n-Triacontane-d62	90		50 - 150				04/08/21 11:14	04/08/21 19:32	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: RR-2

Lab Sample ID: 590-14860-8

Date Collected: 03/30/21 13:17

Matrix: Water

Date Received: 03/31/21 10:05

Method: 8260D - 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			04/07/21 01:01	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 01:01	1
m,p-Xylene	ND	*1	2.0	0.28	ug/L			04/07/21 01:01	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 01:01	1
Toluene	ND	*1	1.0	0.31	ug/L			04/07/21 01:01	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 01:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		04/07/21 01:01	1
4-Bromofluorobenzene (Surr)	102		80 - 120		04/07/21 01:01	1
Dibromofluoromethane (Surr)	97		80 - 120		04/07/21 01:01	1
Toluene-d8 (Surr)	102		80 - 120		04/07/21 01:01	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			04/07/21 01:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141		04/07/21 01:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.097	0.057	ug/L		04/05/21 15:45	04/05/21 18:40	1
2-Methylnaphthalene	0.071	J	0.097	0.047	ug/L		04/05/21 15:45	04/05/21 18:40	1
1-Methylnaphthalene	0.033	J	0.097	0.025	ug/L		04/05/21 15:45	04/05/21 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	87		29 - 121	04/05/21 15:45	04/05/21 18:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.26	0.12	mg/L		04/08/21 11:14	04/08/21 19:53	1
Residual Range Organics (RRO) (C25-C36)	ND		0.43	0.13	mg/L		04/08/21 11:14	04/08/21 19:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	82		50 - 150	04/08/21 11:14	04/08/21 19:53	1
n-Triacontane-d62	84		50 - 150	04/08/21 11:14	04/08/21 19:53	1

Client Sample ID: RR-4

Lab Sample ID: 590-14860-9

Date Collected: 03/30/21 13:40

Matrix: Water

Date Received: 03/31/21 10:05

Method: 8260D - 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			04/07/21 01:22	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 01:22	1
m,p-Xylene	ND	*1	2.0	0.28	ug/L			04/07/21 01:22	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 01:22	1
Toluene	ND	*1	1.0	0.31	ug/L			04/07/21 01:22	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 01:22	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: RR-4

Date Collected: 03/30/21 13:40

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-9

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		04/07/21 01:22	1
4-Bromofluorobenzene (Surr)	99		80 - 120		04/07/21 01:22	1
Dibromofluoromethane (Surr)	102		80 - 120		04/07/21 01:22	1
Toluene-d8 (Surr)	103		80 - 120		04/07/21 01:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			04/07/21 01:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141					04/07/21 01:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.25	0.11	mg/L		04/08/21 11:14	04/08/21 20:14	1
Residual Range Organics (RRO) (C25-C36)	ND		0.41	0.12	mg/L		04/08/21 11:14	04/08/21 20:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	84		50 - 150				04/08/21 11:14	04/08/21 20:14	1
n-Triacontane-d62	83		50 - 150				04/08/21 11:14	04/08/21 20:14	1

Client Sample ID: FW-5R

Date Collected: 03/30/21 14:33

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-10

Matrix: Water

Method: 8260D - 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			04/07/21 01:44	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 01:44	1
m,p-Xylene	ND	*1	2.0	0.28	ug/L			04/07/21 01:44	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 01:44	1
Toluene	0.34	J *1	1.0	0.31	ug/L			04/07/21 01:44	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 01:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120					04/07/21 01:44	1
4-Bromofluorobenzene (Surr)	103		80 - 120					04/07/21 01:44	1
Dibromofluoromethane (Surr)	95		80 - 120					04/07/21 01:44	1
Toluene-d8 (Surr)	97		80 - 120					04/07/21 01:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	590		150	70	ug/L			04/07/21 01:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		68.7 - 141					04/07/21 01:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	2.1		0.099	0.058	ug/L		04/05/21 15:45	04/05/21 19:03	1
2-Methylnaphthalene	560		2.0	0.96	ug/L		04/05/21 15:45	04/06/21 11:59	20

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: FW-5R

Date Collected: 03/30/21 14:33

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	370		2.0	0.50	ug/L		04/05/21 15:45	04/06/21 11:59	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	81		29 - 121				04/05/21 15:45	04/05/21 19:03	1
Nitrobenzene-d5	174	S1+	29 - 121				04/05/21 15:45	04/06/21 11:59	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)	3.5		0.25	0.12	mg/L		04/08/21 11:14	04/08/21 20:35	1
Residual Range Organics (RRO) (C25-C36)	0.30	J	0.42	0.13	mg/L		04/08/21 11:14	04/08/21 20:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	94		50 - 150				04/08/21 11:14	04/08/21 20:35	1
n-Triacontane-d62	99		50 - 150				04/08/21 11:14	04/08/21 20:35	1

Client Sample ID: B-34

Date Collected: 03/30/21 15:10

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-11

Matrix: Water

Method: 8260D - 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			04/07/21 12:22	10
Ethylbenzene	3.6		1.0	0.20	ug/L			04/07/21 02:05	1
m,p-Xylene	0.76	J *1	2.0	0.28	ug/L			04/07/21 02:05	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 02:05	1
Toluene	6.2	*1	1.0	0.31	ug/L			04/07/21 02:05	1
Xylenes, Total	0.76	J	3.0	0.44	ug/L			04/07/21 02:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		80 - 120					04/07/21 02:05	1
1,2-Dichloroethane-d4 (Surr)	95		80 - 120					04/07/21 12:22	10
4-Bromofluorobenzene (Surr)	109		80 - 120					04/07/21 02:05	1
4-Bromofluorobenzene (Surr)	95		80 - 120					04/07/21 12:22	10
Dibromofluoromethane (Surr)	93		80 - 120					04/07/21 02:05	1
Dibromofluoromethane (Surr)	90		80 - 120					04/07/21 12:22	10
Toluene-d8 (Surr)	95		80 - 120					04/07/21 02:05	1
Toluene-d8 (Surr)	104		80 - 120					04/07/21 12:22	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			04/07/21 02:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		68.7 - 141					04/07/21 02:05	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)	6.2		0.25	0.11	mg/L		04/08/21 11:14	04/08/21 20:56	1
Residual Range Organics (RRO) (C25-C36)	0.58		0.41	0.12	mg/L		04/08/21 11:14	04/08/21 20:56	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: B-34

Date Collected: 03/30/21 15:10

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-11

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	82		50 - 150	04/08/21 11:14	04/08/21 20:56	1
<i>n</i> -Triacontane-d62	87		50 - 150	04/08/21 11:14	04/08/21 20:56	1

Client Sample ID: Trip Blank

Date Collected: 03/30/21 00:00

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-12

Matrix: Water

Method: 8260D - 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			04/07/21 02:26	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 02:26	1
m,p-Xylene	ND	*1	2.0	0.28	ug/L			04/07/21 02:26	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 02:26	1
Toluene	ND	*1	1.0	0.31	ug/L			04/07/21 02:26	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 02:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120					04/07/21 02:26	1
4-Bromofluorobenzene (Surr)	102		80 - 120					04/07/21 02:26	1
Dibromofluoromethane (Surr)	96		80 - 120					04/07/21 02:26	1
Toluene-d8 (Surr)	104		80 - 120					04/07/21 02:26	1

QC Sample Results

Client: AECOM

Job ID: 590-14860-1

Project/Site: Tacoma D St Terminal/60626737

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

Lab Sample ID: MB 590-31166/5

Matrix: Water

Analysis Batch: 31166

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			04/06/21 19:39	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/06/21 19:39	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/06/21 19:39	1
o-Xylene	ND		1.0	0.16	ug/L			04/06/21 19:39	1
Toluene	ND		1.0	0.31	ug/L			04/06/21 19:39	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/06/21 19:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		80 - 120		04/06/21 19:39	1
4-Bromofluorobenzene (Surr)	102		80 - 120		04/06/21 19:39	1
Dibromofluoromethane (Surr)	96		80 - 120		04/06/21 19:39	1
Toluene-d8 (Surr)	105		80 - 120		04/06/21 19:39	1

Lab Sample ID: LCS 590-31166/1002

Matrix: Water

Analysis Batch: 31166

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	10.4		ug/L		104	80 - 126
Ethylbenzene	10.0	9.27		ug/L		93	80 - 128
m,p-Xylene	10.0	8.94		ug/L		89	80 - 127
o-Xylene	10.0	9.24		ug/L		92	80 - 126
Toluene	10.0	9.17		ug/L		92	80 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		80 - 120
4-Bromofluorobenzene (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	97		80 - 120
Toluene-d8 (Surr)	97		80 - 120

Lab Sample ID: LCSD 590-31166/3

Matrix: Water

Analysis Batch: 31166

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	11.8		ug/L		118	80 - 126	12	18
Ethylbenzene	10.0	11.0		ug/L		110	80 - 128	17	18
m,p-Xylene	10.0	10.8	*1	ug/L		108	80 - 127	19	18
o-Xylene	10.0	11.0		ug/L		110	80 - 126	17	17
Toluene	10.0	11.0	*1	ug/L		110	80 - 129	19	18

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		80 - 120
4-Bromofluorobenzene (Surr)	108		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
Toluene-d8 (Surr)	101		80 - 120

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QC Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

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

Lab Sample ID: MB 590-31172/6

Matrix: Water

Analysis Batch: 31172

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			04/07/21 09:51	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 09:51	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 09:51	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 09:51	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 09:51	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 09:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		04/07/21 09:51	1
4-Bromofluorobenzene (Surr)	95		80 - 120		04/07/21 09:51	1
Dibromofluoromethane (Surr)	91		80 - 120		04/07/21 09:51	1
Toluene-d8 (Surr)	111		80 - 120		04/07/21 09:51	1

Lab Sample ID: LCS 590-31172/1003

Matrix: Water

Analysis Batch: 31172

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	11.6		ug/L		116	80 - 126
Ethylbenzene	10.0	10.8		ug/L		108	80 - 128
m,p-Xylene	10.0	10.2		ug/L		102	80 - 127
o-Xylene	10.0	10.8		ug/L		108	80 - 126
Toluene	10.0	11.0		ug/L		110	80 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		80 - 120
4-Bromofluorobenzene (Surr)	108		80 - 120
Dibromofluoromethane (Surr)	95		80 - 120
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: LCSD 590-31172/4

Matrix: Water

Analysis Batch: 31172

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	10.3		ug/L		103	80 - 126	12	18
Ethylbenzene	10.0	9.95		ug/L		99	80 - 128	8	18
m,p-Xylene	10.0	9.71		ug/L		97	80 - 127	5	18
o-Xylene	10.0	9.86		ug/L		99	80 - 126	9	17
Toluene	10.0	9.71		ug/L		97	80 - 129	13	18

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	95		80 - 120
Toluene-d8 (Surr)	101		80 - 120

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QC Sample Results

Client: AECOM

Job ID: 590-14860-1

Project/Site: Tacoma D St Terminal/60626737

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

Lab Sample ID: MB 590-31167/5

Matrix: Water

Analysis Batch: 31167

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			04/06/21 19:39	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141					04/06/21 19:39	1

Lab Sample ID: LCS 590-31167/1004

Matrix: Water

Analysis Batch: 31167

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1000	941		ug/L		94	80 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	106		68.7 - 141				

Lab Sample ID: LCSD 590-31167/1025

Matrix: Water

Analysis Batch: 31167

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1000	908		ug/L		91	80 - 120	4	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	102		68.7 - 141						

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

Lab Sample ID: MB 590-31145/1-A

Matrix: Water

Analysis Batch: 31143

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 31145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.090	0.053	ug/L		04/05/21 15:45	04/05/21 17:07	1
2-Methylnaphthalene	ND		0.090	0.044	ug/L		04/05/21 15:45	04/05/21 17:07	1
1-Methylnaphthalene	ND		0.090	0.023	ug/L		04/05/21 15:45	04/05/21 17:07	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	92		29 - 121				04/05/21 15:45	04/05/21 17:07	1

Lab Sample ID: LCS 590-31145/2-A

Matrix: Water

Analysis Batch: 31143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	1.60	1.27		ug/L		79	52 - 120
2-Methylnaphthalene	1.60	1.15		ug/L		72	44 - 120
1-Methylnaphthalene	1.60	1.15		ug/L		72	49 - 120

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QC Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

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

Lab Sample ID: LCS 590-31145/2-A

Matrix: Water

Analysis Batch: 31143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31145

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Nitrobenzene-d5	93		29 - 121

Lab Sample ID: LCSD 590-31145/3-A

Matrix: Water

Analysis Batch: 31143

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31145

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	1.60	1.21		ug/L		76	52 - 120	5	21
2-Methylnaphthalene	1.60	1.20		ug/L		75	44 - 120	5	16
1-Methylnaphthalene	1.60	1.23		ug/L		77	49 - 120	7	15

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
Nitrobenzene-d5	83		29 - 121

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

Lab Sample ID: MB 590-31193/1-A

Matrix: Water

Analysis Batch: 31191

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 31193

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		04/08/21 11:14	04/08/21 13:56	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		04/08/21 11:14	04/08/21 13:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	79		50 - 150	04/08/21 11:14	04/08/21 13:56	1
n-Triacontane-d62	80		50 - 150	04/08/21 11:14	04/08/21 13:56	1

Lab Sample ID: LCS 590-31193/2-A

Matrix: Water

Analysis Batch: 31191

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31193

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	1.60	1.14		mg/L		71	50 - 150
Residual Range Organics (RRO) (C25-C36)	1.60	1.44		mg/L		90	50 - 150

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
o-Terphenyl	80		50 - 150
n-Triacontane-d62	80		50 - 150

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QC Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

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

Lab Sample ID: LCSD 590-31193/3-A

Matrix: Water

Analysis Batch: 31191

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31193

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	1.60	1.08		mg/L		68	50 - 150	5	25
Residual Range Organics (RRO) (C25-C36)	1.60	1.34		mg/L		84	50 - 150	7	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	77		50 - 150
<i>n</i> -Triacontane-d62	74		50 - 150

QC Association Summary

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

GC/MS VOA

Analysis Batch: 31166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14860-1	HC-111	Total/NA	Water	8260D	
590-14860-2	G-18	Total/NA	Water	8260D	
590-14860-3	FW-14	Total/NA	Water	8260D	
590-14860-4	B-19	Total/NA	Water	8260D	
590-14860-5	DMW-2	Total/NA	Water	8260D	
590-14860-6	DMW-2-DUP	Total/NA	Water	8260D	
590-14860-7	RW-5R	Total/NA	Water	8260D	
590-14860-8	RR-2	Total/NA	Water	8260D	
590-14860-9	RR-4	Total/NA	Water	8260D	
590-14860-10	FW-5R	Total/NA	Water	8260D	
590-14860-11	B-34	Total/NA	Water	8260D	
590-14860-12	Trip Blank	Total/NA	Water	8260D	
MB 590-31166/5	Method Blank	Total/NA	Water	8260D	
LCS 590-31166/1002	Lab Control Sample	Total/NA	Water	8260D	
LCSD 590-31166/3	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 31167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14860-1	HC-111	Total/NA	Water	NWTPH-Gx	
590-14860-2	G-18	Total/NA	Water	NWTPH-Gx	
590-14860-3	FW-14	Total/NA	Water	NWTPH-Gx	
590-14860-4	B-19	Total/NA	Water	NWTPH-Gx	
590-14860-5	DMW-2	Total/NA	Water	NWTPH-Gx	
590-14860-6	DMW-2-DUP	Total/NA	Water	NWTPH-Gx	
590-14860-7	RW-5R	Total/NA	Water	NWTPH-Gx	
590-14860-8	RR-2	Total/NA	Water	NWTPH-Gx	
590-14860-9	RR-4	Total/NA	Water	NWTPH-Gx	
590-14860-10	FW-5R	Total/NA	Water	NWTPH-Gx	
590-14860-11	B-34	Total/NA	Water	NWTPH-Gx	
MB 590-31167/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-31167/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 590-31167/1025	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 31172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14860-11	B-34	Total/NA	Water	8260D	
MB 590-31172/6	Method Blank	Total/NA	Water	8260D	
LCS 590-31172/1003	Lab Control Sample	Total/NA	Water	8260D	
LCSD 590-31172/4	Lab Control Sample Dup	Total/NA	Water	8260D	

GC/MS Semi VOA

Analysis Batch: 31143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14860-3	FW-14	Total/NA	Water	8270E SIM	31145
590-14860-8	RR-2	Total/NA	Water	8270E SIM	31145
590-14860-10	FW-5R	Total/NA	Water	8270E SIM	31145
MB 590-31145/1-A	Method Blank	Total/NA	Water	8270E SIM	31145
LCS 590-31145/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	31145
LCSD 590-31145/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	31145

QC Association Summary

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

GC/MS Semi VOA

Prep Batch: 31145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14860-3	FW-14	Total/NA	Water	3510C	
590-14860-8	RR-2	Total/NA	Water	3510C	
590-14860-10	FW-5R	Total/NA	Water	3510C	
MB 590-31145/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-31145/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-31145/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 31154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14860-10	FW-5R	Total/NA	Water	8270E SIM	31145

GC Semi VOA

Analysis Batch: 31191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14860-1	HC-111	Total/NA	Water	NWTPH-Dx	31193
590-14860-2	G-18	Total/NA	Water	NWTPH-Dx	31193
590-14860-3	FW-14	Total/NA	Water	NWTPH-Dx	31193
590-14860-4	B-19	Total/NA	Water	NWTPH-Dx	31193
590-14860-5	DMW-2	Total/NA	Water	NWTPH-Dx	31193
590-14860-6	DMW-2-DUP	Total/NA	Water	NWTPH-Dx	31193
590-14860-7	RW-5R	Total/NA	Water	NWTPH-Dx	31193
590-14860-8	RR-2	Total/NA	Water	NWTPH-Dx	31193
590-14860-9	RR-4	Total/NA	Water	NWTPH-Dx	31193
590-14860-10	FW-5R	Total/NA	Water	NWTPH-Dx	31193
590-14860-11	B-34	Total/NA	Water	NWTPH-Dx	31193
MB 590-31193/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	31193
LCS 590-31193/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	31193
LCSD 590-31193/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	31193

Prep Batch: 31193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14860-1	HC-111	Total/NA	Water	3510C	
590-14860-2	G-18	Total/NA	Water	3510C	
590-14860-3	FW-14	Total/NA	Water	3510C	
590-14860-4	B-19	Total/NA	Water	3510C	
590-14860-5	DMW-2	Total/NA	Water	3510C	
590-14860-6	DMW-2-DUP	Total/NA	Water	3510C	
590-14860-7	RW-5R	Total/NA	Water	3510C	
590-14860-8	RR-2	Total/NA	Water	3510C	
590-14860-9	RR-4	Total/NA	Water	3510C	
590-14860-10	FW-5R	Total/NA	Water	3510C	
590-14860-11	B-34	Total/NA	Water	3510C	
MB 590-31193/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-31193/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-31193/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: HC-111

Date Collected: 03/30/21 09:13

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/06/21 22:09	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/06/21 22:09	JSP	TAL SPK
Total/NA	Prep	3510C			232.8 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 17:05	NMI	TAL SPK

Client Sample ID: G-18

Date Collected: 03/30/21 09:40

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/06/21 22:31	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/06/21 22:31	JSP	TAL SPK
Total/NA	Prep	3510C			243.5 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 17:47	NMI	TAL SPK

Client Sample ID: FW-14

Date Collected: 03/30/21 10:47

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/06/21 22:52	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/06/21 22:52	JSP	TAL SPK
Total/NA	Prep	3510C			234.2 mL	2 mL	31145	04/05/21 15:45	NMI	TAL SPK
Total/NA	Analysis	8270E SIM		1			31143	04/05/21 18:17	NMI	TAL SPK
Total/NA	Prep	3510C			228.9 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 18:08	NMI	TAL SPK

Client Sample ID: B-19

Date Collected: 03/30/21 10:55

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/07/21 23:35	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/07/21 23:35	JSP	TAL SPK
Total/NA	Prep	3510C			237.3 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 18:29	NMI	TAL SPK

Client Sample ID: DMW-2

Date Collected: 03/30/21 11:37

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/07/21 23:56	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/07/21 23:56	JSP	TAL SPK

Eurofins TestAmerica, Spokane

Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: DMW-2

Date Collected: 03/30/21 11:37

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			231.5 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 18:50	NMI	TAL SPK

Client Sample ID: DMW-2-DUP

Date Collected: 03/30/21 11:37

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/07/21 00:18	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/07/21 00:18	JSP	TAL SPK
Total/NA	Prep	3510C			233.9 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 19:11	NMI	TAL SPK

Client Sample ID: RW-5R

Date Collected: 03/30/21 12:15

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/07/21 00:39	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/07/21 00:39	JSP	TAL SPK
Total/NA	Prep	3510C			241.2 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 19:32	NMI	TAL SPK

Client Sample ID: RR-2

Date Collected: 03/30/21 13:17

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/07/21 01:01	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/07/21 01:01	JSP	TAL SPK
Total/NA	Prep	3510C			232.3 mL	2 mL	31145	04/05/21 15:45	NMI	TAL SPK
Total/NA	Analysis	8270E SIM		1			31143	04/05/21 18:40	NMI	TAL SPK
Total/NA	Prep	3510C			233.4 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 19:53	NMI	TAL SPK

Client Sample ID: RR-4

Date Collected: 03/30/21 13:40

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/07/21 01:22	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/07/21 01:22	JSP	TAL SPK
Total/NA	Prep	3510C			243.5 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 20:14	NMI	TAL SPK

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Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14860-1

Client Sample ID: FW-5R

Date Collected: 03/30/21 14:33

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/07/21 01:44	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/07/21 01:44	JSP	TAL SPK
Total/NA	Prep	3510C			228.3 mL	2 mL	31145	04/05/21 15:45	NMI	TAL SPK
Total/NA	Analysis	8270E SIM		1			31143	04/05/21 19:03	NMI	TAL SPK
Total/NA	Prep	3510C			228.3 mL	2 mL	31145	04/05/21 15:45	NMI	TAL SPK
Total/NA	Analysis	8270E SIM		20			31154	04/06/21 11:59	NMI	TAL SPK
Total/NA	Prep	3510C			237.2 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 20:35	NMI	TAL SPK

Client Sample ID: B-34

Date Collected: 03/30/21 15:10

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/07/21 02:05	JSP	TAL SPK
Total/NA	Analysis	8260D		10	43 mL	43 mL	31172	04/07/21 12:22	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31167	04/07/21 02:05	JSP	TAL SPK
Total/NA	Prep	3510C			241.3 mL	2 mL	31193	04/08/21 11:14	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31191	04/08/21 20:56	NMI	TAL SPK

Client Sample ID: Trip Blank

Date Collected: 03/30/21 00:00

Date Received: 03/31/21 10:05

Lab Sample ID: 590-14860-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31166	04/07/21 02:26	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: 590-14860-1

Project/Site: Tacoma D St Terminal/60626737

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737


Job ID: 590-14860-1

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	C569	01-06-22
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
NWTPH-Dx	3510C	Water	Residual Range Organics (RRO) (C25-C36)

Chain of Custody Record

Client Information		Sampler:		Lab PM:		COC No:	
Client Contact: <u>Rebecca Digustino</u>		Phone:		Arrington, Randee E		590-6353-1893.3	
Company: AECOM		E-Mail: <u>Randee.Arrington@Eurofins.com</u>		State of Origin:		Page: <u>1 of 2</u>	
Address: 111 SW Columbia Street, Suite 1500		Due Date Requested:		Analysis Requested		Job #:	
City: Portland		TAT Requested (days):		590-14860 Chain of Custody		Preservation Codes:	
State Zip: OR, 97201		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No				A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Project Name: Tacoma D SI Terminal		Project #:		NWTPH-Dx - DRO and RRO NWTPH-Gx - GRO 6020A - Diss Pb & Mn 310.1 - Alkalinity 300.0 - Nitrate & Sulfate 6020B - Total Lead 8270D_SIM - Naphthalenes 8260D - BTEX		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecalhydrate U - Acetone V - MCFA W - pH 4.5 Z - other (specify)	
Site: <u>D Street</u>		SSOW#:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)		Total Volume of Sample:	
Sample Identification		Sample Date		Sample Time		Sample Type	
HC-111		3/30/2021		09:13		G	
G-1B				09:40		G	
FW-14				10:47		G	
B-19				10:55		G	
DMW-2				11:57		G	
DMW-2-DUP				12:15		G	
RW-5R				13:17		G	
RW-4				13:40		G	
FW-5R				14:33		G	
B-31				15:10		G	
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant	
<input type="checkbox"/> Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: <u>Bryan Olfrey</u>		Date/Time: 3/30/21 16:10		Company: <u>PECOM</u>		Received by: <u>Randee E</u>	
Relinquished by: <u>Randee E</u>		Date/Time: 3/30/21 16:10		Company: <u>THC2</u>		Received by: <u>Walter O'Leary</u>	
Custody Seats Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Code: Temperatures (°C and Other Remarks):		24 → 21°C	

$$2.4 \rightarrow 2.1^{\circ} \text{C}$$

Login Sample Receipt Checklist

Client: AECOM

Job Number: 590-14860-1

Login Number: 14860

List Number: 1

Creator: O'Toole, Maria C

List Source: Eurofins TestAmerica, Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	484781
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?	N/A	Not present
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 $<6\text{mm}$ (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.

ANALYTICAL REPORT

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

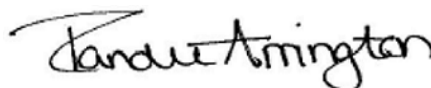
Laboratory Job ID: 590-14867-1

Client Project/Site: Tacoma D St Terminal/60626737

For:

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

Attn: Mr. Tyler Hemry



*Authorized for release by:
4/13/2021 1:31:59 PM*

Randee Arrington, Lab Director
(509)924-9200

Randee.Arrington@Eurofinset.com

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

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Job ID: 590-14867-1

Laboratory: Eurofins TestAmerica, Spokane

Narrative

Receipt

The samples were received on 4/1/2021 10:08 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3° C.

GC/MS VOA

Method 8260D: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 590-31172.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 590-31200.

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

GC Semi VOA

Method NWTPH-Dx: The method blank for preparation batch 590-31224 and analytical batch 590-31225 contained Residual Range Organics (RRO) (C25-C36) above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap as well as heavily weathered diesel and/or possible biogenic interference in the following samples: E-22 (590-14867-1), RR-5 (590-14867-4), RW-8 (590-14867-8) and T-3 (590-14867-10).

Method NWTPH-Dx: Detected hydrocarbons appear to be due to a complex mixture of heavily weathered diesel and oil range components in the following samples: E-21 (590-14867-5) and E-21-DUP (590-14867-6).

Method NWTPH-Dx: Detected hydrocarbons appear to be due to weathered diesel in the following sample: B-31 (590-14867-7).

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

Organic Prep

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

VOA Prep

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

Sample Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
590-14867-1	E-22	Water	03/29/21 11:30	04/01/21 10:08	
590-14867-2	T-2	Water	03/29/21 11:38	04/01/21 10:08	
590-14867-3	RR-1	Water	03/29/21 12:33	04/01/21 10:08	
590-14867-4	RR-5	Water	03/29/21 13:00	04/01/21 10:08	
590-14867-5	E-21	Water	03/29/21 13:53	04/01/21 10:08	
590-14867-6	E-21-DUP	Water	03/29/21 13:53	04/01/21 10:08	
590-14867-7	B-31	Water	03/29/21 15:08	04/01/21 10:08	
590-14867-8	RW-8	Water	03/29/21 15:40	04/01/21 10:08	
590-14867-9	TRIP BLANK	Water	03/29/21 00:00	04/01/21 10:08	
590-14867-10	T-3	Water	03/29/21 14:30	04/01/21 10:08	

Method Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	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: 590-14867-1

Project/Site: Tacoma D St Terminal/60626737

Client Sample ID: E-22

Lab Sample ID: 590-14867-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.6		0.40	0.093	ug/L	1		8260D	Total/NA
Ethylbenzene	220		10	2.0	ug/L	10		8260D	Total/NA
m,p-Xylene	32		2.0	0.28	ug/L	1		8260D	Total/NA
Toluene	1.7		1.0	0.31	ug/L	1		8260D	Total/NA
Xylenes, Total	32		3.0	0.44	ug/L	1		8260D	Total/NA
Gasoline	1300		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.56		0.24	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.18	J B	0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: T-2

Lab Sample ID: 590-14867-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.16	J	0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.14	J B	0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-1

Lab Sample ID: 590-14867-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	130	J	150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.20	J	0.25	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-5

Lab Sample ID: 590-14867-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	130	J	150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.27		0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.16	J B	0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: E-21

Lab Sample ID: 590-14867-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	2.7		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.88	B	0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: E-21-DUP

Lab Sample ID: 590-14867-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	2.9		0.26	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.94	B	0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-31

Lab Sample ID: 590-14867-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.40	J	1.0	0.20	ug/L	1		8260D	Total/NA
m,p-Xylene	1.0	J	2.0	0.28	ug/L	1		8260D	Total/NA
o-Xylene	0.62	J	1.0	0.16	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Spokane

Detection Summary

Client: AECOM

Job ID: 590-14867-1

Project/Site: Tacoma D St Terminal/60626737

Client Sample ID: B-31 (Continued)

Lab Sample ID: 590-14867-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	1.7	J	3.0	0.44	ug/L	1		8260D	Total/NA
Gasoline	340		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	3.7		0.27	0.12	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.51	B	0.45	0.14	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RW-8

Lab Sample ID: 590-14867-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	160		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.0		0.24	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.38	J B	0.40	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 590-14867-9

No Detections.

Client Sample ID: T-3

Lab Sample ID: 590-14867-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.1		0.40	0.093	ug/L	1		8260D	Total/NA
Ethylbenzene	2.7		1.0	0.20	ug/L	1		8260D	Total/NA
Toluene	0.42	J	1.0	0.31	ug/L	1		8260D	Total/NA
Gasoline	1100		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.71		0.25	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.22	J B	0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Client Sample ID: E-22

Lab Sample ID: 590-14867-1

Date Collected: 03/29/21 11:30

Matrix: Water

Date Received: 04/01/21 10:08

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.6		0.40	0.093	ug/L			04/07/21 12:44	1
Ethylbenzene	220		10	2.0	ug/L			04/08/21 17:08	10
m,p-Xylene	32		2.0	0.28	ug/L			04/07/21 12:44	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 12:44	1
Toluene	1.7		1.0	0.31	ug/L			04/07/21 12:44	1
Xylenes, Total	32		3.0	0.44	ug/L			04/07/21 12:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		80 - 120		04/07/21 12:44	1
1,2-Dichloroethane-d4 (Surr)	118		80 - 120		04/08/21 17:08	10
4-Bromofluorobenzene (Surr)	93		80 - 120		04/07/21 12:44	1
4-Bromofluorobenzene (Surr)	99		80 - 120		04/08/21 17:08	10
Dibromofluoromethane (Surr)	87		80 - 120		04/07/21 12:44	1
Dibromofluoromethane (Surr)	97		80 - 120		04/08/21 17:08	10
Toluene-d8 (Surr)	104		80 - 120		04/07/21 12:44	1
Toluene-d8 (Surr)	101		80 - 120		04/08/21 17:08	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1300		150	70	ug/L			04/07/21 12:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		68.7 - 141		04/07/21 12:44	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)	0.56		0.24	0.11	mg/L		04/12/21 14:12	04/12/21 18:02	1
Residual Range Organics (RRO) (C25-C36)	0.18	J B	0.41	0.12	mg/L		04/12/21 14:12	04/12/21 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150	04/12/21 14:12	04/12/21 18:02	1
n-Triacontane-d62	85		50 - 150	04/12/21 14:12	04/12/21 18:02	1

Client Sample ID: T-2

Lab Sample ID: 590-14867-2

Date Collected: 03/29/21 11:38

Matrix: Water

Date Received: 04/01/21 10:08

Method: 8260D - 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			04/07/21 13:06	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 13:06	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 13:06	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 13:06	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 13:06	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 13:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		80 - 120		04/07/21 13:06	1
4-Bromofluorobenzene (Surr)	102		80 - 120		04/07/21 13:06	1
Dibromofluoromethane (Surr)	93		80 - 120		04/07/21 13:06	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Client Sample ID: T-2

Date Collected: 03/29/21 11:38

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-2

Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		04/07/21 13:06	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			04/07/21 13:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141		04/07/21 13:06	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)	0.16	J	0.26	0.12	mg/L		04/12/21 14:12	04/12/21 18:22	1
Residual Range Organics (RRO) (C25-C36)	0.14	J B	0.43	0.13	mg/L		04/12/21 14:12	04/12/21 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	91		50 - 150	04/12/21 14:12	04/12/21 18:22	1
n-Triacontane-d62	93		50 - 150	04/12/21 14:12	04/12/21 18:22	1

Client Sample ID: RR-1

Date Collected: 03/29/21 12:33

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-3

Matrix: Water

Method: 8260D - 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			04/07/21 13:49	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 13:49	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 13:49	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 13:49	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 13:49	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 13:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		04/07/21 13:49	1
4-Bromofluorobenzene (Surr)	109		80 - 120		04/07/21 13:49	1
Dibromofluoromethane (Surr)	92		80 - 120		04/07/21 13:49	1
Toluene-d8 (Surr)	106		80 - 120		04/07/21 13:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	130	J	150	70	ug/L			04/07/21 13:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		68.7 - 141		04/07/21 13:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.20	J	0.25	0.12	mg/L		04/12/21 14:12	04/12/21 18:43	1
Residual Range Organics (RRO) (C25-C36)	ND		0.42	0.13	mg/L		04/12/21 14:12	04/12/21 18:43	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Client Sample ID: RR-1

Date Collected: 03/29/21 12:33

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-3

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150	04/12/21 14:12	04/12/21 18:43	1
<i>n</i> -Triacontane-d62	81		50 - 150	04/12/21 14:12	04/12/21 18:43	1

Client Sample ID: RR-5

Date Collected: 03/29/21 13:00

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-4

Matrix: Water

Method: 8260D - 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			04/07/21 14:11	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 14:11	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 14:11	1
<i>o</i> -Xylene	ND		1.0	0.16	ug/L			04/07/21 14:11	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 14:11	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 14:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		04/07/21 14:11	1
4-Bromofluorobenzene (Surr)	96		80 - 120		04/07/21 14:11	1
Dibromofluoromethane (Surr)	91		80 - 120		04/07/21 14:11	1
Toluene-d8 (Surr)	105		80 - 120		04/07/21 14:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	130	J	150	70	ug/L			04/07/21 14:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		68.7 - 141		04/07/21 14:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	0.27		0.25	0.11	mg/L		04/12/21 14:12	04/12/21 19:03	1
(C10-C25)									
Residual Range Organics (RRO)	0.16	J B	0.41	0.12	mg/L		04/12/21 14:12	04/12/21 19:03	1
(C25-C36)									

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	86		50 - 150	04/12/21 14:12	04/12/21 19:03	1
<i>n</i> -Triacontane-d62	85		50 - 150	04/12/21 14:12	04/12/21 19:03	1

Client Sample ID: E-21

Date Collected: 03/29/21 13:53

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-5

Matrix: Water

Method: 8260D - 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			04/07/21 14:33	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 14:33	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 14:33	1
<i>o</i> -Xylene	ND		1.0	0.16	ug/L			04/07/21 14:33	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 14:33	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 14:33	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Client Sample ID: E-21

Lab Sample ID: 590-14867-5

Date Collected: 03/29/21 13:53

Matrix: Water

Date Received: 04/01/21 10:08

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		04/07/21 14:33	1
4-Bromofluorobenzene (Surr)	95		80 - 120		04/07/21 14:33	1
Dibromofluoromethane (Surr)	99		80 - 120		04/07/21 14:33	1
Toluene-d8 (Surr)	105		80 - 120		04/07/21 14:33	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			04/07/21 14:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		04/07/21 14:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	2.7		0.26	0.12	mg/L		04/12/21 14:12	04/12/21 19:23	1
Residual Range Organics (RRO) (C25-C36)	0.88	B	0.43	0.13	mg/L		04/12/21 14:12	04/12/21 19:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150	04/12/21 14:12	04/12/21 19:23	1
n-Triacontane-d62	84		50 - 150	04/12/21 14:12	04/12/21 19:23	1

Client Sample ID: E-21-DUP

Lab Sample ID: 590-14867-6

Date Collected: 03/29/21 13:53

Matrix: Water

Date Received: 04/01/21 10:08

Method: 8260D - 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			04/07/21 14:55	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 14:55	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 14:55	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 14:55	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 14:55	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 14:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		04/07/21 14:55	1
4-Bromofluorobenzene (Surr)	94		80 - 120		04/07/21 14:55	1
Dibromofluoromethane (Surr)	94		80 - 120		04/07/21 14:55	1
Toluene-d8 (Surr)	107		80 - 120		04/07/21 14:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			04/07/21 14:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		68.7 - 141		04/07/21 14:55	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)	2.9		0.26	0.12	mg/L		04/12/21 14:12	04/12/21 19:43	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Client Sample ID: E-21-DUP

Date Collected: 03/29/21 13:53

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Residual Range Organics (RRO) (C25-C36)	0.94	B	0.43	0.13	mg/L		04/12/21 14:12	04/12/21 19:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	90		50 - 150				04/12/21 14:12	04/12/21 19:43	1
n-Triacontane-d62	92		50 - 150				04/12/21 14:12	04/12/21 19:43	1

Client Sample ID: B-31

Date Collected: 03/29/21 15:08

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-7

Matrix: Water

Method: 8260D - 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			04/07/21 15:16	1
Ethylbenzene	0.40	J	1.0	0.20	ug/L			04/07/21 15:16	1
m,p-Xylene	1.0	J	2.0	0.28	ug/L			04/07/21 15:16	1
o-Xylene	0.62	J	1.0	0.16	ug/L			04/07/21 15:16	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 15:16	1
Xylenes, Total	1.7	J	3.0	0.44	ug/L			04/07/21 15:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		80 - 120					04/07/21 15:16	1
4-Bromofluorobenzene (Surr)	90		80 - 120					04/07/21 15:16	1
Dibromofluoromethane (Surr)	90		80 - 120					04/07/21 15:16	1
Toluene-d8 (Surr)	104		80 - 120					04/07/21 15:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	340		150	70	ug/L			04/07/21 15:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		68.7 - 141					04/07/21 15:16	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)	3.7		0.27	0.12	mg/L		04/12/21 14:12	04/12/21 20:04	1
Residual Range Organics (RRO) (C25-C36)	0.51	B	0.45	0.14	mg/L		04/12/21 14:12	04/12/21 20:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150				04/12/21 14:12	04/12/21 20:04	1
n-Triacontane-d62	87		50 - 150				04/12/21 14:12	04/12/21 20:04	1

Client Sample ID: RW-8

Date Collected: 03/29/21 15:40

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-8

Matrix: Water

Method: 8260D - 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			04/07/21 17:05	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 17:05	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 17:05	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Client Sample ID: RW-8

Lab Sample ID: 590-14867-8

Date Collected: 03/29/21 15:40

Matrix: Water

Date Received: 04/01/21 10:08

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 17:05	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 17:05	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 17:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		80 - 120					04/07/21 17:05	1
4-Bromofluorobenzene (Surr)	98		80 - 120					04/07/21 17:05	1
Dibromofluoromethane (Surr)	88		80 - 120					04/07/21 17:05	1
Toluene-d8 (Surr)	107		80 - 120					04/07/21 17:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	160		150	70	ug/L			04/07/21 17:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141					04/07/21 17:05	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)	1.0		0.24	0.11	mg/L		04/12/21 14:12	04/12/21 21:25	1
Residual Range Organics (RRO) (C25-C36)	0.38	J B	0.40	0.12	mg/L		04/12/21 14:12	04/12/21 21:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150				04/12/21 14:12	04/12/21 21:25	1
n-Triacontane-d62	90		50 - 150				04/12/21 14:12	04/12/21 21:25	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 590-14867-9

Date Collected: 03/29/21 00:00

Matrix: Water

Date Received: 04/01/21 10:08

Method: 8260D - 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			04/07/21 17:49	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 17:49	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 17:49	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 17:49	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 17:49	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 17:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 120					04/07/21 17:49	1
4-Bromofluorobenzene (Surr)	105		80 - 120					04/07/21 17:49	1
Dibromofluoromethane (Surr)	89		80 - 120					04/07/21 17:49	1
Toluene-d8 (Surr)	103		80 - 120					04/07/21 17:49	1

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Client Sample ID: T-3

Lab Sample ID: 590-14867-10

Date Collected: 03/29/21 14:30

Matrix: Water

Date Received: 04/01/21 10:08

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.1		0.40	0.093	ug/L			04/07/21 18:10	1
Ethylbenzene	2.7		1.0	0.20	ug/L			04/07/21 18:10	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 18:10	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 18:10	1
Toluene	0.42	J	1.0	0.31	ug/L			04/07/21 18:10	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		80 - 120		04/07/21 18:10	1
4-Bromofluorobenzene (Surr)	105		80 - 120		04/07/21 18:10	1
Dibromofluoromethane (Surr)	84		80 - 120		04/07/21 18:10	1
Toluene-d8 (Surr)	101		80 - 120		04/07/21 18:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1100		150	70	ug/L			04/07/21 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		68.7 - 141		04/07/21 18:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.71		0.25	0.11	mg/L		04/12/21 14:12	04/12/21 21:45	1
Residual Range Organics (RRO) (C25-C36)	0.22	J B	0.41	0.12	mg/L		04/12/21 14:12	04/12/21 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	84		50 - 150	04/12/21 14:12	04/12/21 21:45	1
n-Triacontane-d62	86		50 - 150	04/12/21 14:12	04/12/21 21:45	1

QC Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

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

Lab Sample ID: MB 590-31172/6

Matrix: Water

Analysis Batch: 31172

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			04/07/21 09:51	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/07/21 09:51	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/07/21 09:51	1
o-Xylene	ND		1.0	0.16	ug/L			04/07/21 09:51	1
Toluene	ND		1.0	0.31	ug/L			04/07/21 09:51	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/07/21 09:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		04/07/21 09:51	1
4-Bromofluorobenzene (Surr)	95		80 - 120		04/07/21 09:51	1
Dibromofluoromethane (Surr)	91		80 - 120		04/07/21 09:51	1
Toluene-d8 (Surr)	111		80 - 120		04/07/21 09:51	1

Lab Sample ID: LCS 590-31172/1003

Matrix: Water

Analysis Batch: 31172

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	11.6		ug/L		116	80 - 126
Ethylbenzene	10.0	10.8		ug/L		108	80 - 128
m,p-Xylene	10.0	10.2		ug/L		102	80 - 127
o-Xylene	10.0	10.8		ug/L		108	80 - 126
Toluene	10.0	11.0		ug/L		110	80 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		80 - 120
4-Bromofluorobenzene (Surr)	108		80 - 120
Dibromofluoromethane (Surr)	95		80 - 120
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: LCSD 590-31172/4

Matrix: Water

Analysis Batch: 31172

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	10.3		ug/L		103	80 - 126	12	18
Ethylbenzene	10.0	9.95		ug/L		99	80 - 128	8	18
m,p-Xylene	10.0	9.71		ug/L		97	80 - 127	5	18
o-Xylene	10.0	9.86		ug/L		99	80 - 126	9	17
Toluene	10.0	9.71		ug/L		97	80 - 129	13	18

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	95		80 - 120
Toluene-d8 (Surr)	101		80 - 120

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QC Sample Results

Client: AECOM

Job ID: 590-14867-1

Project/Site: Tacoma D St Terminal/60626737

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

Lab Sample ID: 590-14867-7 MS

Matrix: Water

Analysis Batch: 31172

Client Sample ID: B-31

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		10.0	11.5		ug/L		115	80 - 126
Ethylbenzene	0.40	J	10.0	10.2		ug/L		98	80 - 128
m,p-Xylene	1.0	J	10.0	10.8		ug/L		98	80 - 127
o-Xylene	0.62	J	10.0	10.6		ug/L		100	80 - 126
Toluene	ND		10.0	10.5		ug/L		105	80 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	92		80 - 120
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: 590-14867-7 MSD

Matrix: Water

Analysis Batch: 31172

Client Sample ID: B-31

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	12.0		ug/L		120	80 - 126	4	18
Ethylbenzene	0.40	J	10.0	11.1		ug/L		107	80 - 128	9	18
m,p-Xylene	1.0	J	10.0	11.0		ug/L		100	80 - 127	2	18
o-Xylene	0.62	J	10.0	11.3		ug/L		107	80 - 126	6	17
Toluene	ND		10.0	10.7		ug/L		107	80 - 129	2	18

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		80 - 120
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	89		80 - 120
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: MB 590-31200/6

Matrix: Water

Analysis Batch: 31200

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			04/08/21 16:03	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/08/21 16:03	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/08/21 16:03	1
o-Xylene	ND		1.0	0.16	ug/L			04/08/21 16:03	1
Toluene	ND		1.0	0.31	ug/L			04/08/21 16:03	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/08/21 16:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		80 - 120		04/08/21 16:03	1
4-Bromofluorobenzene (Surr)	97		80 - 120		04/08/21 16:03	1
Dibromofluoromethane (Surr)	97		80 - 120		04/08/21 16:03	1
Toluene-d8 (Surr)	102		80 - 120		04/08/21 16:03	1

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QC Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

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

Lab Sample ID: LCS 590-31200/1003

Matrix: Water

Analysis Batch: 31200

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	9.94		ug/L		99	80 - 126
Ethylbenzene	10.0	9.28		ug/L		93	80 - 128
m,p-Xylene	10.0	9.44		ug/L		94	80 - 127
o-Xylene	10.0	9.55		ug/L		95	80 - 126
Toluene	10.0	8.67		ug/L		87	80 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	114		80 - 120
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	99		80 - 120
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: LCSD 590-31200/4

Matrix: Water

Analysis Batch: 31200

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	1	18
Ethylbenzene	10.0	9.70		ug/L		97	80 - 128	4	18
m,p-Xylene	10.0	9.97		ug/L		100	80 - 127	5	18
o-Xylene	10.0	10.0		ug/L		100	80 - 126	5	17
Toluene	10.0	9.31		ug/L		93	80 - 129	7	18

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	112		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	95		80 - 120
Toluene-d8 (Surr)	100		80 - 120

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

Lab Sample ID: MB 590-31173/6

Matrix: Water

Analysis Batch: 31173

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			04/07/21 09:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		04/07/21 09:51	1

Lab Sample ID: LCS 590-31173/1005

Matrix: Water

Analysis Batch: 31173

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

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QC Sample Results

Client: AECOM

Job ID: 590-14867-1

Project/Site: Tacoma D St Terminal/60626737

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

Lab Sample ID: LCS 590-31173/1005

Matrix: Water

Analysis Batch: 31173

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: LCSD 590-31173/1016

Matrix: Water

Analysis Batch: 31173

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1000	916		ug/L		92	80 - 120	18	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		68.7 - 141

Lab Sample ID: 590-14867-7 MS

Matrix: Water

Analysis Batch: 31173

Client Sample ID: B-31

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	340		1000	1260		ug/L		92	55.6 - 126		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		68.7 - 141

Lab Sample ID: 590-14867-7 MSD

Matrix: Water

Analysis Batch: 31173

Client Sample ID: B-31

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	340		1000	1260		ug/L		92	55.6 - 126	0	20

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

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

Lab Sample ID: MB 590-31224/1-A

Matrix: Water

Analysis Batch: 31225

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 31224

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		04/12/21 14:12	04/12/21 17:01	1
Residual Range Organics (RRO) (C25-C36)	0.144	J	0.40	0.12	mg/L		04/12/21 14:12	04/12/21 17:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150	04/12/21 14:12	04/12/21 17:01	1
n-Triacontane-d62	82		50 - 150	04/12/21 14:12	04/12/21 17:01	1

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QC Sample Results

Client: AECOM

Job ID: 590-14867-1

Project/Site: Tacoma D St Terminal/60626737

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

Lab Sample ID: LCS 590-31224/2-A

Matrix: Water

Analysis Batch: 31225

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31224

Analyte			Spike	LCS	LCS	Unit	D	%Rec.		
			Added	Result	Qualifier			Limits		
Diesel Range Organics (DRO) (C10-C25)			1.60	1.40		mg/L		87	50 - 150	
Residual Range Organics (RRO) (C25-C36)			1.60	1.72		mg/L		108	50 - 150	
Surrogate	LCS	LCS								
	%Recovery	Qualifier	Limits							
o-Terphenyl	87		50 - 150							
n-Triacontane-d62	88		50 - 150							

Lab Sample ID: LCSD 590-31224/3-A

Matrix: Water

Analysis Batch: 31225

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31224

Analyte			Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
			Added	Result	Qualifier				Limits		Limit
Diesel Range Organics (DRO) (C10-C25)			1.60	1.40		mg/L		87	50 - 150	0	25
Residual Range Organics (RRO) (C25-C36)			1.60	1.75		mg/L		109	50 - 150	2	25
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
o-Terphenyl	89		50 - 150								
n-Triacontane-d62	88		50 - 150								

Lab Sample ID: 590-14867-7 MS

Matrix: Water

Analysis Batch: 31225

Client Sample ID: B-31

Prep Type: Total/NA

Prep Batch: 31224

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)	3.7		1.70	5.34		mg/L		95	54.5 - 136		
Residual Range Organics (RRO) (C25-C36)	0.51	B	1.70	2.11		mg/L		94	50 - 150		
Surrogate	MS %Recovery	MS Qualifier	Limits								
o-Terphenyl	89		50 - 150								
n-Triacontane-d62	88		50 - 150								

Lab Sample ID: 590-14867-7 MSD

Matrix: Water

Analysis Batch: 31225

Client Sample ID: B-31

Prep Type: Total/NA

Prep Batch: 31224

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Diesel Range Organics (DRO) (C10-C25)	3.7		1.76	5.36		mg/L		93	54.5 - 136	0	32.5
Residual Range Organics (RRO) (C25-C36)	0.51	B	1.76	2.14		mg/L		93	50 - 150	2	25
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
o-Terphenyl	84		50 - 150								

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QC Sample Results

Client: AECOM

Job ID: 590-14867-1

Project/Site: Tacoma D St Terminal/60626737

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

Lab Sample ID: 590-14867-7 MSD

Matrix: Water

Analysis Batch: 31225

Client Sample ID: B-31

Prep Type: Total/NA

Prep Batch: 31224

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
<i>n</i> -Triacontane-d62	87		50 - 150

QC Association Summary

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

GC/MS VOA

Analysis Batch: 31172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14867-1	E-22	Total/NA	Water	8260D	
590-14867-2	T-2	Total/NA	Water	8260D	
590-14867-3	RR-1	Total/NA	Water	8260D	
590-14867-4	RR-5	Total/NA	Water	8260D	
590-14867-5	E-21	Total/NA	Water	8260D	
590-14867-6	E-21-DUP	Total/NA	Water	8260D	
590-14867-7	B-31	Total/NA	Water	8260D	
590-14867-8	RW-8	Total/NA	Water	8260D	
590-14867-9	TRIP BLANK	Total/NA	Water	8260D	
590-14867-10	T-3	Total/NA	Water	8260D	
MB 590-31172/6	Method Blank	Total/NA	Water	8260D	
LCS 590-31172/1003	Lab Control Sample	Total/NA	Water	8260D	
LCSD 590-31172/4	Lab Control Sample Dup	Total/NA	Water	8260D	
590-14867-7 MS	B-31	Total/NA	Water	8260D	
590-14867-7 MSD	B-31	Total/NA	Water	8260D	

Analysis Batch: 31173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14867-1	E-22	Total/NA	Water	NWTPH-Gx	
590-14867-2	T-2	Total/NA	Water	NWTPH-Gx	
590-14867-3	RR-1	Total/NA	Water	NWTPH-Gx	
590-14867-4	RR-5	Total/NA	Water	NWTPH-Gx	
590-14867-5	E-21	Total/NA	Water	NWTPH-Gx	
590-14867-6	E-21-DUP	Total/NA	Water	NWTPH-Gx	
590-14867-7	B-31	Total/NA	Water	NWTPH-Gx	
590-14867-8	RW-8	Total/NA	Water	NWTPH-Gx	
590-14867-10	T-3	Total/NA	Water	NWTPH-Gx	
MB 590-31173/6	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-31173/1005	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 590-31173/1016	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
590-14867-7 MS	B-31	Total/NA	Water	NWTPH-Gx	
590-14867-7 MSD	B-31	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 31200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14867-1	E-22	Total/NA	Water	8260D	
MB 590-31200/6	Method Blank	Total/NA	Water	8260D	
LCS 590-31200/1003	Lab Control Sample	Total/NA	Water	8260D	
LCSD 590-31200/4	Lab Control Sample Dup	Total/NA	Water	8260D	

GC Semi VOA

Prep Batch: 31224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14867-1	E-22	Total/NA	Water	3510C	
590-14867-2	T-2	Total/NA	Water	3510C	
590-14867-3	RR-1	Total/NA	Water	3510C	
590-14867-4	RR-5	Total/NA	Water	3510C	
590-14867-5	E-21	Total/NA	Water	3510C	
590-14867-6	E-21-DUP	Total/NA	Water	3510C	
590-14867-7	B-31	Total/NA	Water	3510C	

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QC Association Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

GC Semi VOA (Continued)

Prep Batch: 31224 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14867-8	RW-8	Total/NA	Water	3510C	
590-14867-10	T-3	Total/NA	Water	3510C	
MB 590-31224/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-31224/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-31224/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
590-14867-7 MS	B-31	Total/NA	Water	3510C	
590-14867-7 MSD	B-31	Total/NA	Water	3510C	

Analysis Batch: 31225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14867-1	E-22	Total/NA	Water	NWTPH-Dx	31224
590-14867-2	T-2	Total/NA	Water	NWTPH-Dx	31224
590-14867-3	RR-1	Total/NA	Water	NWTPH-Dx	31224
590-14867-4	RR-5	Total/NA	Water	NWTPH-Dx	31224
590-14867-5	E-21	Total/NA	Water	NWTPH-Dx	31224
590-14867-6	E-21-DUP	Total/NA	Water	NWTPH-Dx	31224
590-14867-7	B-31	Total/NA	Water	NWTPH-Dx	31224
590-14867-8	RW-8	Total/NA	Water	NWTPH-Dx	31224
590-14867-10	T-3	Total/NA	Water	NWTPH-Dx	31224
MB 590-31224/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	31224
LCS 590-31224/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	31224
LCSD 590-31224/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	31224
590-14867-7 MS	B-31	Total/NA	Water	NWTPH-Dx	31224
590-14867-7 MSD	B-31	Total/NA	Water	NWTPH-Dx	31224

Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Client Sample ID: E-22

Date Collected: 03/29/21 11:30

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 12:44	JSP	TAL SPK
Total/NA	Analysis	8260D		10	43 mL	43 mL	31200	04/08/21 17:08	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31173	04/07/21 12:44	JSP	TAL SPK
Total/NA	Prep	3510C			244.9 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 18:02	NMI	TAL SPK

Client Sample ID: T-2

Date Collected: 03/29/21 11:38

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 13:06	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31173	04/07/21 13:06	JSP	TAL SPK
Total/NA	Prep	3510C			230.6 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 18:22	NMI	TAL SPK

Client Sample ID: RR-1

Date Collected: 03/29/21 12:33

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 13:49	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31173	04/07/21 13:49	JSP	TAL SPK
Total/NA	Prep	3510C			238.6 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 18:43	NMI	TAL SPK

Client Sample ID: RR-5

Date Collected: 03/29/21 13:00

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 14:11	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31173	04/07/21 14:11	JSP	TAL SPK
Total/NA	Prep	3510C			241.8 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 19:03	NMI	TAL SPK

Client Sample ID: E-21

Date Collected: 03/29/21 13:53

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 14:33	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31173	04/07/21 14:33	JSP	TAL SPK
Total/NA	Prep	3510C			231.8 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 19:23	NMI	TAL SPK

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Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Client Sample ID: E-21-DUP

Date Collected: 03/29/21 13:53

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 14:55	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31173	04/07/21 14:55	JSP	TAL SPK
Total/NA	Prep	3510C			230.1 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 19:43	NMI	TAL SPK

Client Sample ID: B-31

Date Collected: 03/29/21 15:08

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 15:16	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31173	04/07/21 15:16	JSP	TAL SPK
Total/NA	Prep	3510C			222.2 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 20:04	NMI	TAL SPK

Client Sample ID: RW-8

Date Collected: 03/29/21 15:40

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 17:05	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31173	04/07/21 17:05	JSP	TAL SPK
Total/NA	Prep	3510C			251.9 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 21:25	NMI	TAL SPK

Client Sample ID: TRIP BLANK

Date Collected: 03/29/21 00:00

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 17:49	JSP	TAL SPK

Client Sample ID: T-3

Date Collected: 03/29/21 14:30

Date Received: 04/01/21 10:08

Lab Sample ID: 590-14867-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31172	04/07/21 18:10	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31173	04/07/21 18:10	JSP	TAL SPK
Total/NA	Prep	3510C			243.7 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 21:45	NMI	TAL SPK

Laboratory References:

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

Eurofins TestAmerica, Spokane

Definitions/Glossary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

Qualifiers

GC/MS VOA

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

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14867-1

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	C569	01-06-22

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
NWTPH-Dx	3510C	Water	Residual Range Organics (RRO) (C25-C36)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

4/13/2021

Login Sample Receipt Checklist

Client: AECOM

Job Number: 590-14867-1

Login Number: 14867

List Number: 1

Creator: O'Toole, Maria C

List Source: Eurofins TestAmerica, Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	484776
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 $<6\text{mm}$ (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.

ANALYTICAL REPORT

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

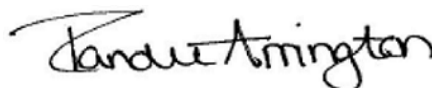
Laboratory Job ID: 590-14868-1

Client Project/Site: Tacoma D St Terminal/60626737

For:

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

Attn: Mr. Tyler Hemry



Authorized for release by:
4/13/2021 1:46:43 PM

Randee Arrington, Lab Director
(509)924-9200

Randee.Arrington@Eurofinset.com

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

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

Job ID: 590-14868-1

Laboratory: Eurofins TestAmerica, Spokane

Narrative

Receipt

The samples were received on 4/1/2021 10:07 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.9° C.

GC/MS VOA

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 590-31218.

Method NWTPH-Gx: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 590-31219.

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

GC Semi VOA

Method NWTPH-Dx: The method blank for preparation batch 590-31224 and analytical batch 590-31225 contained Residual Range Organics (RRO) (C25-C36) above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap in the following sample: B-25 (590-14868-2).

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

Organic Prep

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

VOA Prep

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

Sample Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
590-14868-1	FW-13	Water	03/31/21 11:35	04/01/21 10:07	
590-14868-2	B-25	Water	03/31/21 12:35	04/01/21 10:07	
590-14868-3	Trip Blank	Water	03/31/21 11:35	04/01/21 10:07	

Method Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	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: 590-14868-1

Project/Site: Tacoma D St Terminal/60626737

Client Sample ID: FW-13

Lab Sample ID: 590-14868-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.16	J	0.23	0.11	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.16	J B	0.38	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-25

Lab Sample ID: 590-14868-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	33		0.40	0.093	ug/L	1		8260D	Total/NA
m,p-Xylene	1.3	J	2.0	0.28	ug/L	1		8260D	Total/NA
o-Xylene	0.17	J	1.0	0.16	ug/L	1		8260D	Total/NA
Xylenes, Total	1.4	J	3.0	0.44	ug/L	1		8260D	Total/NA
Gasoline	1300		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.60		0.22	0.10	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 590-14868-3

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

Client Sample ID: FW-13

Lab Sample ID: 590-14868-1

Date Collected: 03/31/21 11:35

Matrix: Water

Date Received: 04/01/21 10:07

Method: 8260D - 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			04/12/21 12:18	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/12/21 12:18	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/12/21 12:18	1
o-Xylene	ND		1.0	0.16	ug/L			04/12/21 12:18	1
Toluene	ND		1.0	0.31	ug/L			04/12/21 12:18	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/12/21 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		80 - 120		04/12/21 12:18	1
4-Bromofluorobenzene (Surr)	95		80 - 120		04/12/21 12:18	1
Dibromofluoromethane (Surr)	97		80 - 120		04/12/21 12:18	1
Toluene-d8 (Surr)	102		80 - 120		04/12/21 12:18	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			04/12/21 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		04/12/21 12:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.16	J	0.23	0.11	mg/L		04/12/21 14:12	04/12/21 22:05	1
Residual Range Organics (RRO) (C25-C36)	0.16	J B	0.38	0.12	mg/L		04/12/21 14:12	04/12/21 22:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	82		50 - 150	04/12/21 14:12	04/12/21 22:05	1
n-Triacontane-d62	85		50 - 150	04/12/21 14:12	04/12/21 22:05	1

Client Sample ID: B-25

Lab Sample ID: 590-14868-2

Date Collected: 03/31/21 12:35

Matrix: Water

Date Received: 04/01/21 10:07

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	33		0.40	0.093	ug/L			04/12/21 12:39	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/12/21 12:39	1
m,p-Xylene	1.3	J	2.0	0.28	ug/L			04/12/21 12:39	1
o-Xylene	0.17	J	1.0	0.16	ug/L			04/12/21 12:39	1
Toluene	ND		1.0	0.31	ug/L			04/12/21 12:39	1
Xylenes, Total	1.4	J	3.0	0.44	ug/L			04/12/21 12:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		80 - 120		04/12/21 12:39	1
4-Bromofluorobenzene (Surr)	101		80 - 120		04/12/21 12:39	1
Dibromofluoromethane (Surr)	95		80 - 120		04/12/21 12:39	1
Toluene-d8 (Surr)	93		80 - 120		04/12/21 12:39	1

Eurofins TestAmerica, Spokane

Client Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

Client Sample ID: B-25

Date Collected: 03/31/21 12:35

Date Received: 04/01/21 10:07

Lab Sample ID: 590-14868-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1300		150	70	ug/L			04/12/21 12:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		68.7 - 141					04/12/21 12:39	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)	0.60		0.22	0.10	mg/L		04/12/21 14:12	04/12/21 22:25	1
Residual Range Organics (RRO) (C25-C36)	ND		0.37	0.11	mg/L		04/12/21 14:12	04/12/21 22:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150				04/12/21 14:12	04/12/21 22:25	1
n-Triacontane-d62	86		50 - 150				04/12/21 14:12	04/12/21 22:25	1

Client Sample ID: Trip Blank

Date Collected: 03/31/21 11:35

Date Received: 04/01/21 10:07

Lab Sample ID: 590-14868-3

Matrix: Water

Method: 8260D - 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			04/12/21 13:01	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/12/21 13:01	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/12/21 13:01	1
o-Xylene	ND		1.0	0.16	ug/L			04/12/21 13:01	1
Toluene	ND		1.0	0.31	ug/L			04/12/21 13:01	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/12/21 13:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		80 - 120					04/12/21 13:01	1
4-Bromofluorobenzene (Surr)	97		80 - 120					04/12/21 13:01	1
Dibromofluoromethane (Surr)	96		80 - 120					04/12/21 13:01	1
Toluene-d8 (Surr)	100		80 - 120					04/12/21 13:01	1

QC Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

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

Lab Sample ID: MB 590-31218/6

Matrix: Water

Analysis Batch: 31218

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			04/12/21 11:56	1
Ethylbenzene	ND		1.0	0.20	ug/L			04/12/21 11:56	1
m,p-Xylene	ND		2.0	0.28	ug/L			04/12/21 11:56	1
o-Xylene	ND		1.0	0.16	ug/L			04/12/21 11:56	1
Toluene	ND		1.0	0.31	ug/L			04/12/21 11:56	1
Xylenes, Total	ND		3.0	0.44	ug/L			04/12/21 11:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		80 - 120		04/12/21 11:56	1
4-Bromofluorobenzene (Surr)	97		80 - 120		04/12/21 11:56	1
Dibromofluoromethane (Surr)	97		80 - 120		04/12/21 11:56	1
Toluene-d8 (Surr)	103		80 - 120		04/12/21 11:56	1

Lab Sample ID: LCS 590-31218/1003

Matrix: Water

Analysis Batch: 31218

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	10.3		ug/L		103	80 - 126
Ethylbenzene	10.0	9.38		ug/L		94	80 - 128
m,p-Xylene	10.0	9.81		ug/L		98	80 - 127
o-Xylene	10.0	9.84		ug/L		98	80 - 126
Toluene	10.0	9.16		ug/L		92	80 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		80 - 120
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
Toluene-d8 (Surr)	97		80 - 120

Lab Sample ID: LCSD 590-31218/4

Matrix: Water

Analysis Batch: 31218

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	9.95		ug/L		100	80 - 126	3	18
Ethylbenzene	10.0	9.28		ug/L		93	80 - 128	1	18
m,p-Xylene	10.0	9.56		ug/L		96	80 - 127	3	18
o-Xylene	10.0	9.55		ug/L		96	80 - 126	3	17
Toluene	10.0	8.99		ug/L		90	80 - 129	2	18

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	97		80 - 120
Toluene-d8 (Surr)	96		80 - 120

Eurofins TestAmerica, Spokane

QC Sample Results

Client: AECOM

Job ID: 590-14868-1

Project/Site: Tacoma D St Terminal/60626737

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

Lab Sample ID: MB 590-31219/6

Matrix: Water

Analysis Batch: 31219

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			04/12/21 11:56	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141					04/12/21 11:56	1

Lab Sample ID: LCS 590-31219/1005

Matrix: Water

Analysis Batch: 31219

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1000	916		ug/L		92	80 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	99		68.7 - 141				

Lab Sample ID: LCSD 590-31219/1016

Matrix: Water

Analysis Batch: 31219

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1000	895		ug/L		89	80 - 120	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	99		68.7 - 141						

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

Lab Sample ID: MB 590-31224/1-A

Matrix: Water

Analysis Batch: 31225

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 31224

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		04/12/21 14:12	04/12/21 17:01	1
Residual Range Organics (RRO) (C25-C36)	0.144	J	0.40	0.12	mg/L		04/12/21 14:12	04/12/21 17:01	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150				04/12/21 14:12	04/12/21 17:01	1
n-Triacontane-d62	82		50 - 150				04/12/21 14:12	04/12/21 17:01	1

Lab Sample ID: LCS 590-31224/2-A

Matrix: Water

Analysis Batch: 31225

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31224

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	1.60	1.40		mg/L		87	50 - 150

Eurofins TestAmerica, Spokane

QC Sample Results

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

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

Lab Sample ID: LCS 590-31224/2-A

Matrix: Water

Analysis Batch: 31225

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31224

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Residual Range Organics (RRO) (C25-C36)	1.60	1.72		mg/L		108	50 - 150
	LCS %Recovery	LCS Qualifier	Limits				
Surrogate							
<i>o</i> -Terphenyl	87		50 - 150				
<i>n</i> -Triacontane-d62	88		50 - 150				

Lab Sample ID: LCSD 590-31224/3-A

Matrix: Water

Analysis Batch: 31225

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31224

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	1.60	1.40		mg/L		87	50 - 150	0	25
Residual Range Organics (RRO) (C25-C36)	1.60	1.75		mg/L		109	50 - 150	2	25
	LCSD %Recovery	LCSD Qualifier	Limits						
Surrogate									
<i>o</i> -Terphenyl	89		50 - 150						
<i>n</i> -Triacontane-d62	88		50 - 150						

QC Association Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

GC/MS VOA

Analysis Batch: 31218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14868-1	FW-13	Total/NA	Water	8260D	
590-14868-2	B-25	Total/NA	Water	8260D	
590-14868-3	Trip Blank	Total/NA	Water	8260D	
MB 590-31218/6	Method Blank	Total/NA	Water	8260D	
LCS 590-31218/1003	Lab Control Sample	Total/NA	Water	8260D	
LCSD 590-31218/4	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 31219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14868-1	FW-13	Total/NA	Water	NWTPH-Gx	
590-14868-2	B-25	Total/NA	Water	NWTPH-Gx	
MB 590-31219/6	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-31219/1005	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 590-31219/1016	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 31224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14868-1	FW-13	Total/NA	Water	3510C	
590-14868-2	B-25	Total/NA	Water	3510C	
MB 590-31224/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-31224/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-31224/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 31225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-14868-1	FW-13	Total/NA	Water	NWTPH-Dx	31224
590-14868-2	B-25	Total/NA	Water	NWTPH-Dx	31224
MB 590-31224/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	31224
LCS 590-31224/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	31224
LCSD 590-31224/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	31224

Lab Chronicle

Client: AECOM
Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

Client Sample ID: FW-13

Date Collected: 03/31/21 11:35

Date Received: 04/01/21 10:07

Lab Sample ID: 590-14868-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31218	04/12/21 12:18	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31219	04/12/21 12:18	JSP	TAL SPK
Total/NA	Prep	3510C			260.3 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 22:05	NMI	TAL SPK

Client Sample ID: B-25

Date Collected: 03/31/21 12:35

Date Received: 04/01/21 10:07

Lab Sample ID: 590-14868-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31218	04/12/21 12:39	JSP	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	31219	04/12/21 12:39	JSP	TAL SPK
Total/NA	Prep	3510C			267.4 mL	2 mL	31224	04/12/21 14:12	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			31225	04/12/21 22:25	NMI	TAL SPK

Client Sample ID: Trip Blank

Date Collected: 03/31/21 11:35

Date Received: 04/01/21 10:07

Lab Sample ID: 590-14868-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	31218	04/12/21 13:01	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

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

Qualifiers

GC/MS VOA

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

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: AECOM

Project/Site: Tacoma D St Terminal/60626737

Job ID: 590-14868-1

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	C569	01-06-22

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
NWTPH-Dx	3510C	Water	Residual Range Organics (RRO) (C25-C36)

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Login Sample Receipt Checklist

Client: AECOM

Job Number: 590-14868-1

Login Number: 14868

List Number: 1

Creator: O'Toole, Maria C

List Source: Eurofins TestAmerica, Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	484782
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 $<6\text{mm}$ (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



Memorandum

AECOM
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866 495 5288 fax

To	Renee Knecht, Project Manager	Info	FINAL
Subject	Summary Data Quality Review Phillips 66 – D Street Terminal, Tacoma Washington 2021 First Quarter Groundwater Sampling		
From	Lucy Panteleeff, Chemist Jennifer B. Garner, Chemist		
Date	October 4, 2021		

The summary data quality review of 22 groundwater samples and 3 trip blanks collected between March 29 and March 31, 2021, 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 8260D; 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 8270E modified by selected ion monitoring (SIM). The laboratory provided a summary report containing sample results and associated quality assurance (QA) and quality control (QC) data for all samples. The following samples are associated with TA laboratory groups 590-14860-1, 590-14867-1, and 590-14868-1:

Sample ID	Laboratory Group	Laboratory ID	Requested Analyses
HC-111	590-14860-1	590-14860-1	BTEX, TPH-Gx, TPH-Dx
G-18		590-14860-2	BTEX, TPH-Gx, TPH-Dx
FW-14		590-14860-3	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
B-19		590-14860-4	BTEX, TPH-Gx, TPH-Dx
DMW-2		590-14860-5	BTEX, TPH-Gx, TPH-Dx
DMW-2-DUP (Field duplicate of DMW-2)		590-14860-6	BTEX, TPH-Gx, TPH-Dx
RW-5R		590-14860-7	BTEX, TPH-Gx, TPH-Dx
RR-2		590-14860-8	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
RR-4		590-14860-9	BTEX, TPH-Gx, TPH-Dx
FW-5R		590-14860-10	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
B-34		590-14860-11	BTEX, TPH-Gx, TPH-Dx
Trip Blank		590-14860-12	BTEX
E-22	590-14867-1	590-14867-1	BTEX, TPH-Gx, TPH-Dx
T-2		590-14867-2	BTEX, TPH-Gx, TPH-Dx
RR-1		590-14867-3	BTEX, TPH-Gx, TPH-Dx
RR-5		590-14867-4	BTEX, TPH-Gx, TPH-Dx
E-21		590-14867-5	BTEX, TPH-Gx, TPH-Dx
E-21-DUP (Field duplicate of E-21)		590-14867-6	BTEX, TPH-Gx, TPH-Dx
B-31		590-14867-7	BTEX, TPH-Gx, TPH-Dx
RW-8		590-14867-8	BTEX, TPH-Gx, TPH-Dx
Trip Blank		590-14867-9	BTEX, TPH-Gx, TPH-Dx
T-3		590-14867-10	BTEX



Summary Data Quality Review
Phillips 66 - D Street Terminal, Tacoma, Washington
2021 First Quarter Groundwater Sampling
Laboratory Groups: 590-14860-1, 590-14867-1, and 590-14868-1

Sample ID	Laboratory Group	Laboratory ID	Requested Analyses
FW-13	590-14868-1	590-14868-1	BTEX, TPH-Gx, TPH-Dx
B-25		590-14868-2	BTEX, TPH-Gx, TPH-Dx
Trip Blank		590-14868-3	BTEX

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.

The laboratory noted that one vial used for volatile organic analysis was received broken for sample HC-111. Sufficient sample volume remained in the other vial submitted for this sample allowing analysis to proceed.

The containers for B-34 were identified as B-31 on the COC. At the direction of AECOM, the samples were logged as B-34 according to the sample labels.

Summary Data Quality Review

Phillips 66 - D Street Terminal, Tacoma, Washington

2021 First Quarter Groundwater Sampling

Laboratory Groups: 590-14860-1, 590-14867-1, and 590-14868-1

The sample collection time recorded on the COC for DMW-2 could not be read. The laboratory logged the sample collection time recorded on the sample label.

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 except as noted below:

Diesel-range TPH by NWTPH-Dx – Residual-range TPH (0.144 mg/L) was detected in the method blank associated with analytical batch 312249 at a concentration between the method detection limit (MDL) and the reporting limit. Residual-range TPH was reported at concentrations between the MDLs and the reporting limits in E-22, T-3, T-2, RR-5, RW-8 and FW-13; therefore, the results for residual-range TPH in these samples were qualified as not detected and flagged 'U' at the reporting limits. Residual-range TPH in B-31 was reported at a concentration between 1 and 2 times the reporting limit; therefore, the result for residual-range TPH in B-31 was qualified as estimated and flagged 'J' at the reported result.

3. Surrogates – Acceptable except as noted below:

Naphthalenes by EPA Method 8270E-SIM – The percent recovery for nitrobenzene-d5 in the 20x dilution of FW-5R (174%) exceeded the control limits of 29-121%. The percent recovery for nitrobenzene-d5 in the full-strength analysis of FW-5R was acceptable; therefore, data were not qualified in the dilution based on the elevated surrogate recovery.

4. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable except as noted below:

VOCs by EPA Method 8260D – The relative percent differences (RPDs) for m,p-xylene (19%) and toluene (19%) exceeded the control limits of 18%, respectively. The percent recoveries for m,p-xylene and toluene in the LCS and LCSD were acceptable; therefore, data were not qualified based on the elevated RPDs.

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

General – MS/MSDs were performed using B-31 for VOCs, NWPTH-Gx and NWTPH-Dx. Results were acceptable.

Naphthalenes by EPA Method 8270E-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 DMW-2 and E-21 and identified as DMW-2-DUP and E-21-DUP, respectively. Results reported at concentrations greater than five times the reporting limits were comparable.

Summary Data Quality Review

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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 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 diesel range appear to be due heavily weathered diesel as well as possible biogenic interference in HC-111, G-18, DMW-2, and DMW-2-DUP.
- Detected hydrocarbons in the diesel range appear to be due to weathered diesel in B-34 and B-31.
- Detected hydrocarbons in the diesel range appear to be due to gasoline range overlap as well as heavily weathered diesel and/or possible biogenic interference in B-19, RW-5R, E-22, RR-5, RW-8, and T-3.
- Detected hydrocarbons in the diesel range appear to be due to gasoline overlap in B-25.
- Detected hydrocarbons in the diesel range appear to be due to a complex mixture of heavily weathered diesel and oil range components in E-21 and E-21-DUP.
- Detected hydrocarbons in the diesel range appear to be a non-typical hydrocarbon pattern in FW-5R.

Overall Assessment of Data

The data reported in this laboratory group, as qualified, are considered to be usable for meeting project objectives. The completeness for TestAmerica laboratory groups 590-14860-1, 590-14867-1, and 590-14868-1 is 100%.



Summary Data Quality Review
Phillips 66 - D Street Terminal, Tacoma, Washington
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Table 1 - Summary of Qualified Data

Sample ID	Laboratory ID	Analyte	Laboratory Result	Units	Final Result	Reason
E-22	590-14867-1	Residual Range Organics (C25-C36)	0.18 J	mg/L	0.41 U	Method Blank Contamination
T-2	590-14867-2	Residual Range Organics (C25-C36)	0.14 J	mg/L	0.43 U	Method Blank Contamination
RR-5	590-14867-4	Residual Range Organics (C25-C36)	0.16 J	mg/L	0.41 U	Method Blank Contamination
B-31	590-14867-7	Residual Range Organics (C25-C36)	0.51	mg/L	051 J	Method Blank Contamination
RW-8	590-14867-8	Residual Range Organics (C25-C36)	0.38 J	mg/L	0.40 U	Method Blank Contamination
T-3	590-14867-10	Residual Range Organics (C25-C36)	0.22 J	mg/L	0.41 U	Method Blank Contamination
FW-13	590-14868-1	Residual Range Organics (C25-C36)	0.16 J	mg/L	0.38 U	Method Blank Contamination

Notes:

J – estimated value

mg/L – milligram per liter

U – not detected above reporting limit shown