



March 8, 2019

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

Subject: Quarterly Progress Report – Fourth Quarter 2017
D Street Petroleum Site, Tacoma, Washington
CONSENT DECREE 91-2-2012-1

Dear Mr. Balaraju:

AECOM has prepared this quarterly progress report to present environmental monitoring data collected during the fourth quarter of 2017 at 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 (MNA) program was implemented at the Site after the remedial system was turned off in October 2006. This progress report covers the period from September 1, 2017 through December 31, 2017. Groundwater monitoring was conducted in accordance with the Sampling and Analysis Plan for Groundwater Performance Monitoring Program & Work Plan for Well Installation/Decommissioning Activities, dated September 2011. An evaluation of the quarterly data from this event, including natural attenuation processes occurring at the Site, will be presented in the 2018 Annual Progress Report, which is completed following the third quarter (September) 2018 monitoring event.

1.0 Site Description

The Site is located in Pierce County, Tacoma, Washington on a peninsula in Commencement Bay, as shown on Figure 1 (Vicinity Map). The Site is bounded to the west by the Thea Foss Waterway; to the east by East F Street and the Middle Waterway; to the north by various industrial properties, East 3rd Street, and Commencement Bay; and to the south by various industrial properties and 11th Street. The area of the Site is comprised of approximately 17 acres.

The Site includes an active bulk petroleum storage and distribution area currently in use 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, formerly a Shell property, is owned by Globe Machine Manufacturing and primarily used for manufacturing. The Site's east and northeast end is currently vacant and owned by Targa Resources, with the exception of the Tacoma Delivery Facility in the northeastern-most area, which is a pump station operated by Olympic Pipeline Company (OPL). These areas are presented, along with other site features, on Figure 2 (Site Map).

2.0 Summary of Sampling Activities Conducted During the Reporting Period

AECOM conducted the fourth quarter 2017 monitoring event from December 11th through December 13th, 2017. Monitoring wells included in the fourth quarter monitoring event are shown on Figure 2.



- Water Level and Free Product Gauging:
 - AECOM personnel gauged water levels and free product, where present, in 36 upper sand unit monitoring wells, seven surface water compliance monitoring wells, and six lower sand unit monitoring wells. Measurable free product was not observed in any of the monitoring wells sampled during this event; however, sheen was noted in the upper sand unit monitoring well MW-2.
 - The depths to groundwater and the calculated groundwater elevations, based on the December 2017 measurements, are presented in Table 1. Note that no groundwater elevation contour maps are provided due to a large amount of variability in the groundwater elevation data near shore and within closely located wells, as a result of tidal influences and other factors. The predominant groundwater flow direction within the upper and lower sand units has historically been generally 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 18 wells from December 11th through December 13th, 2017. Wells included for this sampling event included:
 - Ten upper sand unit groundwater monitoring wells (B-25, B-31, B-34, E-22, FW-5R, FW-14, HC-111, RW-5R, and T-2), including one inactive groundwater/vapor recovery well (RW-8). Wells FW-5R, FW-14, and T-2 also serve as sentinel wells.
 - Three lower sand unit groundwater monitoring wells (DMW-2, DMW-4 and FW-13).
 - Five surface water compliance monitoring wells (RR-1, RR-2, RR-3, 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 to TestAmerica Laboratories, Inc. of Spokane, Washington, under proper chain-of-custody protocol. The laboratory reports and chain-of-custodies are provided in Appendix A. The following methods were used to analyze the identified samples:
 - Benzene, toluene, ethylbenzene, and xylenes (BTEX) by U.S. Environmental Protection Agency (EPA) Method 8260C;
 - Gasoline-range total petroleum hydrocarbons (TPH-G) by Northwest TPH Method NWTPH-Gx
 - Diesel-range total petroleum hydrocarbons (TPH-D) and total petroleum hydrocarbons in the heavy oil range (TPH-O) by Northwest TPH Method NWTPH-Dx; and
 - Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene by EPA Method 8270D selected ion monitoring (SIM)
- Purge water generated from the prior quarterly groundwater monitoring event was removed from the Site for disposal on November 16, 2017.



- Purge water generated from the 4th quarter groundwater monitoring event was placed in a 55-gallon drum staged on-site. The drum will be emptied, and the contents removed from the Site for disposal during the next sampling period.

3.0 Summary of Data Validation Completed for Period Sampling Event

A data review was completed for the fourth quarter 2017 analytical data. The data was reviewed based on the EPA Contract Laboratory Program National Functional Guidelines (NFGs) for Superfund Organic Methods Data Review, August 2014, along with standard laboratory quality control criteria.

The completeness of the analytical reports for this groundwater monitoring event is 100%. Some data were qualified as estimated and flagged 'J' or qualified as non-detect and flagged 'U'. The usefulness of the data is based on the EPA guidance document referenced above. The data qualifiers assigned by the laboratory are shown on the laboratory reports.

Data qualifiers assigned to sample results are presented in Table 2 as well as Table 1 of Appendix B. 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

Table 2 summarizes fourth quarter 2017 analytical results for all sampled wells. Copies of the laboratory analytical reports are presented in Appendix A. These results are summarized below. 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 the 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 TPH-G, TPH-D, or TPH-O.

- Benzene was detected in six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8) and two sentinel wells (E-22 and FW-5R). Three wells were found to be in exceedance of the surface water cleanup standard of 0.04 milligrams per liter (mg/L) and the groundwater cleanup standard of 0.16 mg/L (B-25, B-34, and HC-111). Benzene concentrations in the upper sand unit with resulting isocontours from this quarterly sampling event are presented on Figure 3.
- Toluene was detected in five of the upper sand unit wells (B-25, B-34, HC-111, RW-5R, and RW-8) and one sentinel well (FW-5R). None of the toluene detections exceeded the surface water cleanup standard of 5 mg/L or the groundwater cleanup standard of 20 mg/L. Toluene was not detected in any of the surface water compliance wells or lower sand unit wells sampled during this event.
- Ethylbenzene was detected in six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8) and two sentinel wells (E-22 and FW-5R). None of the ethylbenzene detections exceeded the surface water cleanup standard of 0.43 mg/L or the groundwater cleanup standard of 1.7 mg/L. Ethylbenzene was not detected in any of the surface water compliance wells or the lower sand unit wells sampled during this event.
- Total xylenes were detected in six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8) and one sentinel well (E-22). Total xylenes were not detected in any of the surface water compliance wells, or lower sand unit wells sampled during this event. There is no cleanup standard for total xylenes for the Site.
- TPH-G was detected in six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8), three sentinel wells (E-22, FW-5R, and T-2), one surface water compliance well (RR-2), and two lower sand unit wells (DMW-2 and DMW-4). There are no cleanup standards for TPH-G for the Site.



TPH-G concentrations in the upper sand unit and resulting isocontours from this quarterly sampling event are presented on Figure 4.

- TPH-D was detected in six upper sand unit wells (B-25, B-31, B-34, HC-111, RW-5R, and RW-8), three sentinel wells (E-22, FW-5R, and T-2), three surface water compliance wells (RR-1, RR-2, and RR-5), and all lower sand unit wells (DMW-2, DMW-4, and FW-13). There are no cleanup standards for TPH-D for the Site. TPH-D concentrations in the upper sand unit and resulting isocontours from this quarterly sampling event are presented on Figure 5.
- TPH-O was detected in five upper sand unit wells (B-31, B-34, HC-111, RW-5R, and RW-8), two sentinel wells (E-22 and FW-5R), and one lower sand unit well (DMW-2). TPH-O was not detected in any of the surface water compliance wells sampled during this event. There are no cleanup standards for TPH-O for the Site.
- Naphthalene was analyzed in four select wells (FW-5R, FW-14, RR-2, and RR-3) during this quarterly sampling event. Naphthalene was detected in one sentinel well (FW-5R). There is no cleanup standard for naphthalene for the Site.

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

Table 3 summarizes fourth quarter 2017 field parameters for all gauged and sampled wells. An evaluation of the natural attenuation processes occurring at the site will be presented in the 2018 Annual Progress Report, which is completed following the third quarter (September) 2018 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 and TPH-D were detected in three sentinel wells (E-22, FW-5R, and T-2), and TPH-O was detected in two sentinel wells (E-22 and FW-5R). Benzene, ethylbenzene, and total xylenes were detected in sentinel well E-22. Benzene, toluene, and ethylbenzene were detected in sentinel well FW-5R. Naphthalene was detected in one sentinel well (FW-5R).

There were no exceedances of site groundwater or surface water cleanup standards in the surface water compliance wells (RR-1 through RR-5) sampled during this event. TPH-G was detected in one surface water compliance wells (RR-2), and TPH-D was detected in three surface water compliance wells (RR-1, RR-2, and RR-5). TPH-O and BTEX were not detected in the surface water compliance wells sampled during this event. Naphthalene was not detected in any of the surface water compliance wells sampled during this event. Further evaluation of this area will be provided in the 2018 Annual Progress Report.

7.0 Discussion of Lower Sand Unit Data

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



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8.0 Status of Recent and Upcoming Deliverables

- The 2017 Annual Progress Report summarizes results through the third quarter (September) 2017 monitoring event. The 2017 Annual Progress Report was submitted in January 2019.
- The First Quarter 2018 Progress Report is anticipated to be submitted in March 2019.

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

Sincerely,
AECOM

A handwritten signature in blue ink, appearing to read "Tyler Hemry".

Tyler Hemry
Project / Technical Manager

A handwritten signature in blue ink, appearing to read "Mike Edwards".

Mike Edwards, PE, MBA
Vice President

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

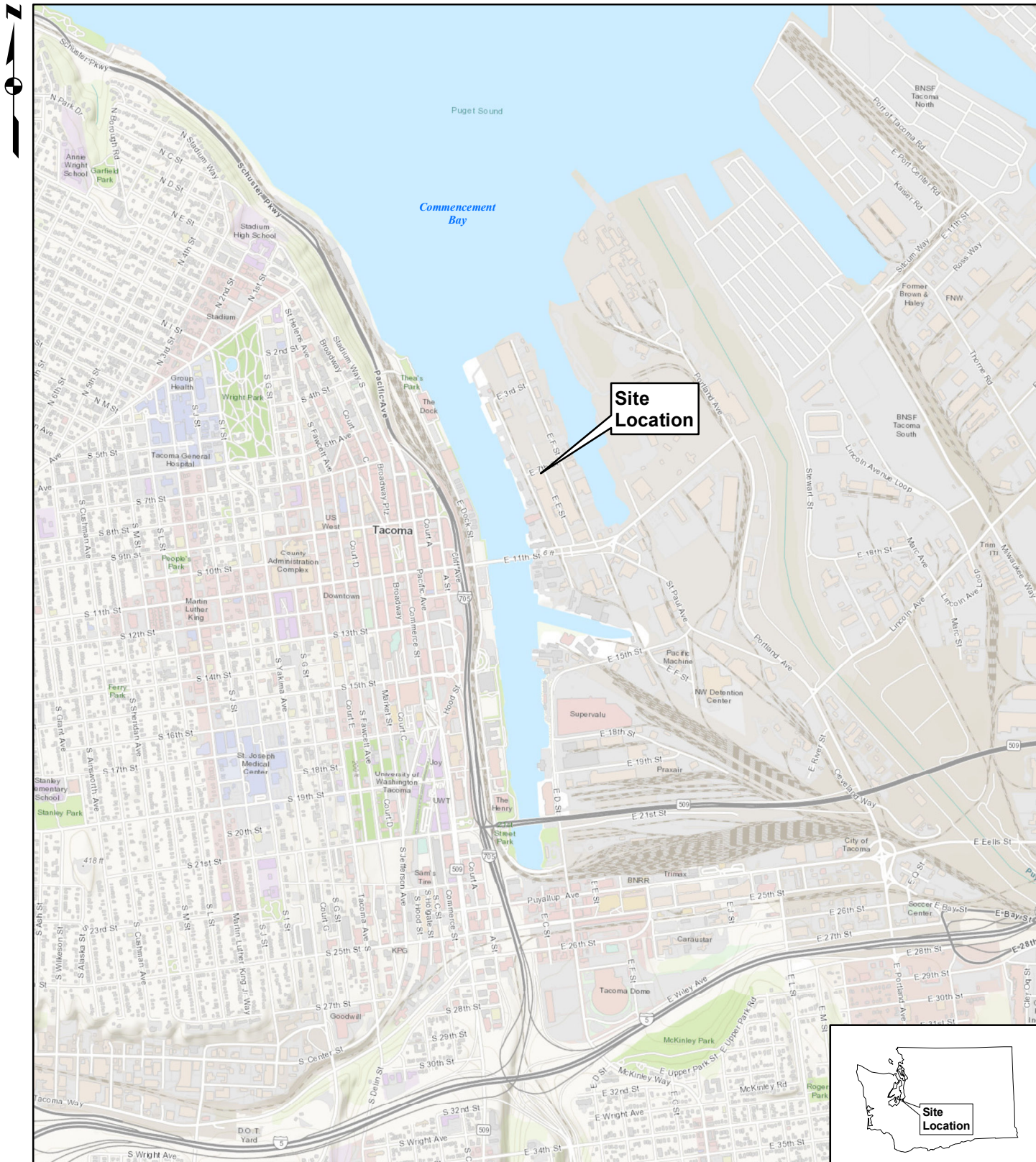
ATTACHMENTS:

Figure 1 – Vicinity Map
Figure 2 – Site Map
Figure 3 – Benzene Concentrations in Groundwater (Upper Sand Unit), December 2017
Figure 4 – TPH-G Concentrations in Groundwater (Upper Sand Unit), December 2017
Figure 5 – TPH-D Concentrations in Groundwater (Upper Sand Unit), December 2017
Table 1 – Groundwater Elevation Data, Fourth Quarter 2017
Table 2 – Summary of Groundwater Analytical Results, Fourth Quarter 2017
Table 3 – Summary of Field Parameters, Fourth Quarter 2017

Appendix A – Laboratory Analytical Data
Appendix B – Data Review

FIGURES

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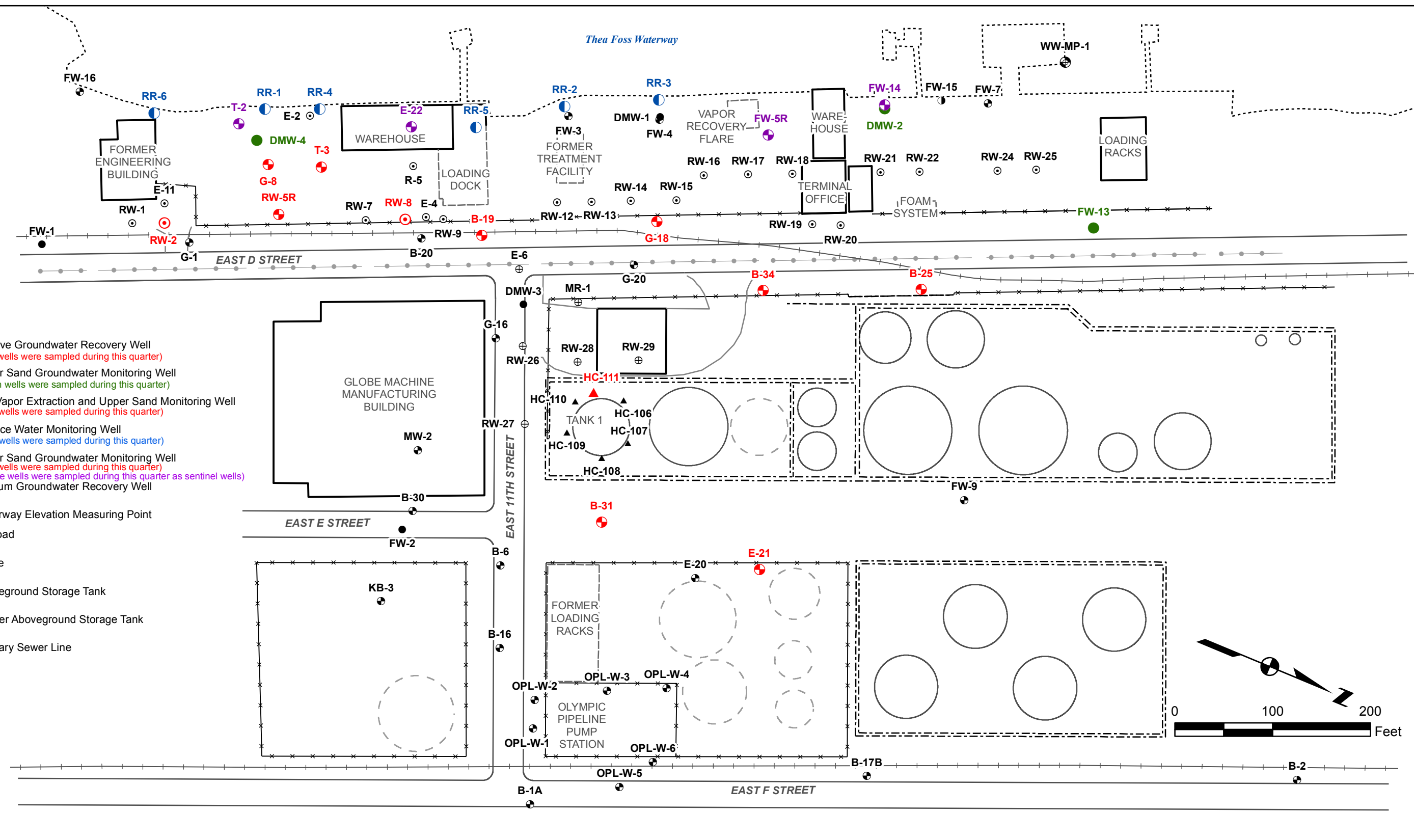
AECOM

0 2,000 4,000
Feet

DECEMBER 2017
60549026

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 1



LEGEND

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

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

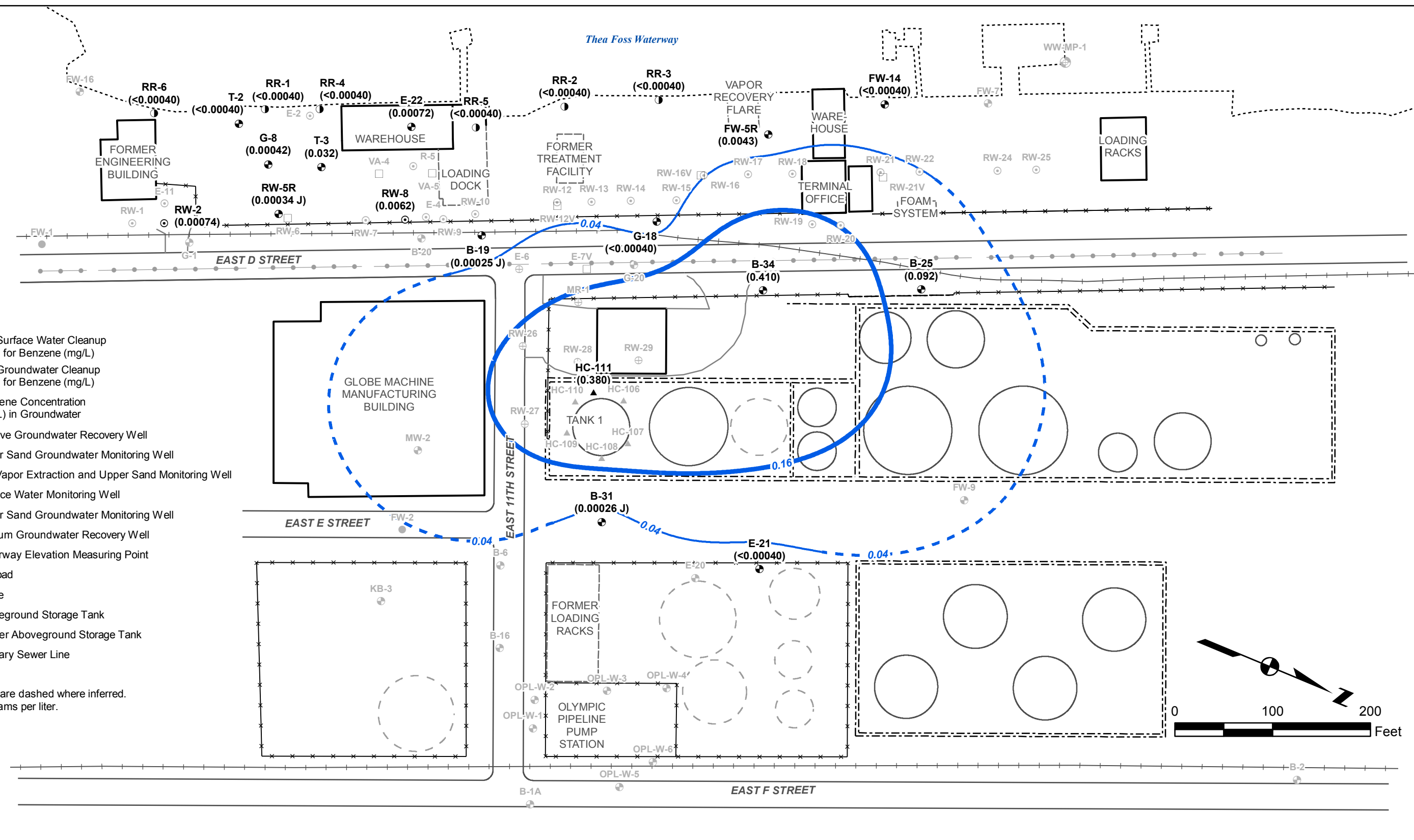
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SITE MAP

DECEMBER 2017
60549026

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 2



LEGEND

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

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

**BENZENE CONCENTRATIONS IN GROUNDWATER
(UPPER SAND UNIT) DECEMBER 2017**

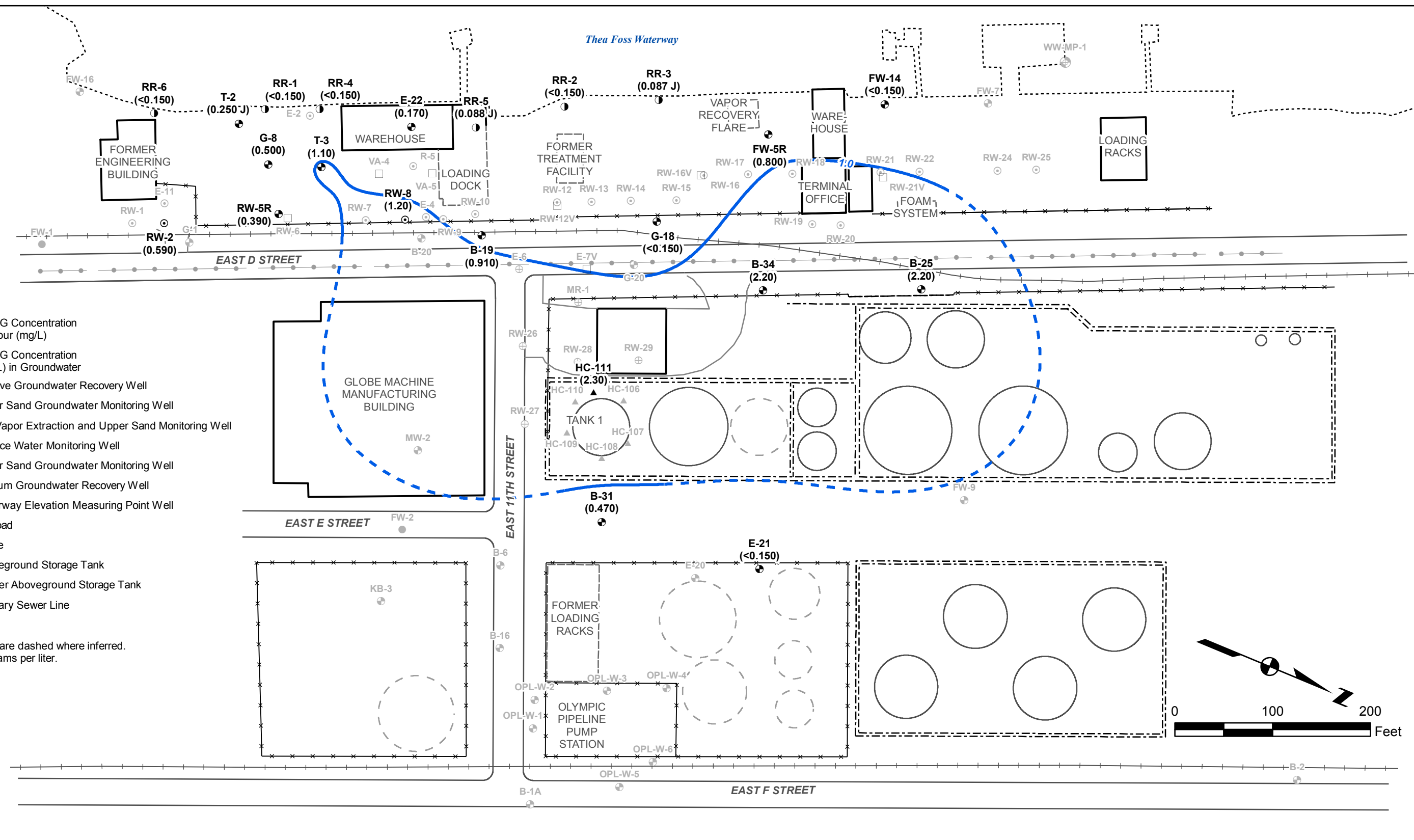
Source: Landau Associates, 2009.
Maul Foster & Alongi, Inc. 2002.
USGS, 2009.
URS, 2014.



DECEMBER 2018
60549026

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 3



LEGEND

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

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

**TPH-G CONCENTRATIONS IN GROUNDWATER
(UPPER SAND UNIT) DECEMBER 2017**

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

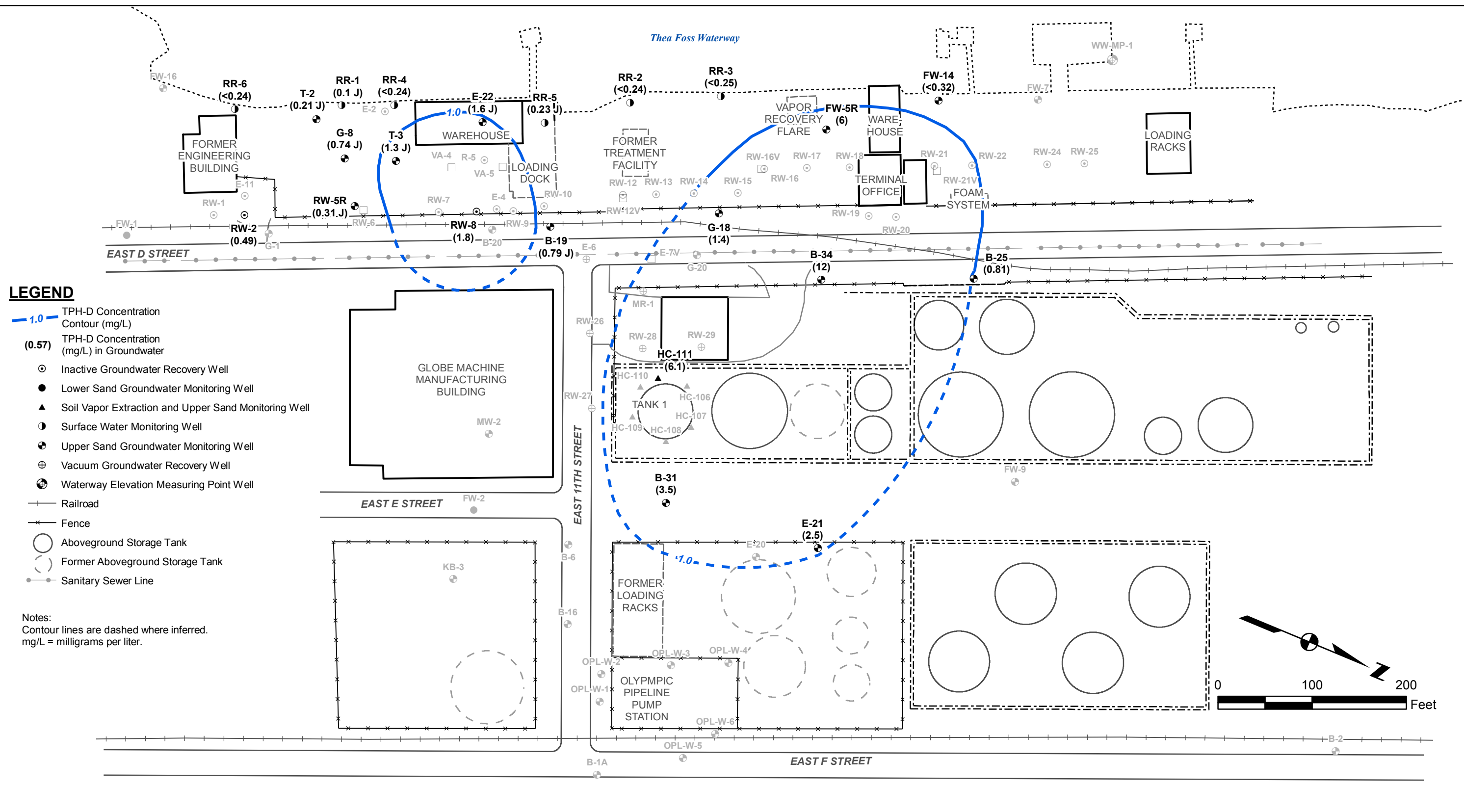


DECEMBER 2018
60549026

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 4

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**TPH-D CONCENTRATIONS IN GROUNDWATER
(UPPER SAND UNIT) DECEMBER 2017**

JANUARY 2019
60549026

D STREET PETROLEUM SITE
TACOMA, WASHINGTON

FIGURE 5

TABLES

Table 1
Groundwater Elevation Data
Fourth Quarter 2017
D Street Petroleum Site

Well ID	Well Elevation (ft) (a)	Date	Time	Depth to Groundwater (ft)	Apparent Product Thickness (ft)	Groundwater Elevation (ft)	Comments
Upper Sand Unit							
B-1A	14.15	12/12/2017	15:41	6.44	--	7.71	
B-2	13.78	12/12/2017	15:34	6.41	--	7.37	
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	12/12/2017	15:38	6.38	--	7.78	
B-19	13.31	12/11/2017	15:15	6.53	--	6.78	
B-20	13.48	NR	NR	NR	--	NR	Located in street/ blocked at 4.68 ft
B-25	13.96	12/12/2017	10:40	7.11	--	6.85	
B-30	14.46	12/12/2017	13:44	DRY	--	DRY	
B-31	14.46	12/11/2017	12:13	6.82	--	7.64	
B-34	14.36	12/11/2017	10:30	7.43	--	6.93	
E-4	12.09	NR	NR	NR	--	NR	Vault lid stuck
E-6	12.14	NR	NR	NR	--	NR	
E-20	NS	12/11/2017	13:58	5.72	--	NS	
E-21	14.13	12/11/2017	13:15	6.11	--	8.02	
FW-3	14.11 (b)	12/13/2017	9:47	7.66	--	6.45	
FW-4	14.21	12/13/2017	9:49	7.01	--	7.20	
FW-16	12.35	NR	NR	NR	--	NR	Semi-truck parked over well
G-1	13.43 (b)	12/12/2017	15:50	7.20	--	6.23	
G-8	13.25	12/12/2017	15:56	6.92	--	6.33	
G-16	13.23	12/12/2017	16:04	6.49	--	6.74	
G-18	13.54	12/11/2017	10:25	6.74	--	6.80	Well under slight pressure
G-20	13.11	NR	NR	NR	--	NR	Located in street
HC-108	15.30	12/12/2017	14:16	7.89	--	7.41	
HC-111	14.62	12/12/2017	13:30	7.46	--	7.16	
MR-1	14.26	NR	NR	NR	--	NR	
MW-2	NS	12/13/2017	15:18	8.78	Sheen	NS	Sheen on probe
R-5	11.69	NR	NR	NR	--	NR	Well cap stuck
RW-1	12.94	NR	NR	NR	--	NR	Car parked over well
RW-2	12.76	12/11/2017	13:56	5.71	--	7.05	
RW-5R	13.76	12/11/2017	12:49	7.40	--	6.36	
RW-7	12.46	NR	NR	NR	--	NR	Steel beams on top of well
RW-8	12.71	12/11/2017	14:19	6.01	--	6.70	
RW-9	12.59	12/12/2017	15:58	5.47	--	7.12	
RW-12	13.21	12/13/2017	10:52	6.58	--	6.63	Vault lid stuck
RW-13	13.94	12/13/2017	10:53	7.31	--	6.63	
RW-14	13.52	12/13/2017	10:55	6.93	--	6.59	
RW-15	13.15	12/13/2017	10:56	6.57	--	6.58	
RW-17	12.29	12/13/2017	10:58	5.63	--	6.66	
RW-19	12.97	12/12/2017	16:21	6.32	--	6.65	
RW-20	12.80	12/12/2017	16:18	6.22	--	6.58	
RW-22	12.72	NR	NR	NR	--	NR	Slip cap stuck
RW-24	13.63	12/13/2017	11:01	7.40	--	6.23	
RW-26	11.93	NR	NR	NR	--	NR	
RW-28	14.62	NR	NR	NR	--	NR	Located in street
RW-29	13.83	NR	NR	NR	--	NR	Located in street
T-3	13.03	12/12/2017	10:10	6.82	--	6.21	
Upper Sand Unit - Sentinel							
E-22	16.74	12/13/2017	8:50	11.58	--	5.16	
FW-5R	12.78	12/12/2017	14:15	6.13	--	6.65	
FW-14	13.17	12/12/2017	11:39	6.80	--	6.37	
T-2	11.62	12/11/2017	11:32	5.14	--	6.48	
Lower Sand Unit							
FW-1	13.63	12/12/2017	15:49	7.15	--	6.48	
FW-2	14.32	NR	NR	NR	--	NR	Located in street
FW-13	13.13	12/11/2017	11:24	5.86	--	7.27	
DMW-1	13.72	12/13/2017	9:53	8.36	--	5.36	
DMW-2	12.97	12/12/2017	12:44	4.78	--	8.19	
DMW-3	12.83	12/12/2017	16:06	6.30	--	6.53	
DMW-4	11.72	12/11/2017	14:53	4.90	--	6.82	Well under pressure
Upper Sand Unit - Surface Water Compliance							
RR-1	14.79 (b)	12/12/2017	7:54	9.39	--	5.40	
RR-2	15.71 (b)	12/13/2017	7:45	10.15	--	5.56	
RR-3	15.78 (b)	12/13/2017	8:33	10.25	--	5.53	
RR-4	13.19 (c)	12/12/2017	8:10	7.45	--	5.74	
RR-5	16.53	12/13/2017	7:53	10.58	--	5.95	
RR-6	11.31	12/12/2017	8:44	6.63	--	4.68	
FW-15	NS	12/13/2017	9:51	7.51	--	NS	
WW-MP-1	15.12	NR	NR	NR	--	NR	Dock - No access

Notes

Groundwater elevations corrected for free product using following equation, if applicable:

Well Elevation - Depth to Groundwater + (Apparent Product Thickness x 0.80)

ID = Identification

NS = No survey data provided or available

NR = Not recorded

-- = Product was not detected

(a) Top of casing elevation, October 2013, based on NAVD 88, unless otherwise noted

(b) Top of casing elevation, March 2011, based on NAVD 88

(c) Top of casing elevation, October 2011, based on NAVD 88

ft = Feet

Table 2
Summary of Groundwater Analytical Results
Fourth Quarter 2017
D Street Petroleum Site

Sample Location	Analysis:			TPH-G (mg/L) NWTPH-Gx	TPH-D/Heavy Oil (mg/L) NWTPH-Dx w SGC			BTEX (mg/L) EPA 8260B							Naphthalenes (mg/L) EPA 8270D SIM					
	Analyte:			Gasoline Range Hydrocarbons (mg/L)	Diesel Range Hydrocarbons	Heavy Oil TPH	Benzene	Ethylbenzene	m-Xylene & p-Xylene	o-Xylene	Toluene	Xylenes (total)	Naphthalene	2-Methylaphthalene	1-Methylaphthalene					
	Surface Water Cleanup Standards:			---	---	---	0.04	0.43	---	---	5	---	---	---	---					
	Groundwater Cleanup Standards:			---	---	---	0.16	1.7	---	---	20	---	---	---	---					
	Sample ID	Lab ID	Date Collected																	
Upper Sand Unit	B-25	590-7722-18	12/12/2017	2.5	0.95	0.40 U	0.460	0.0022	0.0064	0.00036 J	0.0035	0.00676	--	--	--					
	B-31	590-7722-5	12/11/2017	0.110 J	1.1	0.19 J	0.00016 J	0.00026 J	0.0020 U	0.00022 J	0.0010 U	0.00022 J	--	--	--					
	B-34	590-7722-1	12/11/2017	1.4	12	0.67	0.260	0.0033	0.00051 J	0.00027 J	0.0031	0.00078 J	--	--	--					
	HC-111	590-7722-21	12/12/2017	1.2	5.2	0.61	0.190	0.051	0.0036	0.0013	0.0033	0.0049	--	--	--					
	RW-5R	590-7722-6	12/11/2017	1.4	0.75	0.15 J	0.00058	0.0012	0.0020 U	0.00025 J	0.00042 J	0.00025 J	--	--	--					
	RW-5R (DUP)	590-7722-7	12/11/2017	1.4	0.77	0.20 J	0.00066	0.0013	0.0020 U	0.00027 J	0.00047 J	0.00027 J	--	--	--					
Upper Sand Unit - Sentinel	RW-8	590-7722-10	12/11/2017	1.7	2.8	0.48	0.0057	0.0013	0.0011 J	0.00084 J	0.00080 J	0.00194 J	--	--	--					
	E-22	590-7722-26	12/13/2017	0.220	4.0	0.28 J	0.0012	0.0057	0.00081 J	0.0010 U	0.0010 U	0.00081 J	--	--	--					
	FW-5R	590-7722-22	12/12/2017	0.720	5.2	0.33 J	0.0018	0.00036 J	0.0020 U	0.0010 U	0.00034 J	0.0030 U	0.0015	0.460	0.330					
	FW-14	590-7722-19	12/12/2017	0.150 U	0.26 U	0.43 U	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	0.000098 U	0.000098 U	0.000098 U					
Upper Sand Unit - Surface Water Compliance	T-2	590-7722-4	12/11/2017	0.140 J	0.20 J	0.43 U	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	--	--	--					
	RR-1	590-7722-15	12/12/2017	0.150 U	0.11 J	0.41 U	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	--	--	--					
	RR-2	590-7722-23	12/13/2017	0.085 J	0.14 J	0.40 U	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	0.000090 U	0.000032 J	0.000020 J					
	RR-3	590-7722-25	12/13/2017	--	--	--	--	--	--	--	--	--	0.000090 U	0.000090 U	0.000025 J					
	RR-4	590-7722-14	12/12/2017	0.150 U	0.24 U	0.40 U	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	--	--	--					
Lower Sand Unit	RR-5	590-7722-24	12/13/2017	0.150 U	0.24	0.40 U	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	--	--	--					
	DMW-2	590-7722-20	12/12/2017	0.150	1.1	0.16 J	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	--	--	--					
	DMW-4	590-7722-11	12/11/2017	0.190	0.28	0.42 U	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	--	--	--					
	DMW-4 (DUP)	590-7722-12	12/11/2017	0.200	0.28	0.43 U	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	--	--	--					
	FW-13	590-7722-3	12/11/2017	0.150 U	0.14 J	0.40 U	0.00040 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0030 U	--	--	--					

Notes:

All results in milligrams per liter (mg/L).

-- = Not analyzed.

BTEX = Benzene, toluene, ethylbenzene and xylenes

(DUP) = Field duplicate

EPA = Environmental Protection Agency

ID = Identification

J = The analyte is present in the sample; the reported concentration is an estimate.

TPH = Total Petroleum Hydrocarbons

NWTPH-Gx= Northwest Analytical method, Northwest Total Petroleum Hydrocarbons as Gasoline

NWTPH-Dx w SGC = Northwest Analytical method, Northwest Total Petroleum Hydrocarbons as Diesel with Silica Gel Cleanup

TPH-G = Total Petroleum Hydrocarbons as Gasoline

TPH-D = Total Petroleum Hydrocarbons as Diesel

U = Not detected above the reported quantitation limit.

Bold indicates an exceedance of surface water cleanup levels.

Bold indicates an exceedance of groundwater cleanup levels.

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

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

APPENDIX A

Laboratory Analytical Data

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane

11922 East 1st Ave

Spokane, WA 99206

Tel: (509)924-9200

TestAmerica Job ID: 590-7722-1

Client Project/Site: Tacoma D St Terminal-Phillips 66/6053745

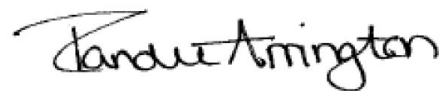
For:

AECOM, Inc.

111 SW Columbia Street, Suite 1500

Portland, Oregon 97201

Attn: Craig Riley



Authorized for release by:

12/20/2017 10:15:40 AM

Randee Arrington, Project Manager II

(509)924-9200

randee.arrington@testamericainc.com

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www.testamericainc.com

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

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

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Case Narrative

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Job ID: 590-7722-1

Laboratory: TestAmerica Spokane

Narrative

Receipt

The samples were received on 12/14/2017 11:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.6° C and 5.4° C.

Receipt Exceptions

The COC lists two containers for the following sample but only one was received: Trip Blank (590-7722-27).

The following samples were put on hold by the client on 12/14/17: G-18 (590-7722-2), E-21 (590-7722-8), RW-2 (590-7722-9), B-19 (590-7722-13), RR-6 (590-7722-16), T-3 (590-7722-17) and RR-3 (590-7722-25). This analysis was originally requested on the chain-of-custody (COC).

The following sample was activated for 8270 SIM Naphthalenes by the client on 12/19/17: RR-3 (590-7722-25).

GC/MS VOA

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

GC/MS Semi VOA

Method 8270D SIM: The following sample required a dilution due to the nature of the sample matrix: FW-5R (590-7722-22). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

GC Semi VOA

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to gasoline overlap as well as heavily weathered diesel and/or biogenic interference in the following samples: T-2 (590-7722-4), B-31 (590-7722-5), RW-5R (590-7722-6), RW-5R dup (590-7722-7), RW-8 (590-7722-10), DMW-4 (590-7722-11), DMW-4 dup (590-7722-12), B-25 (590-7722-18), HC-111 (590-7722-21) and FW-5R (590-7722-22).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to heavily weathered diesel and/or biogenic interference in the following samples: DMW-2 (590-7722-20), RR-2 (590-7722-23) and RR-5 (590-7722-24).

Method NWTPH-Dx: Detected hydrocarbons in the diesel range appear to be due to heavily weathered diesel in the following sample: E-22 (590-7722-26).

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, Inc.

TestAmerica Job ID: 590-7722-1

Project/Site: Tacoma D St Terminal-Phillips 66/6053745

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-7722-1	B-34	Water	12/11/17 11:10	12/14/17 11:45
590-7722-3	FW-13	Water	12/11/17 12:00	12/14/17 11:45
590-7722-4	T-2	Water	12/11/17 12:04	12/14/17 11:45
590-7722-5	B-31	Water	12/11/17 13:00	12/14/17 11:45
590-7722-6	RW-5R	Water	12/11/17 13:09	12/14/17 11:45
590-7722-7	RW-5R dup	Water	12/11/17 13:13	12/14/17 11:45
590-7722-10	RW-8	Water	12/11/17 15:10	12/14/17 11:45
590-7722-11	DMW-4	Water	12/11/17 15:21	12/14/17 11:45
590-7722-12	DMW-4 dup	Water	12/11/17 15:26	12/14/17 11:45
590-7722-14	RR-4	Water	12/12/17 08:10	12/14/17 11:45
590-7722-15	RR-1	Water	12/12/17 08:18	12/14/17 11:45
590-7722-18	B-25	Water	12/12/17 11:30	12/14/17 11:45
590-7722-19	FW-14	Water	12/12/17 12:23	12/14/17 11:45
590-7722-20	DMW-2	Water	12/12/17 13:06	12/14/17 11:45
590-7722-21	HC-111	Water	12/12/17 14:10	12/14/17 11:45
590-7722-22	FW-5R	Water	12/12/17 14:45	12/14/17 11:45
590-7722-23	RR-2	Water	12/13/17 08:25	12/14/17 11:45
590-7722-24	RR-5	Water	12/13/17 08:29	12/14/17 11:45
590-7722-25	RR-3	Water	12/13/17 09:15	12/14/17 11:45
590-7722-26	E-22	Water	12/13/17 09:28	12/14/17 11:45
590-7722-27	Trip Blank	Water	12/11/17 00:01	12/14/17 11:45

TestAmerica Spokane

Method Summary

Client: AECOM, Inc.

TestAmerica Job ID: 590-7722-1

Project/Site: Tacoma D St Terminal-Phillips 66/6053745

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

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

Detection Summary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: B-34

Lab Sample ID: 590-7722-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	260		8.0	1.9	ug/L	20		8260C	Total/NA
Ethylbenzene	3.3		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	0.51	J	2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.27	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	3.1		1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	0.79	J	3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	1400		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	12		0.24	0.081	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.67		0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-13

Lab Sample ID: 590-7722-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.14	J	0.24	0.081	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: T-2

Lab Sample ID: 590-7722-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	140	J F2	150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.20	J	0.26	0.086	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-31

Lab Sample ID: 590-7722-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.16	J	0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	0.26	J	1.0	0.20	ug/L	1		8260C	Total/NA
o-Xylene	0.22	J	1.0	0.16	ug/L	1		8260C	Total/NA
Gasoline	110	J	150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.1		0.25	0.082	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.19	J	0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RW-5R

Lab Sample ID: 590-7722-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.58		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	1.2		1.0	0.20	ug/L	1		8260C	Total/NA
o-Xylene	0.25	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	0.42	J	1.0	0.31	ug/L	1		8260C	Total/NA
Gasoline	1400		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.75		0.25	0.085	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: RW-5R dup

Lab Sample ID: 590-7722-7

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: RW-5R dup (Continued)

Lab Sample ID: 590-7722-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.66		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	1.3		1.0	0.20	ug/L	1		8260C	Total/NA
o-Xylene	0.27	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	0.47	J	1.0	0.31	ug/L	1		8260C	Total/NA
Gasoline	1400		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.77		0.26	0.086	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.20	J	0.43	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RW-8

Lab Sample ID: 590-7722-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.7		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	1.3		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	1.1	J	2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.84	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	0.80	J	1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	1.9	J	3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	1700		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	2.8		0.24	0.081	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.48		0.40	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DMW-4

Lab Sample ID: 590-7722-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	190		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.28		0.25	0.085	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DMW-4 dup

Lab Sample ID: 590-7722-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	200		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.28		0.26	0.086	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-4

Lab Sample ID: 590-7722-14

No Detections.

Client Sample ID: RR-1

Lab Sample ID: 590-7722-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.11	J	0.24	0.081	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: B-25

Lab Sample ID: 590-7722-18

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: B-25 (Continued)

Lab Sample ID: 590-7722-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	460		8.0	1.9	ug/L	20		8260C	Total/NA
Ethylbenzene	2.2		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	6.4		2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	0.36	J	1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	3.5		1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	6.8		3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	2500		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.95		0.24	0.081	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-14

Lab Sample ID: 590-7722-19

No Detections.

Client Sample ID: DMW-2

Lab Sample ID: 590-7722-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	150		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	1.1		0.25	0.085	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.16	J	0.42	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: HC-111

Lab Sample ID: 590-7722-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	190		4.0	0.93	ug/L	10		8260C	Total/NA
Ethylbenzene	51		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	3.6		2.0	0.28	ug/L	1		8260C	Total/NA
o-Xylene	1.3		1.0	0.16	ug/L	1		8260C	Total/NA
Toluene	3.3		1.0	0.31	ug/L	1		8260C	Total/NA
Xylenes, Total	4.9		3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	1200		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	5.2		0.24	0.081	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.61		0.41	0.12	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: FW-5R

Lab Sample ID: 590-7722-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.8		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	0.36	J	1.0	0.20	ug/L	1		8260C	Total/NA
Toluene	0.34	J	1.0	0.31	ug/L	1		8260C	Total/NA
Gasoline	720		150	70	ug/L	1		NWTPH-Gx	Total/NA
Naphthalene	1.5		0.096	0.021	ug/L	1		8270D SIM	Total/NA
2-Methylnaphthalene	460		9.6	2.3	ug/L	100		8270D SIM	Total/NA
1-Methylnaphthalene	330		9.6	1.9	ug/L	100		8270D SIM	Total/NA
Diesel Range Organics (DRO) (C10-C25)	5.2		0.25	0.084	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.33	J	0.42	0.13	mg/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Detection Summary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: RR-2

Lab Sample ID: 590-7722-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline	85	J	150	70	ug/L	1		NWTPH-Gx	Total/NA
2-Methylnaphthalene	0.032	J	0.090	0.021	ug/L	1		8270D SIM	Total/NA
1-Methylnaphthalene	0.020	J	0.090	0.018	ug/L	1		8270D SIM	Total/NA
Diesel Range Organics (DRO) (C10-C25)	0.14	J	0.24	0.079	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-5

Lab Sample ID: 590-7722-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.24		0.24	0.081	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RR-3

Lab Sample ID: 590-7722-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.025	J	0.090	0.018	ug/L	1		8270D SIM	Total/NA

Client Sample ID: E-22

Lab Sample ID: 590-7722-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.2		0.40	0.093	ug/L	1		8260C	Total/NA
Ethylbenzene	5.7		1.0	0.20	ug/L	1		8260C	Total/NA
m,p-Xylene	0.81	J	2.0	0.28	ug/L	1		8260C	Total/NA
Xylenes, Total	0.81	J	3.0	0.44	ug/L	1		8260C	Total/NA
Gasoline	220		150	70	ug/L	1		NWTPH-Gx	Total/NA
Diesel Range Organics (DRO) (C10-C25)	4.0		0.26	0.087	mg/L	1		NWTPH-Dx	Total/NA
Residual Range Organics (RRO) (C25-C36)	0.28	J	0.44	0.13	mg/L	1		NWTPH-Dx	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 590-7722-27

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: B-34

Date Collected: 12/11/17 11:10

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	260		8.0	1.9	ug/L			12/18/17 16:22	20
Ethylbenzene	3.3		1.0	0.20	ug/L			12/15/17 23:19	1
m,p-Xylene	0.51	J	2.0	0.28	ug/L			12/15/17 23:19	1
o-Xylene	0.27	J	1.0	0.16	ug/L			12/15/17 23:19	1
Toluene	3.1		1.0	0.31	ug/L			12/15/17 23:19	1
Xylenes, Total	0.79	J	3.0	0.44	ug/L			12/15/17 23:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 125		12/15/17 23:19	1
1,2-Dichloroethane-d4 (Surr)	111		70 - 125		12/18/17 16:22	20
4-Bromofluorobenzene (Surr)	98		69 - 120		12/15/17 23:19	1
4-Bromofluorobenzene (Surr)	96		69 - 120		12/18/17 16:22	20
Dibromofluoromethane (Surr)	101		80 - 120		12/15/17 23:19	1
Dibromofluoromethane (Surr)	106		80 - 120		12/18/17 16:22	20
Toluene-d8 (Surr)	99		80 - 120		12/15/17 23:19	1
Toluene-d8 (Surr)	102		80 - 120		12/18/17 16:22	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1400		150	70	ug/L			12/15/17 23:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		12/15/17 23:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	12		0.24	0.081	mg/L		12/19/17 11:36	12/19/17 18:34	1
Residual Range Organics (RRO) (C25-C36)	0.67		0.41	0.12	mg/L		12/19/17 11:36	12/19/17 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	104		50 - 150	12/19/17 11:36	12/19/17 18:34	1
n-Triacontane-d62	98		50 - 150	12/19/17 11:36	12/19/17 18:34	1

Client Sample ID: FW-13

Date Collected: 12/11/17 12:00

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			12/16/17 00:01	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/17 00:01	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/17 00:01	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/17 00:01	1
Toluene	ND		1.0	0.31	ug/L			12/16/17 00:01	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/17 00:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 125		12/16/17 00:01	1
4-Bromofluorobenzene (Surr)	99		69 - 120		12/16/17 00:01	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: FW-13

Date Collected: 12/11/17 12:00

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-3

Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	104		80 - 120		12/16/17 00:01	1
Toluene-d8 (Surr)	99		80 - 120		12/16/17 00:01	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	-		12/16/17 00:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141		12/16/17 00:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.14	J	0.24	0.081	mg/L	-	12/19/17 11:36	12/19/17 18:52	1

Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L	-	12/19/17 11:36	12/19/17 18:52	1
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Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150	12/19/17 11:36	12/19/17 18:52	1
n-Triacontane-d62	92		50 - 150	12/19/17 11:36	12/19/17 18:52	1

Client Sample ID: T-2

Date Collected: 12/11/17 12:04

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L	-		12/16/17 00:23	1
Ethylbenzene	ND		1.0	0.20	ug/L	-		12/16/17 00:23	1
m,p-Xylene	ND		2.0	0.28	ug/L	-		12/16/17 00:23	1
o-Xylene	ND		1.0	0.16	ug/L	-		12/16/17 00:23	1
Toluene	ND		1.0	0.31	ug/L	-		12/16/17 00:23	1
Xylenes, Total	ND		3.0	0.44	ug/L	-		12/16/17 00:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 125		12/16/17 00:23	1
4-Bromofluorobenzene (Surr)	100		69 - 120		12/16/17 00:23	1
Dibromofluoromethane (Surr)	105		80 - 120		12/16/17 00:23	1
Toluene-d8 (Surr)	99		80 - 120		12/16/17 00:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	140	J F2	150	70	ug/L	-		12/16/17 00:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141		12/16/17 00:23	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	0.26	0.086	mg/L	-	12/19/17 11:36	12/19/17 19:10	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: T-2

Date Collected: 12/11/17 12:04

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Residual Range Organics (RRO) (C25-C36)	ND		0.43	0.13	mg/L		12/19/17 11:36	12/19/17 19:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	89		50 - 150				12/19/17 11:36	12/19/17 19:10	1
<i>n</i> -Triacontane-d62	92		50 - 150				12/19/17 11:36	12/19/17 19:10	1

Client Sample ID: B-31

Date Collected: 12/11/17 13:00

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.16	J	0.40	0.093	ug/L			12/16/17 02:30	1
Ethylbenzene	0.26	J	1.0	0.20	ug/L			12/16/17 02:30	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/17 02:30	1
<i>o</i> -Xylene	0.22	J	1.0	0.16	ug/L			12/16/17 02:30	1
Toluene	ND		1.0	0.31	ug/L			12/16/17 02:30	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/17 02:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 125					12/16/17 02:30	1
4-Bromofluorobenzene (Surr)	100		69 - 120					12/16/17 02:30	1
Dibromofluoromethane (Surr)	104		80 - 120					12/16/17 02:30	1
Toluene-d8 (Surr)	101		80 - 120					12/16/17 02:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	110	J	150	70	ug/L			12/16/17 02:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141					12/16/17 02:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1.1		0.25	0.082	mg/L		12/19/17 11:36	12/19/17 20:21	1
Residual Range Organics (RRO) (C25-C36)	0.19	J	0.41	0.12	mg/L		12/19/17 11:36	12/19/17 20:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150				12/19/17 11:36	12/19/17 20:21	1
<i>n</i> -Triacontane-d62	96		50 - 150				12/19/17 11:36	12/19/17 20:21	1

Client Sample ID: RW-5R

Date Collected: 12/11/17 13:09

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.58		0.40	0.093	ug/L			12/16/17 02:51	1
Ethylbenzene	1.2		1.0	0.20	ug/L			12/16/17 02:51	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: RW-5R

Date Collected: 12/11/17 13:09

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/17 02:51	1
o-Xylene	0.25	J	1.0	0.16	ug/L			12/16/17 02:51	1
Toluene	0.42	J	1.0	0.31	ug/L			12/16/17 02:51	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/17 02:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 125					12/16/17 02:51	1
4-Bromofluorobenzene (Surr)	96		69 - 120					12/16/17 02:51	1
Dibromofluoromethane (Surr)	104		80 - 120					12/16/17 02:51	1
Toluene-d8 (Surr)	99		80 - 120					12/16/17 02:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1400		150	70	ug/L			12/16/17 02:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		68.7 - 141					12/16/17 02:51	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)	0.75		0.25	0.085	mg/L		12/19/17 11:36	12/19/17 20:39	1
Residual Range Organics (RRO) (C25-C36)	0.15	J	0.42	0.13	mg/L		12/19/17 11:36	12/19/17 20:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	82		50 - 150				12/19/17 11:36	12/19/17 20:39	1
n-Triacontane-d62	86		50 - 150				12/19/17 11:36	12/19/17 20:39	1

Client Sample ID: RW-5R dup

Date Collected: 12/11/17 13:13

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.66		0.40	0.093	ug/L			12/16/17 03:13	1
Ethylbenzene	1.3		1.0	0.20	ug/L			12/16/17 03:13	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/17 03:13	1
o-Xylene	0.27	J	1.0	0.16	ug/L			12/16/17 03:13	1
Toluene	0.47	J	1.0	0.31	ug/L			12/16/17 03:13	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/17 03:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 125					12/16/17 03:13	1
4-Bromofluorobenzene (Surr)	98		69 - 120					12/16/17 03:13	1
Dibromofluoromethane (Surr)	105		80 - 120					12/16/17 03:13	1
Toluene-d8 (Surr)	99		80 - 120					12/16/17 03:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1400		150	70	ug/L			12/16/17 03:13	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: RW-5R dup

Date Collected: 12/11/17 13:13

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-7

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141					12/16/17 03:13	1
Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	0.77		0.26	0.086	mg/L		12/19/17 11:36	12/19/17 20:56	1
(C10-C25)									
Residual Range Organics (RRO)	0.20	J	0.43	0.13	mg/L		12/19/17 11:36	12/19/17 20:56	1
(C25-C36)									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	94		50 - 150				12/19/17 11:36	12/19/17 20:56	1
n-Triacontane-d62	100		50 - 150				12/19/17 11:36	12/19/17 20:56	1

Client Sample ID: RW-8

Date Collected: 12/11/17 15:10

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-10

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	5.7		0.40	0.093	ug/L			12/16/17 04:16	1
Ethylbenzene	1.3		1.0	0.20	ug/L			12/16/17 04:16	1
m,p-Xylene	1.1	J	2.0	0.28	ug/L			12/16/17 04:16	1
o-Xylene	0.84	J	1.0	0.16	ug/L			12/16/17 04:16	1
Toluene	0.80	J	1.0	0.31	ug/L			12/16/17 04:16	1
Xylenes, Total	1.9	J	3.0	0.44	ug/L			12/16/17 04:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 125					12/16/17 04:16	1
4-Bromofluorobenzene (Surr)	98		69 - 120					12/16/17 04:16	1
Dibromofluoromethane (Surr)	104		80 - 120					12/16/17 04:16	1
Toluene-d8 (Surr)	99		80 - 120					12/16/17 04:16	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1700		150	70	ug/L			12/16/17 04:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141					12/16/17 04:16	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)	2.8		0.24	0.081	mg/L		12/19/17 11:36	12/19/17 21:14	1
Residual Range Organics (RRO) (C25-C36)	0.48		0.40	0.12	mg/L		12/19/17 11:36	12/19/17 21:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	88		50 - 150				12/19/17 11:36	12/19/17 21:14	1
n-Triacontane-d62	89		50 - 150				12/19/17 11:36	12/19/17 21:14	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: DMW-4

Date Collected: 12/11/17 15:21

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-11

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L	-		12/16/17 04:37	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/17 04:37	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/17 04:37	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/17 04:37	1
Toluene	ND		1.0	0.31	ug/L			12/16/17 04:37	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/17 04:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 125		12/16/17 04:37	1
4-Bromofluorobenzene (Surr)	100		69 - 120		12/16/17 04:37	1
Dibromofluoromethane (Surr)	107		80 - 120		12/16/17 04:37	1
Toluene-d8 (Surr)	97		80 - 120		12/16/17 04:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	190		150	70	ug/L	-		12/16/17 04:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141		12/16/17 04:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.28		0.25	0.085	mg/L	-	12/19/17 11:36	12/19/17 21:32	1
Residual Range Organics (RRO) (C25-C36)	ND		0.42	0.13	mg/L		12/19/17 11:36	12/19/17 21:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	87		50 - 150	12/19/17 11:36	12/19/17 21:32	1
n-Triacontane-d62	87		50 - 150	12/19/17 11:36	12/19/17 21:32	1

Client Sample ID: DMW-4 dup

Date Collected: 12/11/17 15:26

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-12

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L	-		12/16/17 04:59	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/17 04:59	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/17 04:59	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/17 04:59	1
Toluene	ND		1.0	0.31	ug/L			12/16/17 04:59	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/17 04:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 125		12/16/17 04:59	1
4-Bromofluorobenzene (Surr)	98		69 - 120		12/16/17 04:59	1
Dibromofluoromethane (Surr)	105		80 - 120		12/16/17 04:59	1
Toluene-d8 (Surr)	101		80 - 120		12/16/17 04:59	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: DMW-4 dup

Date Collected: 12/11/17 15:26

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-12

Matrix: Water

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	-		12/16/17 04:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141					12/16/17 04:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.28		0.26	0.086	mg/L	-	12/19/17 11:36	12/19/17 21:50	1
Residual Range Organics (RRO) (C25-C36)	ND		0.43	0.13	mg/L	-	12/19/17 11:36	12/19/17 21:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	89		50 - 150				12/19/17 11:36	12/19/17 21:50	1
n-Triacontane-d62	90		50 - 150				12/19/17 11:36	12/19/17 21:50	1

Client Sample ID: RR-4

Date Collected: 12/12/17 08:10

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-14

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L	-		12/16/17 05:41	1
Ethylbenzene	ND		1.0	0.20	ug/L	-		12/16/17 05:41	1
m,p-Xylene	ND		2.0	0.28	ug/L	-		12/16/17 05:41	1
o-Xylene	ND		1.0	0.16	ug/L	-		12/16/17 05:41	1
Toluene	ND		1.0	0.31	ug/L	-		12/16/17 05:41	1
Xylenes, Total	ND		3.0	0.44	ug/L	-		12/16/17 05:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 125					12/16/17 05:41	1
4-Bromofluorobenzene (Surr)	97		69 - 120					12/16/17 05:41	1
Dibromofluoromethane (Surr)	109		80 - 120					12/16/17 05:41	1
Toluene-d8 (Surr)	98		80 - 120					12/16/17 05:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L	-		12/16/17 05:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141					12/16/17 05:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.24	0.079	mg/L	-	12/19/17 11:36	12/19/17 22:08	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L	-	12/19/17 11:36	12/19/17 22:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	90		50 - 150				12/19/17 11:36	12/19/17 22:08	1
n-Triacontane-d62	92		50 - 150				12/19/17 11:36	12/19/17 22:08	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: RR-1

Date Collected: 12/12/17 08:18

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-15

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L	-		12/16/17 06:23	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/17 06:23	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/17 06:23	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/17 06:23	1
Toluene	ND		1.0	0.31	ug/L			12/16/17 06:23	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/17 06:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 125		12/16/17 06:23	1
4-Bromofluorobenzene (Surr)	95		69 - 120		12/16/17 06:23	1
Dibromofluoromethane (Surr)	109		80 - 120		12/16/17 06:23	1
Toluene-d8 (Surr)	99		80 - 120		12/16/17 06:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L	-		12/16/17 06:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		12/16/17 06:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.11	J	0.24	0.081	mg/L	-	12/19/17 11:36	12/19/17 22:25	1
Residual Range Organics (RRO) (C25-C36)	ND		0.41	0.12	mg/L		12/19/17 11:36	12/19/17 22:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150	12/19/17 11:36	12/19/17 22:25	1
n-Triacontane-d62	88		50 - 150	12/19/17 11:36	12/19/17 22:25	1

Client Sample ID: B-25

Date Collected: 12/12/17 11:30

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-18

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	460		8.0	1.9	ug/L	-		12/18/17 16:44	20
Ethylbenzene	2.2		1.0	0.20	ug/L			12/16/17 07:27	1
m,p-Xylene	6.4		2.0	0.28	ug/L			12/16/17 07:27	1
o-Xylene	0.36	J	1.0	0.16	ug/L			12/16/17 07:27	1
Toluene	3.5		1.0	0.31	ug/L			12/16/17 07:27	1
Xylenes, Total	6.8		3.0	0.44	ug/L			12/16/17 07:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 125		12/16/17 07:27	1
1,2-Dichloroethane-d4 (Surr)	115		70 - 125		12/18/17 16:44	20
4-Bromofluorobenzene (Surr)	97		69 - 120		12/16/17 07:27	1
4-Bromofluorobenzene (Surr)	96		69 - 120		12/18/17 16:44	20
Dibromofluoromethane (Surr)	100		80 - 120		12/16/17 07:27	1
Dibromofluoromethane (Surr)	103		80 - 120		12/18/17 16:44	20
Toluene-d8 (Surr)	98		80 - 120		12/16/17 07:27	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: B-25

Date Collected: 12/12/17 11:30

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-18

Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		12/18/17 16:44	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2500		150	70	ug/L	-		12/16/17 07:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		68.7 - 141		12/16/17 07:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.95		0.24	0.081	mg/L	-	12/19/17 11:38	12/19/17 23:01	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L	-	12/19/17 11:38	12/19/17 23:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	91		50 - 150	12/19/17 11:38	12/19/17 23:01	1
n-Triacontane-d62	92		50 - 150	12/19/17 11:38	12/19/17 23:01	1

Client Sample ID: FW-14

Date Collected: 12/12/17 12:23

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-19

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L	-		12/16/17 07:48	1
Ethylbenzene	ND		1.0	0.20	ug/L	-		12/16/17 07:48	1
m,p-Xylene	ND		2.0	0.28	ug/L	-		12/16/17 07:48	1
o-Xylene	ND		1.0	0.16	ug/L	-		12/16/17 07:48	1
Toluene	ND		1.0	0.31	ug/L	-		12/16/17 07:48	1
Xylenes, Total	ND		3.0	0.44	ug/L	-		12/16/17 07:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 125		12/16/17 07:48	1
4-Bromofluorobenzene (Surr)	98		69 - 120		12/16/17 07:48	1
Dibromofluoromethane (Surr)	108		80 - 120		12/16/17 07:48	1
Toluene-d8 (Surr)	101		80 - 120		12/16/17 07:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L	-		12/16/17 07:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		12/16/17 07:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.098	0.022	ug/L	-	12/14/17 15:04	12/15/17 00:09	1
2-Methylnaphthalene	ND		0.098	0.023	ug/L	-	12/14/17 15:04	12/15/17 00:09	1
1-Methylnaphthalene	ND		0.098	0.020	ug/L	-	12/14/17 15:04	12/15/17 00:09	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: FW-14

Date Collected: 12/12/17 12:23

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-19

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	78		45 - 126				12/14/17 15:04	12/15/17 00:09	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)	ND		0.26	0.085	mg/L		12/19/17 11:38	12/19/17 23:19	1
Residual Range Organics (RRO) (C25-C36)	ND		0.43	0.13	mg/L		12/19/17 11:38	12/19/17 23:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	87		50 - 150				12/19/17 11:38	12/19/17 23:19	1
n-Triacontane-d62	91		50 - 150				12/19/17 11:38	12/19/17 23:19	1

Client Sample ID: DMW-2

Date Collected: 12/12/17 13:06

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-20

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L	-		12/16/17 08:09	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/17 08:09	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/17 08:09	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/17 08:09	1
Toluene	ND		1.0	0.31	ug/L			12/16/17 08:09	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/17 08:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 125					12/16/17 08:09	1
4-Bromofluorobenzene (Surr)	95		69 - 120					12/16/17 08:09	1
Dibromofluoromethane (Surr)	107		80 - 120					12/16/17 08:09	1
Toluene-d8 (Surr)	100		80 - 120					12/16/17 08:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	150		150	70	ug/L	-		12/16/17 08:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141					12/16/17 08:09	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)	1.1		0.25	0.085	mg/L	-	12/19/17 11:38	12/19/17 23:37	1
Residual Range Organics (RRO) (C25-C36)	0.16	J	0.42	0.13	mg/L		12/19/17 11:38	12/19/17 23:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	94		50 - 150				12/19/17 11:38	12/19/17 23:37	1
n-Triacontane-d62	95		50 - 150				12/19/17 11:38	12/19/17 23:37	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: HC-111

Date Collected: 12/12/17 14:10

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-21

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	190		4.0	0.93	ug/L	-		12/18/17 17:06	10
Ethylbenzene	51		1.0	0.20	ug/L			12/15/17 22:56	1
m,p-Xylene	3.6		2.0	0.28	ug/L			12/15/17 22:56	1
o-Xylene	1.3		1.0	0.16	ug/L			12/15/17 22:56	1
Toluene	3.3		1.0	0.31	ug/L			12/15/17 22:56	1
Xylenes, Total	4.9		3.0	0.44	ug/L			12/15/17 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 125		12/15/17 22:56	1
1,2-Dichloroethane-d4 (Surr)	115		70 - 125		12/18/17 17:06	10
4-Bromofluorobenzene (Surr)	95		69 - 120		12/15/17 22:56	1
4-Bromofluorobenzene (Surr)	94		69 - 120		12/18/17 17:06	10
Dibromofluoromethane (Surr)	104		80 - 120		12/15/17 22:56	1
Dibromofluoromethane (Surr)	105		80 - 120		12/18/17 17:06	10
Toluene-d8 (Surr)	98		80 - 120		12/15/17 22:56	1
Toluene-d8 (Surr)	100		80 - 120		12/18/17 17:06	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1200		150	70	ug/L	-		12/15/17 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		12/15/17 22:56	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) (C10-C25)	5.2		0.24	0.081	mg/L	-	12/19/17 16:21	12/20/17 00:48	1
Residual Range Organics (RRO) (C25-C36)	0.61		0.41	0.12	mg/L		12/19/17 16:21	12/20/17 00:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	87		50 - 150	12/19/17 16:21	12/20/17 00:48	1
n-Triacontane-d62	94		50 - 150	12/19/17 16:21	12/20/17 00:48	1

Client Sample ID: FW-5R

Date Collected: 12/12/17 14:45

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-22

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.8		0.40	0.093	ug/L	-		12/15/17 23:17	1
Ethylbenzene	0.36	J	1.0	0.20	ug/L			12/15/17 23:17	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/15/17 23:17	1
o-Xylene	ND		1.0	0.16	ug/L			12/15/17 23:17	1
Toluene	0.34	J	1.0	0.31	ug/L			12/15/17 23:17	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/15/17 23:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 125		12/15/17 23:17	1
4-Bromofluorobenzene (Surr)	95		69 - 120		12/15/17 23:17	1
Dibromofluoromethane (Surr)	104		80 - 120		12/15/17 23:17	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: FW-5R

Date Collected: 12/12/17 14:45

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-22

Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		12/15/17 23:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	720		150	70	ug/L			12/15/17 23:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		68.7 - 141		12/15/17 23:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	1.5		0.096	0.021	ug/L		12/14/17 15:04	12/15/17 00:36	1
2-Methylnaphthalene	460		9.6	2.3	ug/L		12/14/17 15:04	12/18/17 15:47	100
1-Methylnaphthalene	330		9.6	1.9	ug/L		12/14/17 15:04	12/18/17 15:47	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	76		45 - 126	12/14/17 15:04	12/15/17 00:36	1
Nitrobenzene-d5	219	X	45 - 126	12/14/17 15:04	12/18/17 15:47	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	5.2		0.25	0.084	mg/L		12/19/17 16:21	12/20/17 01:06	1
Residual Range Organics (RRO) (C25-C36)	0.33	J	0.42	0.13	mg/L		12/19/17 16:21	12/20/17 01:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	119		50 - 150	12/19/17 16:21	12/20/17 01:06	1
n-Triacontane-d62	97		50 - 150	12/19/17 16:21	12/20/17 01:06	1

Client Sample ID: RR-2

Date Collected: 12/13/17 08:25

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-23

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			12/15/17 23:37	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/15/17 23:37	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/15/17 23:37	1
o-Xylene	ND		1.0	0.16	ug/L			12/15/17 23:37	1
Toluene	ND		1.0	0.31	ug/L			12/15/17 23:37	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/15/17 23:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 125		12/15/17 23:37	1
4-Bromofluorobenzene (Surr)	99		69 - 120		12/15/17 23:37	1
Dibromofluoromethane (Surr)	104		80 - 120		12/15/17 23:37	1
Toluene-d8 (Surr)	101		80 - 120		12/15/17 23:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	85	J	150	70	ug/L			12/15/17 23:37	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		68.7 - 141		12/15/17 23:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.090	0.020	ug/L		12/14/17 15:04	12/15/17 01:02	1
2-Methylnaphthalene	0.032	J	0.090	0.021	ug/L		12/14/17 15:04	12/15/17 01:02	1
1-Methylnaphthalene	0.020	J	0.090	0.018	ug/L		12/14/17 15:04	12/15/17 01:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	77		45 - 126	12/14/17 15:04	12/15/17 01:02	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)	0.14	J	0.24	0.079	mg/L		12/19/17 16:21	12/20/17 01:24	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		12/19/17 16:21	12/20/17 01:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	95		50 - 150	12/19/17 16:21	12/20/17 01:24	1
n-Triacontane-d62	96		50 - 150	12/19/17 16:21	12/20/17 01:24	1

Client Sample ID: RR-5

Date Collected: 12/13/17 08:29

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-24

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			12/15/17 23:58	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/15/17 23:58	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/15/17 23:58	1
o-Xylene	ND		1.0	0.16	ug/L			12/15/17 23:58	1
Toluene	ND		1.0	0.31	ug/L			12/15/17 23:58	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/15/17 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 125		12/15/17 23:58	1
4-Bromofluorobenzene (Surr)	98		69 - 120		12/15/17 23:58	1
Dibromofluoromethane (Surr)	105		80 - 120		12/15/17 23:58	1
Toluene-d8 (Surr)	101		80 - 120		12/15/17 23:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			12/15/17 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141		12/15/17 23:58	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		0.24	0.081	mg/L		12/19/17 16:21	12/20/17 01:42	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		12/19/17 16:21	12/20/17 01:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	84		50 - 150	12/19/17 16:21	12/20/17 01:42	1
n-Triacontane-d62	85		50 - 150	12/19/17 16:21	12/20/17 01:42	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: RR-3
Date Collected: 12/13/17 09:15
Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-25
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.090	0.020	ug/L		12/14/17 15:04	12/15/17 01:29	1
2-Methylnaphthalene	ND		0.090	0.021	ug/L		12/14/17 15:04	12/15/17 01:29	1
1-Methylnaphthalene	0.025	J	0.090	0.018	ug/L		12/14/17 15:04	12/15/17 01:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	82		45 - 126				12/14/17 15:04	12/15/17 01:29	1

Client Sample ID: E-22
Date Collected: 12/13/17 09:28
Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-26
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.2		0.40	0.093	ug/L			12/16/17 00:39	1
Ethylbenzene	5.7		1.0	0.20	ug/L			12/16/17 00:39	1
m,p-Xylene	0.81	J	2.0	0.28	ug/L			12/16/17 00:39	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/17 00:39	1
Toluene	ND		1.0	0.31	ug/L			12/16/17 00:39	1
Xylenes, Total	0.81	J	3.0	0.44	ug/L			12/16/17 00:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 125					12/16/17 00:39	1
4-Bromofluorobenzene (Surr)	98		69 - 120					12/16/17 00:39	1
Dibromofluoromethane (Surr)	100		80 - 120					12/16/17 00:39	1
Toluene-d8 (Surr)	101		80 - 120					12/16/17 00:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	220		150	70	ug/L			12/16/17 00:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		68.7 - 141					12/16/17 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)	4.0		0.26	0.087	mg/L		12/19/17 16:21	12/20/17 02:17	1
Residual Range Organics (RRO) (C25-C36)	0.28	J	0.44	0.13	mg/L		12/19/17 16:21	12/20/17 02:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	90		50 - 150				12/19/17 16:21	12/20/17 02:17	1
n-Triacontane-d62	95		50 - 150				12/19/17 16:21	12/20/17 02:17	1

Client Sample ID: Trip Blank
Date Collected: 12/11/17 00:01
Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-27
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			12/16/17 00:59	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/16/17 00:59	1

TestAmerica Spokane

Client Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: Trip Blank

Date Collected: 12/11/17 00:01

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-27

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		2.0	0.28	ug/L			12/16/17 00:59	1
o-Xylene	ND		1.0	0.16	ug/L			12/16/17 00:59	1
Toluene	ND		1.0	0.31	ug/L			12/16/17 00:59	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/16/17 00:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 125		12/16/17 00:59	1
4-Bromofluorobenzene (Surr)	97		69 - 120		12/16/17 00:59	1
Dibromofluoromethane (Surr)	104		80 - 120		12/16/17 00:59	1
Toluene-d8 (Surr)	104		80 - 120		12/16/17 00:59	1

QC Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

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

Lab Sample ID: MB 590-15088/5

Matrix: Water

Analysis Batch: 15088

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			12/15/17 22:57	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/15/17 22:57	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/15/17 22:57	1
o-Xylene	ND		1.0	0.16	ug/L			12/15/17 22:57	1
Toluene	ND		1.0	0.31	ug/L			12/15/17 22:57	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/15/17 22:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 125		12/15/17 22:57	1
4-Bromofluorobenzene (Surr)	100		69 - 120		12/15/17 22:57	1
Dibromofluoromethane (Surr)	103		80 - 120		12/15/17 22:57	1
Toluene-d8 (Surr)	99		80 - 120		12/15/17 22:57	1

Lab Sample ID: LCS 590-15088/1003

Matrix: Water

Analysis Batch: 15088

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 - 120
Ethylbenzene	10.0	9.93		ug/L		99	80 - 120
m,p-Xylene	10.0	10.0		ug/L		100	80 - 120
o-Xylene	10.0	9.95		ug/L		100	80 - 120
Toluene	10.0	10.1		ug/L		101	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		70 - 125
4-Bromofluorobenzene (Surr)	98		69 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: 590-7722-4 MS

Matrix: Water

Analysis Batch: 15088

Client Sample ID: T-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		10.0	11.1		ug/L		111	50 - 150
Ethylbenzene	ND		10.0	10.7		ug/L		107	50 - 150
m,p-Xylene	ND		10.0	10.7		ug/L		107	50 - 150
o-Xylene	ND		10.0	10.7		ug/L		107	50 - 150
Toluene	ND		10.0	10.6		ug/L		106	50 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	115		70 - 125
4-Bromofluorobenzene (Surr)	95		69 - 120
Dibromofluoromethane (Surr)	105		80 - 120
Toluene-d8 (Surr)	100		80 - 120

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

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

Lab Sample ID: 590-7722-4 MSD

Matrix: Water

Analysis Batch: 15088

Client Sample ID: T-2

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	10.8		ug/L		108	50 - 150	3	35
Ethylbenzene	ND		10.0	10.4		ug/L		104	50 - 150	3	35
m,p-Xylene	ND		10.0	10.7		ug/L		107	50 - 150	1	35
o-Xylene	ND		10.0	10.3		ug/L		103	50 - 150	4	35
Toluene	ND		10.0	10.2		ug/L		102	50 - 150	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	114		70 - 125
4-Bromofluorobenzene (Surr)	94		69 - 120
Dibromofluoromethane (Surr)	104		80 - 120
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: MB 590-15090/5

Matrix: Water

Analysis Batch: 15090

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			12/15/17 22:15	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/15/17 22:15	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/15/17 22:15	1
o-Xylene	ND		1.0	0.16	ug/L			12/15/17 22:15	1
Toluene	ND		1.0	0.31	ug/L			12/15/17 22:15	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/15/17 22:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 125		12/15/17 22:15	1
4-Bromofluorobenzene (Surr)	100		69 - 120		12/15/17 22:15	1
Dibromofluoromethane (Surr)	104		80 - 120		12/15/17 22:15	1
Toluene-d8 (Surr)	103		80 - 120		12/15/17 22:15	1

Lab Sample ID: LCS 590-15090/1003

Matrix: Water

Analysis Batch: 15090

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	10.7		ug/L		107	80 - 120
Ethylbenzene	10.0	11.4		ug/L		114	80 - 120
m,p-Xylene	10.0	11.1		ug/L		111	80 - 120
o-Xylene	10.0	11.0		ug/L		110	80 - 120
Toluene	10.0	11.1		ug/L		111	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 125
4-Bromofluorobenzene (Surr)	100		69 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	102		80 - 120

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

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

Lab Sample ID: LCSD 590-15090/6

Matrix: Water

Analysis Batch: 15090

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	10.6		ug/L		106	80 - 120	2	25
Ethylbenzene	10.0	10.9		ug/L		109	80 - 120	5	25
m,p-Xylene	10.0	10.6		ug/L		106	80 - 120	4	25
o-Xylene	10.0	10.6		ug/L		106	80 - 120	3	25
Toluene	10.0	10.8		ug/L		108	80 - 123	2	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 125
4-Bromofluorobenzene (Surr)	100		69 - 120
Dibromofluoromethane (Surr)	100		80 - 120
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: MB 590-15099/6

Matrix: Water

Analysis Batch: 15099

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			12/18/17 14:52	1
Ethylbenzene	ND		1.0	0.20	ug/L			12/18/17 14:52	1
m,p-Xylene	ND		2.0	0.28	ug/L			12/18/17 14:52	1
o-Xylene	ND		1.0	0.16	ug/L			12/18/17 14:52	1
Toluene	ND		1.0	0.31	ug/L			12/18/17 14:52	1
Xylenes, Total	ND		3.0	0.44	ug/L			12/18/17 14:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 125		12/18/17 14:52	1
4-Bromofluorobenzene (Surr)	99		69 - 120		12/18/17 14:52	1
Dibromofluoromethane (Surr)	103		80 - 120		12/18/17 14:52	1
Toluene-d8 (Surr)	98		80 - 120		12/18/17 14:52	1

Lab Sample ID: LCS 590-15099/1004

Matrix: Water

Analysis Batch: 15099

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	10.8		ug/L		108	80 - 120
Ethylbenzene	10.0	9.83		ug/L		98	80 - 120
m,p-Xylene	10.0	9.81		ug/L		98	80 - 120
o-Xylene	10.0	9.67		ug/L		97	80 - 120
Toluene	10.0	9.97		ug/L		100	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		70 - 125
4-Bromofluorobenzene (Surr)	94		69 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	99		80 - 120

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

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

Lab Sample ID: LCSD 590-15099/7

Matrix: Water

Analysis Batch: 15099

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	10.7		ug/L		107	80 - 120	1	25
Ethylbenzene	10.0	10.2		ug/L		102	80 - 120	4	25
m,p-Xylene	10.0	10.3		ug/L		103	80 - 120	5	25
o-Xylene	10.0	9.96		ug/L		100	80 - 120	3	25
Toluene	10.0	10.3		ug/L		103	80 - 123	3	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		70 - 125
4-Bromofluorobenzene (Surr)	93		69 - 120
Dibromofluoromethane (Surr)	102		80 - 120
Toluene-d8 (Surr)	100		80 - 120

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

Lab Sample ID: MB 590-15089/5

Matrix: Water

Analysis Batch: 15089

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			12/15/17 22:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141		12/15/17 22:57	1

Lab Sample ID: LCS 590-15089/1004

Matrix: Water

Analysis Batch: 15089

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1000	989		ug/L		99	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		68.7 - 141

Lab Sample ID: LCSD 590-15089/1014

Matrix: Water

Analysis Batch: 15089

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	970		ug/L		97	80 - 120	2	20

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

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

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

Lab Sample ID: 590-7722-4 MS

Matrix: Water

Analysis Batch: 15089

Client Sample ID: T-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	140	J F2	1000	961		ug/L		82	55.6 - 126
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	101		68.7 - 141						

Lab Sample ID: 590-7722-4 MSD

Matrix: Water

Analysis Batch: 15089

Client Sample ID: T-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	140	J F2	1000	1190	F2	ug/L		105	55.6 - 126	21	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	100		68.7 - 141								

Lab Sample ID: MB 590-15091/5

Matrix: Water

Analysis Batch: 15091

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150	70	ug/L			12/15/17 22:15	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		68.7 - 141					12/15/17 22:15	1

Lab Sample ID: LCS 590-15091/1004

Matrix: Water

Analysis Batch: 15091

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1000	1020		ug/L		102	80 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	100		68.7 - 141				

Lab Sample ID: LCSD 590-15091/1014

Matrix: Water

Analysis Batch: 15091

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	1040		ug/L		104	80 - 120	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	101		68.7 - 141						

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

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

Lab Sample ID: MB 590-15067/1-A

Matrix: Water

Analysis Batch: 15070

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.090	0.020	ug/L		12/14/17 13:53	12/14/17 15:45	1
2-Methylnaphthalene	ND		0.090	0.021	ug/L		12/14/17 13:53	12/14/17 15:45	1
1-Methylnaphthalene	ND		0.090	0.018	ug/L		12/14/17 13:53	12/14/17 15:45	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	81		45 - 126				12/14/17 13:53	12/14/17 15:45	1

Lab Sample ID: LCS 590-15067/2-A

Matrix: Water

Analysis Batch: 15070

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Naphthalene	1.60	1.42		ug/L		89	52 - 121	
2-Methylnaphthalene	1.60	1.42		ug/L		88	44 - 134	
1-Methylnaphthalene	1.60	1.48		ug/L		92	56 - 123	
Surrogate	%Recovery	LCS Qualifier	Limits					
Nitrobenzene-d5	88		45 - 126					

Lab Sample ID: LCSD 590-15067/3-A

Matrix: Water

Analysis Batch: 15070

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15067

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	1.60	1.40		ug/L		87	52 - 121	2	30
2-Methylnaphthalene	1.60	1.38		ug/L		86	44 - 134	2	30
1-Methylnaphthalene	1.60	1.41		ug/L		88	56 - 123	4	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
Nitrobenzene-d5	84		45 - 126						

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

Lab Sample ID: MB 590-15112/1-A

Matrix: Water

Analysis Batch: 15111

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15112

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.24	0.080	mg/L		12/19/17 11:36	12/19/17 16:30	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		12/19/17 11:36	12/19/17 16:30	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	97		50 - 150				12/19/17 11:36	12/19/17 16:30	1
n-Triacontane-d62	96		50 - 150				12/19/17 11:36	12/19/17 16:30	1

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

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

Lab Sample ID: LCS 590-15112/2-A

Matrix: Water

Analysis Batch: 15111

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15112

		Spike	LCS	LCS					%Rec.		
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits			
Diesel Range Organics (DRO)		1.60	1.36		mg/L	-	85	50 - 150			
(C10-C25)											
Residual Range Organics (RRO)		1.60	1.51		mg/L		94	50 - 150			
(C25-C36)											
		LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits								
o-Terphenyl	99		50 - 150								
n-Triacontane-d62	96		50 - 150								

Lab Sample ID: LCSD 590-15112/3-A

Matrix: Water

Analysis Batch: 15111

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15112

			Spike	LCSD	LCSD				%Rec.	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics (DRO) (C10-C25)			1.60	1.29		mg/L	—	81	50 - 150	5	25
Residual Range Organics (RRO) (C25-C36)			1.60	1.50		mg/L		94	50 - 150	1	25
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
o-Terphenyl	97		50 - 150								
n-Triacontane-d62	94		50 - 150								

Lab Sample ID: 590-7722-4 MS

Matrix: Water

Analysis Batch: 15111

Client Sample ID: T-2

Prep Type: Total/NA

Prep Batch: 15112

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)	0.20	J	1.71	1.65		mg/L		84	54.5 - 136		
Residual Range Organics (RRO) (C25-C36)	ND		1.71	1.76		mg/L		103	50 - 150		
Surrogate	MS %Recovery	MS Qualifier	Limits								
o-Terphenyl	101		50 - 150								
n-Triacontane-d62	97		50 - 150								

Lab Sample ID: 590-7722-4 MSD

Matrix: Water

Analysis Batch: 15111

Client Sample ID: T-2

Prep Type: Total/NA

Prep Batch: 15112

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	0.20	J	1.71	1.61		mg/L		83	54.5 - 136	2	32.5
Residual Range Organics (RRO) (C25-C36)	ND		1.71	1.68		mg/L		99	50 - 150	5	25
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
o-Terphenyl	90		50 - 150								

TestAmerica Spokane

QC Sample Results

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

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

Lab Sample ID: 590-7722-4 MSD

Matrix: Water

Analysis Batch: 15111

Client Sample ID: T-2

Prep Type: Total/NA

Prep Batch: 15112

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Triacontane-d62	92		50 - 150

Lab Sample ID: MB 590-15118/1-A

Matrix: Water

Analysis Batch: 15111

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15118

MB MB							MB MB		
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.24	0.080	mg/L	-	12/19/17 16:21	12/19/17 23:55	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40	0.12	mg/L		12/19/17 16:21	12/19/17 23:55	1
MB MB							MB MB		
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	95		50 - 150				12/19/17 16:21	12/19/17 23:55	1
n-Triacontane-d62	93		50 - 150				12/19/17 16:21	12/19/17 23:55	1

Lab Sample ID: LCS 590-15118/2-A

Matrix: Water

Analysis Batch: 15111

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15118

		Spike	LCS	LCS				%Rec.		
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits		
Diesel Range Organics (DRO)		1.60	1.37		mg/L	-	86	50 - 150		
(C10-C25)										
Residual Range Organics (RRO)		1.60	1.51		mg/L		94	50 - 150		
(C25-C36)										
					</					

Lab Sample ID: LCSD 590-15118/3-A

Matrix: Water

Analysis Batch: 15111

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15118

Analyte			Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
			Added	Result	Qualifier			Limits	Limit		
Diesel Range Organics (DRO) (C10-C25)			1.60	1.36		mg/L		85	50 - 150	1	25
Residual Range Organics (RRO) (C25-C36)			1.60	1.61		mg/L		100	50 - 150	6	25
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
o-Terphenyl	99		50 - 150								
n-Triacontane-d62	98		50 - 150								

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

GC/MS VOA

Analysis Batch: 15088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-1	B-34	Total/NA	Water	8260C	
590-7722-3	FW-13	Total/NA	Water	8260C	
590-7722-4	T-2	Total/NA	Water	8260C	
590-7722-5	B-31	Total/NA	Water	8260C	
590-7722-6	RW-5R	Total/NA	Water	8260C	
590-7722-7	RW-5R dup	Total/NA	Water	8260C	
590-7722-10	RW-8	Total/NA	Water	8260C	
590-7722-11	DMW-4	Total/NA	Water	8260C	
590-7722-12	DMW-4 dup	Total/NA	Water	8260C	
590-7722-14	RR-4	Total/NA	Water	8260C	
590-7722-15	RR-1	Total/NA	Water	8260C	
590-7722-18	B-25	Total/NA	Water	8260C	
590-7722-19	FW-14	Total/NA	Water	8260C	
590-7722-20	DMW-2	Total/NA	Water	8260C	
MB 590-15088/5	Method Blank	Total/NA	Water	8260C	
LCS 590-15088/1003	Lab Control Sample	Total/NA	Water	8260C	
590-7722-4 MS	T-2	Total/NA	Water	8260C	
590-7722-4 MSD	T-2	Total/NA	Water	8260C	

Analysis Batch: 15089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-1	B-34	Total/NA	Water	NWTPH-Gx	
590-7722-3	FW-13	Total/NA	Water	NWTPH-Gx	
590-7722-4	T-2	Total/NA	Water	NWTPH-Gx	
590-7722-5	B-31	Total/NA	Water	NWTPH-Gx	
590-7722-6	RW-5R	Total/NA	Water	NWTPH-Gx	
590-7722-7	RW-5R dup	Total/NA	Water	NWTPH-Gx	
590-7722-10	RW-8	Total/NA	Water	NWTPH-Gx	
590-7722-11	DMW-4	Total/NA	Water	NWTPH-Gx	
590-7722-12	DMW-4 dup	Total/NA	Water	NWTPH-Gx	
590-7722-14	RR-4	Total/NA	Water	NWTPH-Gx	
590-7722-15	RR-1	Total/NA	Water	NWTPH-Gx	
590-7722-18	B-25	Total/NA	Water	NWTPH-Gx	
590-7722-19	FW-14	Total/NA	Water	NWTPH-Gx	
590-7722-20	DMW-2	Total/NA	Water	NWTPH-Gx	
MB 590-15089/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-15089/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 590-15089/1014	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
590-7722-4 MS	T-2	Total/NA	Water	NWTPH-Gx	
590-7722-4 MSD	T-2	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 15090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-21	HC-111	Total/NA	Water	8260C	
590-7722-22	FW-5R	Total/NA	Water	8260C	
590-7722-23	RR-2	Total/NA	Water	8260C	
590-7722-24	RR-5	Total/NA	Water	8260C	
590-7722-26	E-22	Total/NA	Water	8260C	
590-7722-27	Trip Blank	Total/NA	Water	8260C	
MB 590-15090/5	Method Blank	Total/NA	Water	8260C	
LCS 590-15090/1003	Lab Control Sample	Total/NA	Water	8260C	

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

GC/MS VOA (Continued)

Analysis Batch: 15090 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 590-15090/6	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 15091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-21	HC-111	Total/NA	Water	NWTPH-Gx	
590-7722-22	FW-5R	Total/NA	Water	NWTPH-Gx	
590-7722-23	RR-2	Total/NA	Water	NWTPH-Gx	
590-7722-24	RR-5	Total/NA	Water	NWTPH-Gx	
590-7722-26	E-22	Total/NA	Water	NWTPH-Gx	
MB 590-15091/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 590-15091/1004	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 590-15091/1014	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 15099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-1	B-34	Total/NA	Water	8260C	
590-7722-18	B-25	Total/NA	Water	8260C	
590-7722-21	HC-111	Total/NA	Water	8260C	
MB 590-15099/6	Method Blank	Total/NA	Water	8260C	
LCS 590-15099/1004	Lab Control Sample	Total/NA	Water	8260C	
LCSD 590-15099/7	Lab Control Sample Dup	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 15067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-19	FW-14	Total/NA	Water	3510C	
590-7722-22	FW-5R	Total/NA	Water	3510C	
590-7722-23	RR-2	Total/NA	Water	3510C	
590-7722-25	RR-3	Total/NA	Water	3510C	
MB 590-15067/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-15067/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-15067/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 15070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-19	FW-14	Total/NA	Water	8270D SIM	15067
590-7722-22	FW-5R	Total/NA	Water	8270D SIM	15067
590-7722-23	RR-2	Total/NA	Water	8270D SIM	15067
590-7722-25	RR-3	Total/NA	Water	8270D SIM	15067
MB 590-15067/1-A	Method Blank	Total/NA	Water	8270D SIM	15067
LCS 590-15067/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	15067
LCSD 590-15067/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	15067

Analysis Batch: 15092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-22	FW-5R	Total/NA	Water	8270D SIM	15067

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

GC Semi VOA

Analysis Batch: 15111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-1	B-34	Total/NA	Water	NWTPH-Dx	15112
590-7722-3	FW-13	Total/NA	Water	NWTPH-Dx	15112
590-7722-4	T-2	Total/NA	Water	NWTPH-Dx	15112
590-7722-5	B-31	Total/NA	Water	NWTPH-Dx	15112
590-7722-6	RW-5R	Total/NA	Water	NWTPH-Dx	15112
590-7722-7	RW-5R dup	Total/NA	Water	NWTPH-Dx	15112
590-7722-10	RW-8	Total/NA	Water	NWTPH-Dx	15112
590-7722-11	DMW-4	Total/NA	Water	NWTPH-Dx	15112
590-7722-12	DMW-4 dup	Total/NA	Water	NWTPH-Dx	15112
590-7722-14	RR-4	Total/NA	Water	NWTPH-Dx	15112
590-7722-15	RR-1	Total/NA	Water	NWTPH-Dx	15112
590-7722-18	B-25	Total/NA	Water	NWTPH-Dx	15112
590-7722-19	FW-14	Total/NA	Water	NWTPH-Dx	15112
590-7722-20	DMW-2	Total/NA	Water	NWTPH-Dx	15112
590-7722-21	HC-111	Total/NA	Water	NWTPH-Dx	15118
590-7722-22	FW-5R	Total/NA	Water	NWTPH-Dx	15118
590-7722-23	RR-2	Total/NA	Water	NWTPH-Dx	15118
590-7722-24	RR-5	Total/NA	Water	NWTPH-Dx	15118
590-7722-26	E-22	Total/NA	Water	NWTPH-Dx	15118
MB 590-15112/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	15112
MB 590-15118/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	15118
LCS 590-15112/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	15112
LCS 590-15118/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	15118
LCSD 590-15112/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	15112
LCSD 590-15118/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	15118
590-7722-4 MS	T-2	Total/NA	Water	NWTPH-Dx	15112
590-7722-4 MSD	T-2	Total/NA	Water	NWTPH-Dx	15112

Prep Batch: 15112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-1	B-34	Total/NA	Water	3510C	
590-7722-3	FW-13	Total/NA	Water	3510C	
590-7722-4	T-2	Total/NA	Water	3510C	
590-7722-5	B-31	Total/NA	Water	3510C	
590-7722-6	RW-5R	Total/NA	Water	3510C	
590-7722-7	RW-5R dup	Total/NA	Water	3510C	
590-7722-10	RW-8	Total/NA	Water	3510C	
590-7722-11	DMW-4	Total/NA	Water	3510C	
590-7722-12	DMW-4 dup	Total/NA	Water	3510C	
590-7722-14	RR-4	Total/NA	Water	3510C	
590-7722-15	RR-1	Total/NA	Water	3510C	
590-7722-18	B-25	Total/NA	Water	3510C	
590-7722-19	FW-14	Total/NA	Water	3510C	
590-7722-20	DMW-2	Total/NA	Water	3510C	
MB 590-15112/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-15112/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-15112/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
590-7722-4 MS	T-2	Total/NA	Water	3510C	
590-7722-4 MSD	T-2	Total/NA	Water	3510C	

TestAmerica Spokane

QC Association Summary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

GC Semi VOA (Continued)

Prep Batch: 15118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-7722-21	HC-111	Total/NA	Water	3510C	
590-7722-22	FW-5R	Total/NA	Water	3510C	
590-7722-23	RR-2	Total/NA	Water	3510C	
590-7722-24	RR-5	Total/NA	Water	3510C	
590-7722-26	E-22	Total/NA	Water	3510C	
MB 590-15118/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-15118/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-15118/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Lab Chronicle

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: B-34

Date Collected: 12/11/17 11:10

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/15/17 23:19	MRS	TAL SPK
Total/NA	Analysis	8260C		20	43 mL	43 mL	15099	12/18/17 16:22	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/15/17 23:19	MRS	TAL SPK
Total/NA	Prep	3510C			245.8 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 18:34	NMI	TAL SPK

Client Sample ID: FW-13

Date Collected: 12/11/17 12:00

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 00:01	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 00:01	MRS	TAL SPK
Total/NA	Prep	3510C			247.4 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 18:52	NMI	TAL SPK

Client Sample ID: T-2

Date Collected: 12/11/17 12:04

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 00:23	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 00:23	MRS	TAL SPK
Total/NA	Prep	3510C			233.4 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 19:10	NMI	TAL SPK

Client Sample ID: B-31

Date Collected: 12/11/17 13:00

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 02:30	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 02:30	MRS	TAL SPK
Total/NA	Prep	3510C			243.9 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 20:21	NMI	TAL SPK

Client Sample ID: RW-5R

Date Collected: 12/11/17 13:09

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-6

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	8260C		1	43 mL	43 mL	15088	12/16/17 02:51	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.

TestAmerica Job ID: 590-7722-1

Project/Site: Tacoma D St Terminal-Phillips 66/6053745

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 02:51	MRS	TAL SPK
Total/NA	Prep	3510C			235.4 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 20:39	NMI	TAL SPK

Client Sample ID: RW-5R dup

Lab Sample ID: 590-7722-7

Date Collected: 12/11/17 13:13

Matrix: Water

Date Received: 12/14/17 11:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 03:13	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 03:13	MRS	TAL SPK
Total/NA	Prep	3510C			232.8 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 20:56	NMI	TAL SPK

Client Sample ID: RW-8

Lab Sample ID: 590-7722-10

Date Collected: 12/11/17 15:10

Matrix: Water

Date Received: 12/14/17 11:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 04:16	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 04:16	MRS	TAL SPK
Total/NA	Prep	3510C			247.1 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 21:14	NMI	TAL SPK

Client Sample ID: DMW-4

Lab Sample ID: 590-7722-11

Date Collected: 12/11/17 15:21

Matrix: Water

Date Received: 12/14/17 11:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 04:37	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 04:37	MRS	TAL SPK
Total/NA	Prep	3510C			235.5 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 21:32	NMI	TAL SPK

Client Sample ID: DMW-4 dup

Lab Sample ID: 590-7722-12

Date Collected: 12/11/17 15:26

Matrix: Water

Date Received: 12/14/17 11:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 04:59	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 04:59	MRS	TAL SPK
Total/NA	Prep	3510C			233.7 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 21:50	NMI	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: RR-4

Date Collected: 12/12/17 08:10

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 05:41	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 05:41	MRS	TAL SPK
Total/NA	Prep	3510C			251.9 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 22:08	NMI	TAL SPK

Client Sample ID: RR-1

Date Collected: 12/12/17 08:18

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 06:23	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 06:23	MRS	TAL SPK
Total/NA	Prep	3510C			245.9 mL	2 mL	15112	12/19/17 11:36	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 22:25	NMI	TAL SPK

Client Sample ID: B-25

Date Collected: 12/12/17 11:30

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 07:27	MRS	TAL SPK
Total/NA	Analysis	8260C		20	43 mL	43 mL	15099	12/18/17 16:44	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 07:27	MRS	TAL SPK
Total/NA	Prep	3510C			248.4 mL	2 mL	15112	12/19/17 11:38	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 23:01	NMI	TAL SPK

Client Sample ID: FW-14

Date Collected: 12/12/17 12:23

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 07:48	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 07:48	MRS	TAL SPK
Total/NA	Prep	3510C			230.6 mL	2 mL	15067	12/14/17 15:04	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			15070	12/15/17 00:09	CBW	TAL SPK
Total/NA	Prep	3510C			235.1 mL	2 mL	15112	12/19/17 11:38	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 23:19	NMI	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: DMW-2

Date Collected: 12/12/17 13:06

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15088	12/16/17 08:09	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15089	12/16/17 08:09	MRS	TAL SPK
Total/NA	Prep	3510C			236 mL	2 mL	15112	12/19/17 11:38	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/19/17 23:37	NMI	TAL SPK

Client Sample ID: HC-111

Date Collected: 12/12/17 14:10

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	43 mL	43 mL	15099	12/18/17 17:06	MRS	TAL SPK
Total/NA	Analysis	8260C		1	43 mL	43 mL	15090	12/15/17 22:56	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15091	12/15/17 22:56	MRS	TAL SPK
Total/NA	Prep	3510C			246.1 mL	2 mL	15118	12/19/17 16:21	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/20/17 00:48	NMI	TAL SPK

Client Sample ID: FW-5R

Date Collected: 12/12/17 14:45

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15090	12/15/17 23:17	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15091	12/15/17 23:17	MRS	TAL SPK
Total/NA	Prep	3510C			233.3 mL	2 mL	15067	12/14/17 15:04	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			15070	12/15/17 00:36	CBW	TAL SPK
Total/NA	Prep	3510C			233.3 mL	2 mL	15067	12/14/17 15:04	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		100			15092	12/18/17 15:47	NMI	TAL SPK
Total/NA	Prep	3510C			236.7 mL	2 mL	15118	12/19/17 16:21	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/20/17 01:06	NMI	TAL SPK

Client Sample ID: RR-2

Date Collected: 12/13/17 08:25

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-23

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15090	12/15/17 23:37	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15091	12/15/17 23:37	MRS	TAL SPK
Total/NA	Prep	3510C			250.7 mL	2 mL	15067	12/14/17 15:04	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			15070	12/15/17 01:02	CBW	TAL SPK
Total/NA	Prep	3510C			252.8 mL	2 mL	15118	12/19/17 16:21	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/20/17 01:24	NMI	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Client Sample ID: RR-5

Date Collected: 12/13/17 08:29

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-24

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15090	12/15/17 23:58	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15091	12/15/17 23:58	MRS	TAL SPK
Total/NA	Prep	3510C			248.4 mL	2 mL	15118	12/19/17 16:21	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/20/17 01:42	NMI	TAL SPK

Client Sample ID: RR-3

Date Collected: 12/13/17 09:15

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-25

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			251.3 mL	2 mL	15067	12/14/17 15:04	NMI	TAL SPK
Total/NA	Analysis	8270D SIM		1			15070	12/15/17 01:29	CBW	TAL SPK

Client Sample ID: E-22

Date Collected: 12/13/17 09:28

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-26

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15090	12/16/17 00:39	MRS	TAL SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	15091	12/16/17 00:39	MRS	TAL SPK
Total/NA	Prep	3510C			229.1 mL	2 mL	15118	12/19/17 16:21	NMI	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			15111	12/20/17 02:17	NMI	TAL SPK

Client Sample ID: Trip Blank

Date Collected: 12/11/17 00:01

Date Received: 12/14/17 11:45

Lab Sample ID: 590-7722-27

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	15090	12/16/17 00:59	MRS	TAL SPK

Laboratory References:

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

TestAmerica Spokane

Definitions/Glossary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

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.
F2	MS/MSD RPD exceeds control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside 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 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
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: AECOM, Inc.
Project/Site: Tacoma D St Terminal-Phillips 66/6053745

TestAmerica Job ID: 590-7722-1

Laboratory: TestAmerica Spokane

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C569	01-06-18

Analysis Method	Prep Method	Matrix	Analyte

TestAmerica Spokane
11922 E. 1st Ave.

Spokane, WA 99206
phone 509.924.9200 fax

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact		Project Manager: Craig Riley		Site Contact: Mark Tauscher		Date: 12/13/17	
AECOM		Tel/Fax: 503-478-2766		Lab Contact: Randee Arrington		Carrier:	
111 SW Columbia, Suite 1500		Analysis Turnaround Time		Filtered Sample (Y/N)		Perform MS/MSD (Y/N)	
Portland, Oregon 97201		<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS		8260B BTEX		8260B BTEX	
503-222-7200 Phone		TAT if different from Below		NWTPH-Gx		NWTPH-Dx	
Email: craig.riley@aecom.com		<input checked="" type="checkbox"/> 2 weeks		300.0 Sulfate		300.0 Nitrate (48 Hr. Hold Time)	
Project Name: D Street Terminal Tacoma, WA		<input type="checkbox"/> 1 week		6020 Dissolved Lead and Mn- Lab F		310.1 Alkalinity	
Site: P66 Terminal		<input type="checkbox"/> 2 days		6020 Total Lead		Naphthalenes SIMPAH8270	
P O # 60483190		<input type="checkbox"/> 1 day					
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	
B-34		12/11/17	11:10	G	W	3	
G-18			11:13	G	W	3	
FW-13			12:00	G	W	3	
T-2			12:04	G	W	9	
B-31			13:00	G	W	3	
RW-5R			13:09	G	W	3	
E-21			13:13	G	W	3	
RW-2			13:50	G	W	3	
RW-8			14:26	G	W	3	
DMW-4			15:10	G	W	3	
DMW-4 dup			15:21	G	W	3	
DMW-4			15:26	G	W	3	

Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Special Instructions/AC Requirements & Comments: Please Contact Craig Riley with questions

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Custody Seals Intact: ☒ Yes ☐ No

Relinquished by: *M. Tauscher* Company: *AECOM* Date/Time: *12/13/17 11:45*

Relinquished by: *Craig Riley* Company: *TestAmerica* Date/Time: *12/13/17*

Relinquished by: *Craig Riley* Company: *TestAmerica* Date/Time: *12/13/17*

Form No. CA

TestAmerica Spokane

11922 E. 1st Ave.
Spokane, WA 99206
phone 509.924.9200 fax

Chain of Custody Record



TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		Project Manager: Craig Riley		Site Contact: Mark Tauscher		Date: 12/13/17		COC No: 1 of 3 COCs	
AECOM		Tel/Fax: 503-478-2766		Lab Contact: Randee Arrington		Carrier:		Sampler: 1	
111 SW Columbia, Suite 1500		Analysis Turnaround Time		Perform MS / MSD (Y / N)				For Lab Use Only:	
Portland, Oregon 97201		<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS		8260B BTEX				Walk-in Client:	
503-222-7200 Phone		TAT if different from Below		NWTPH-Gx				Lab Sampling:	
Email: craig.riley@aecom.com		<input checked="" type="checkbox"/> 2 weeks		NWTPH-Dx				Job / SDG No.:	
Project Name: D Street Terminal Tacoma, WA		<input type="checkbox"/> 1 week		300.0 Sulfate				Sample Specific Notes:	
Site: P66 Terminal		<input type="checkbox"/> 2 days		300.0 Nitrate (48 Hr. Hold Time)					
P O # 60483190		<input type="checkbox"/> 1 day		6020 Dissolved Lead and Mn- Lab Fi					
Sample Identification				Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)
B-19				12/11/17	16:00			3	X
RR-4				12/12/17	08:10			3	X
RR-1					08:18			3	X
RR-6					09:12			3	X
T-3					10:49			3	X
B-25					11:30			3	X
FW-14					12:23			4	X
DMW-2					13:06			3	X
HC-111					14:10			3	X
FW-5R					14:45			4	X
RR-2				12/13/17	08:25			5	X
RR-5				12/13/17	08:29			3	X
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.									
Special Instructions/IC Requirements & Comments: Please Contact Craig Riley with questions									
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No									
Relinquished by: <i>Mel Felle</i> Company: <i>AECOM</i> Date/Time: <i>12/13/17 11:45</i>									
Relinquished by: <i>Donna Fong</i> Company: <i>TestAmerica</i> Date/Time: <i>12/14/17 11:45</i>									
Relinquished by: <i>Donna Fong</i> Company: <i>TestAmerica</i> Date/Time: <i>12/14/17 11:45</i>									

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc

[illegible]

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 590-7722-1

Login Number: 7722

List Source: TestAmerica Spokane

List Number: 1

Creator: Arrington, Randee E

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	
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	Preservation labels on samples match COC
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	

APPENDIX B

Data Review

To	Rebecca Tortorello, Project Manager	Info	FINAL
Subject	Summary Data Quality Review Phillips 66 – D Street Terminal, Tacoma Washington 2017 Fourth Quarter Groundwater Sampling		
From	Lucy Panteleeff, Chemist Jennifer B. Garner, Chemist		
Date	September 13, 2018		

The summary data quality review of 26 groundwater samples and 1 trip blank collected between December 11 and December 13, 2017, has been completed. The samples were analyzed at TestAmerica Laboratories, Incorporated (TA) located in Spokane, Washington for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260C; total petroleum hydrocarbons (TPHs) by Washington State Department of Ecology (Ecology) Methods NWTPH-Gx (gasoline-range TPH) and NWTPH-Dx (diesel-range and heavy oil-range TPH); and/or naphthalenes by EPA Method 8270D modified by selected ion monitoring (SIM). The laboratory provided a summary report containing sample results and associated quality assurance (QA) and quality control (QC) data for all samples. The following samples are associated with TA laboratory group 580-7722-1:

Sample ID	Laboratory ID	Requested Analyses
B-34	590-7722-1	BTEX, TPH-Gx, TPH-Dx
G-18	590-7722-2	Hold
FW-13	590-7722-3	BTEX, TPH-Gx, TPH-Dx
T-2	590-7722-4	BTEX, TPH-Gx, TPH-Dx
B-31	590-7722-5	BTEX, TPH-Gx, TPH-Dx
RW-5R	590-7722-6	BTEX, TPH-Gx, TPH-Dx
RW-5R dup (duplicate of RW-5R)	590-7722-7	BTEX, TPH-Gx, TPH-Dx
E-21	590-7722-8	Hold
RW-2	590-7722-9	Hold
RW-8	590-7722-10	BTEX, TPH-Gx, TPH-Dx
DMW-4	590-7722-11	BTEX, TPH-Gx, TPH-Dx
DMW-4 dup (duplicate of DMW-4)	590-7722-12	BTEX, TPH-Gx, TPH-Dx
B-19	590-7722-13	Hold
RR-4	590-7722-14	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
RR-1	590-7722-15	BTEX, TPH-Gx, TPH-Dx
RR-6	590-7722-16	Hold
T-3	590-7722-17	Hold
B-25	590-7722-18	BTEX, TPH-Gx, TPH-Dx
FW-14	590-7722-19	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
DMW-2	590-7722-20	BTEX, TPH-Gx, TPH-Dx
HC-111	590-7722-21	BTEX, TPH-Gx, TPH-Dx
FW-5R	590-7722-22	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
RR-2	590-7722-23	BTEX, TPH-Gx, TPH-Dx, Naphthalenes
RR-5	590-7722-24	BTEX, TPH-Gx, TPH-Dx
RR-3	590-7722-25	Naphthalenes
E-22	590-7722-26	BTEX, TPH-Gx, TPH-Dx
Trip Blanks	590-7722-27	BTEX



Summary Data Quality Review
Phillips 66 - D Street Terminal, Tacoma, Washington
2017 Fourth Quarter Groundwater Sampling
Laboratory Group: 580-7722-1

Data were evaluated based on validation criteria established in the *National Functional Guidelines for Organic Superfund Methods Data Review*, 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 these laboratory groups are included in Table 1. Qualifiers that may be assigned to results include:

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

Sample Receipt

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

The COC indicated that two vials were submitted for the trip blank; however, only one vial was present in the cooler. The trip blank was analyzed for BTEX as requested on the COC.

At the direction of AECOM, samples G-18, E-21, RW-2, B-19, RR-6, T-3, and RR-3 were not analyzed. Analysis for naphthalenes was authorized by AECOM for sample RR-3 on December 19, 2017.

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

Summary Data Quality Review
Phillips 66 - D Street Terminal, Tacoma, Washington
2017 Fourth Quarter Groundwater Sampling
Laboratory Group: 580-7722-1

2. Blanks – Acceptable

3. Surrogates – Acceptable except as noted below:

Naphthalenes by EPA Method 8270D-SIM – The percent recovery for nitrobenzene-d5 (219%) exceeded the control limits of 45-126% in the 100x dilution of FW-5R. The nitrobenzene-d5 recovery was acceptable in the 1x dilution of this sample; therefore, no data were qualified based on the elevated surrogate recovery in the 100x dilution.

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

5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable except as noted below:

General – MS/MSDs for all organic analyses except naphthalenes were performed using T-2. Precision and accuracy for naphthalenes were assessed using the LCS/LCSD results. Results for the MS/MSDs performed using T-2 were acceptable except as follows.

Gasoline by NWTPH-Gx – The relative percent difference (RPD) for gasoline in the MS/MSD pair (21%) exceeded the control limit of 20%. The percent recoveries for gasoline in the MS and MSD were acceptable; therefore, data were not qualified based on the elevated RPD.

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

General – Field duplicates were submitted for RW-5R and DMW-4 and identified as RW-5R dup and DMW-4 dup, respectively. Results were comparable.

7. Reporting Limits – Acceptable except as noted below:

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

The reporting limits for one or more analytes reported as not detected in multiple samples were slightly elevated due to limited sample volume. The elevated reporting limits do not affect the use of the data.

8. Other Items of Note:

Diesel-range TPH by NWTPH-Dx – The laboratory noted that the diesel-range TPH chromatographic patterns appear to be due to gasoline overlap, heavy weathering, and/or biogenic interferences in T-2, B-31, RW-5R, RW-5R dup, RW-8, DMW-4, DMW-4 dup, B-25, HC-111, FW-5R, DMW-2, RR-2, RR-5, and E-22.



Summary Data Quality Review
Phillips 66 - D Street Terminal, Tacoma, Washington
2017 Fourth Quarter Groundwater Sampling
Laboratory Group: 580-7722-1

Overall Assessment of Data

The data reported in this laboratory group, as reported, are considered to be usable for meeting project objectives. The completeness for TestAmerica laboratory group 580-7722-1 is 100%.

Table 1 - Summary of Qualified Data

Sample ID	Laboratory ID	Analyte	Laboratory Result	Units	Final Result	Reason Code
No data qualifiers were assigned to the results reported in laboratory group 580-7722-1 during this validation.						