

DRAFT—Issued for Regulatory Review

June 22, 2018

Mr. Nicholas Acklam
VCP/II-SHA/LUST Unit Supervisor
Toxics Cleanup Program – Southwest Regional Office
Washington State Department of Ecology
PO Box 47775
Olympia, Washington 98504-7775

BY EMAIL AND MAIL

**RE: COMPLIANCE GROUNDWATER MONITORING AND SAMPLING STATUS
REPORT – 2016
FORMER EVERGREEN FUEL FACILITY
661 EAST PINE STREET
SHELTON, WASHINGTON
FARALLON PN: 863-001**

Dear Mr. Acklam:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter to present the results of the February and August 2016 compliance groundwater monitoring and sampling events conducted at the former Evergreen Fuel Facility at 661 East Pine Street in Shelton, Washington (herein referred to as the Site) (Figure 1). The compliance groundwater monitoring and sampling was conducted to comply with the requirements set forth in the following:

- *Draft Cleanup Action Plan, Evergreen Fuel Facility, 661 East Pine Street, Shelton, Washington* dated July 18, 2006, prepared by Farallon (Draft Cleanup Action Plan);
- Agreed Order No. DE 3937 dated November 29, 2006, entered into by the Washington State Department of Ecology (Ecology) and C.C. Cole and Sons, Inc. and Chevron U.S.A., Inc. (AO);
- Letter regarding Transmittal of Ecology Comments on *Request for No Further Action Determination and Revised Groundwater Monitoring Status Report – May 2013, Evergreen Fuel Facility, 661 East Pine Street, Shelton Washington, Agreed Order No. DE*



3937, dated March 10, 2014 dated August 25, 2014, from Scott Rose of Ecology to Peter Jewett of Farallon (Ecology Comments Letter); and

- E-mail regarding Evergreen Fuels Monitoring dated August 6, 2015, from Jason Landskron of Ecology to Javan Ruark of Farallon (Ecology E-mail).

This letter includes a summary of the Site background information, details of the compliance groundwater monitoring and sampling, a discussion of the sampling results, and conclusions.

SITE BACKGROUND

A cleanup action was completed under the AO that was entered into by Ecology and potentially liable persons C.C. Cole and Sons, Inc. and Chevron U.S.A., Inc. The cleanup action was completed in accordance with the scope of work documented in Draft Cleanup Action Plan, which was reviewed and approved by Ecology.

Cleanup action activities completed in January 2007 included excavation and removal of 7,508 tons of soil containing the constituents of concern (COCs), which included total petroleum hydrocarbons as diesel-range organics (DRO), as gasoline-range organics, and as oil-range organics (ORO); and benzene, toluene, ethylbenzene, and xylenes (BTEX), at concentrations exceeding applicable regulatory cleanup levels. The excavation areas were backfilled with quarry spalls to above the water table at approximately 3 feet below ground surface. A total of 4,000 pounds of Advanced Oxygen Release Compound manufactured by Regenesis was mixed with the quarry spalls used for backfill beneath the water table prior to placement to enhance aerobic bioremediation of residual COCs in groundwater. Following completion of the excavation portion of the cleanup action, an Environmental Covenant was placed on the Site prohibiting use of groundwater as a potable water source at the Site, and identifying areas where contaminated soil could not practicably be removed due to the presence of the bulkhead retaining wall, State Route 3, and utilities along State Route 3 (Figure 2). The Site currently is unpaved and used as a parking lot for the Port of Shelton Marina.

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Following completion of the cleanup action, a total of eight groundwater monitoring and sampling events were conducted at the Site between April 2007 and May 2013 and included monitoring wells MW-8 through MW-10 (Figure 2). Monitoring wells MW-5 and MW-6 were monitored and sampled between April 2007 and January 2008, at which time sampling was discontinued based on analytical results identifying COCs at concentrations less than laboratory practical quantitation limits (PQLs). DRO was detected at concentrations exceeding the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A cleanup level in five of eight groundwater samples collected from monitoring well MW-10, but with an overall decreasing concentration trend in response to the prior cleanup activities and the ongoing natural attenuation of residual petroleum hydrocarbons. Concentrations of COCs either have been less than laboratory PQLs or less than MTCA Method A cleanup levels in samples collected from the four additional compliance monitoring wells since January 2008.

Farallon submitted a letter regarding Request for No Further Action Determination, Evergreen Fuel Facility, 661 East Pine Street, Shelton, Washington to Ecology on March 10, 2014. In the Ecology Comments Letter, Ecology indicated that additional performance soil and compliance groundwater monitoring and sampling were required to receive a No Further Action determination for the Site. The additional performance soil and compliance groundwater monitoring and sampling required by Ecology included the following:

- Collecting additional soil samples at locations where residual COCs were left in-place to determine whether current concentrations are less than their respective MTCA Method A cleanup levels for protection of groundwater. If concentrations of residual COCs still exceed MTCA Method A cleanup levels, the locations with the highest concentrations of DRO will be used to develop Site-specific Method B cleanup levels for direct contact and protection of groundwater.
- Performing semiannual groundwater monitoring and sampling at existing Site monitoring wells until MTCA Method A cleanup levels have been achieved and maintained for 1 year at all monitoring wells required to be sampled, as detailed in the AO. Once the groundwater

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analytical results indicate that COCs are less than MTCA Method A cleanup levels for 1 year, four consecutive quarters of groundwater monitoring and sampling will be conducted to demonstrate that MTCA Method A cleanup levels for groundwater have been achieved for the Site. Neither of these guidelines have been attained for DRO in monitoring well MW-10.

Ecology subsequently provided additional details regarding the compliance groundwater monitoring and sampling to occur at the Site. The details were provided in the Ecology E-mail and included the following:

- Compliance groundwater monitoring and sampling will be conducted in accordance the AO and will include monitoring wells MW-8 through MW-10; and
- Monitoring wells MW-5 and MW-6, which were buried during regrading activities for the parking lot at the Site, are to be located and decommissioned in accordance with Chapter 173-160 of the Washington Administrative Code (WAC 173-160).

The required compliance groundwater monitoring commenced in February 2016 and is described in the sections that follow. The required soil sampling work is postponed until groundwater quality meets MTCA Method A cleanup levels for all COCs at the Site.

COMPLIANCE GROUNDWATER MONITORING AND SAMPLING

Compliance groundwater monitoring and sampling events were conducted February 16 and August 23, 2016 at monitoring wells MW-8 through MW-10 (Figure 2). The compliance groundwater monitoring included measuring the depth to groundwater and collecting groundwater samples for laboratory analysis.

Upon Farallon's arrival at the Site, monitoring wells MW-8 through MW-10 were opened, and the water level was permitted to equilibrate with atmospheric pressure for a minimum of 15 minutes before groundwater levels in the wells were measured. Groundwater levels were measured to an accuracy of 0.01 foot using an oil-water interface probe.

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Monitoring wells MW-8 through MW-10 were purged and sampled using a peristaltic pump and dedicated polyethylene tubing at flow rates ranging from 150 to 200 milliliters per minute. The tubing intake was placed at approximately 2 to 3 feet below the top of the water table in each monitoring well. During purging, water quality was monitored using a Horiba water-quality meter equipped with a flow-through cell. The water quality parameters monitored and recorded included temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential. Each monitoring well was purged until water quality parameters temperature, pH, specific conductance, dissolved oxygen, and oxidation-reduction potential stabilized.

Following purging, groundwater samples were collected directly from the pump outlet tubing located upstream of the flow-through cell and placed directly into laboratory-prepared sample containers. The containers were placed on ice in a cooler and transported under standard chain-of-custody protocols to OnSite Environmental Inc. of Redmond, Washington for laboratory analysis for DRO and ORO by Northwest Method NWTPH-Dx. Analysis for GRO and BTEX was not performed based on the previous analytical data demonstrating that concentrations of GRO and/or BTEX were less than MTCA Method A cleanup levels in samples collected from the Site for four consecutive quarters. Ecology did not request analysis for GRO or BTEX in the Ecology Comments Letter.

Purge water generated during the compliance groundwater monitoring and sampling was placed into a labeled 16-gallon steel drum and stored on the Site. The purge water will be profiled and disposed of following the 2017 compliance groundwater monitoring and sampling events.

As requested by Ecology, Farallon attempted to locate monitoring wells MW-5 and MW-6 to be decommissioned in accordance with WAC 173-160, *Minimum Standards for Construction and Maintenance of Wells*. During the February and August 2016 compliance groundwater monitoring events, Farallon used a metal detector and a Global Positioning System unit to attempt to locate monitoring wells MW-5 and MW-6; however, due to the grading that was completed for the gravel parking lot on the Site, monitoring wells MW-5 and MW-6 were unable to be located.

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RESULTS

The results from the field activities and the laboratory analytical results for the compliance groundwater monitoring and sampling events conducted on February 16 and August 23, 2016 are presented below. The groundwater-level measurements and elevations are summarized in Table 1. Groundwater elevation contours for the February 16 and August 23, 2016 compliance groundwater monitoring events are shown on Figures 3 and 4, respectively. Groundwater analytical results are summarized in Table 2 and shown on Figure 5. Figures 6 and 7 depict the trends in concentrations of DRO and groundwater elevations at monitoring wells MW-9 and MW-10, respectively, where DRO has been detected at concentrations exceeding MTCA Method A cleanup levels since completion of the excavation portion of the cleanup action. The groundwater geochemical parameters are summarized in Table 3. The laboratory analytical reports are provided in Attachment A.

The February and August 2016 groundwater elevation data indicate a southeast groundwater flow direction toward Oakland Bay (Figures 3 and 4). During the February 2016 compliance groundwater monitoring event, groundwater levels were measured during a high tide cycle, which had a maximum height of 14.1 feet at 12:06 p.m. During the August 2016 compliance groundwater monitoring event, groundwater levels were measured during a high tide cycle, which had a maximum height of 12.2 feet at 10:55 a.m.

The results of the February and August 2016 groundwater analysis indicate that concentrations of DRO exceeding MTCA Method A cleanup levels persist at monitoring wells MW-9 and MW-10 (Table 2; Figure 5). The August 2016 compliance groundwater monitoring and sampling event is the first time that DRO has exceeded the MTCA Method A cleanup level at monitoring well MW-9. Concentrations of ORO remain less than laboratory PQLs in monitoring wells MW-8 through MW-10.

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CONCLUSIONS

The DRO concentration trend at monitoring well MW-10 indicates that concentrations of DRO historically have correlated with groundwater elevation data prior to 2013 (Figure 7). This correlation indicates that residual soil contamination proximate to the monitoring well was desorbing from the soil matrix at times when groundwater was in direct contact with the affected soil. However, concentrations of DRO have been elevated since 2013 with no apparent correlation with groundwater elevations, indicating that another area of DRO-affected soil in contact with groundwater is contributing to the DRO concentrations at monitoring well MW-10. The residual soil contamination likely is up- or cross-gradient of monitoring well MW-10.

The historical groundwater analytical data for monitoring well MW-9 suggests that the sudden spike of DRO is either an anomalous occurrence or is also associated with an up-gradient area of DRO-affected soil in contact with groundwater that has migrated to the area of monitoring well MW-9. Additional groundwater data will be required to evaluate the nature of the elevated DRO concentrations at monitoring well MW-9.

The results from the compliance groundwater sampling conducted from 2007 to 2016 demonstrate that soil contamination left in-place is continuing to result in an exceedance of the MTCA Method A cleanup level for DRO in groundwater, and that further compliance groundwater monitoring and sampling is warranted at the Site to comply with the AO.

Monitoring wells MW-5 and MW-6, which have been previously sampled, were not located during the February and August 2016 compliance groundwater monitoring and sampling events because parking lot grading activities appear to have covered these monitoring well locations. Farallon will evaluate other alternatives to locating monitoring wells MW-5 and MW-6 during the compliance groundwater and sampling that will be conducted in 2017 as part of the AO.

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CLOSING

Farallon trusts that this report provides sufficient information for your needs. Please contact either of the undersigned at (425) 295-0800 if you have questions or require additional information.

Sincerely,

Farallon Consulting, L.L.C.

Javan Ruark, L.G.
Associate Geologist

Jeffrey Kaspar, L.G., L.H.G.
Principal Geologist

Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Site Plan*
Figure 3, *Groundwater Elevation Contours and Flow Direction, February 16, 2016*
Figure 4, *Groundwater Elevation Contours and Flow Direction, August 23, 2016*
Figure 5, *Groundwater Analytical Data*
Figure 6, *DRO Concentrations versus Groundwater Elevation Data Trends for Monitoring Well MW-9*
Figure 7, *DRO Concentrations versus Groundwater Elevation Data Trends for Monitoring Well MW-10*
Table 1, *Summary of Groundwater Elevation Data*
Table 2, *Summary of Groundwater Analytical Results*
Table 3, *Summary of Groundwater Geochemical Parameters*
Attachment A, *Laboratory Analytical Results*

cc: Ian Sutton, Joyce Ziker Parkinson, PLLC (by email)
Brandon Palmer, Port of Shelton (by email)
Dan Carrier, Chevron U.S.A. Inc (be email)

JR/JK:mm

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FIGURES

**COMPLIANCE GROUNDWATER MONITORING AND SAMPLING
STATUS REPORT – 2016
Former Evergreen Fuel Facility
661 East Pine Street
Shelton, Washington**

Farallon PN: 863-001



REFERENCE: 7.5 MINUTE USGS QUADRANGLE SHELTON, WASHINGTON, DATED 2011

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Drawn By: sgraynier

Checked By: JR

Date: 6/6/2018

Disc Reference:

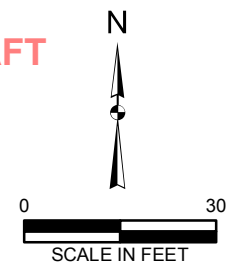
FIGURE 1
SITE VICINITY MAP
FORMER EVERGREEN FUEL FACILITY
661 EAST PINE STREET
SHELTON, WASHINGTON
FARALLON PN: 863-001

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- LEGEND**
- APPROXIMATE SITE BOUNDARY
 - + MONITORING WELL
 - FIRE HYDRANT
 - UTILITY POLE

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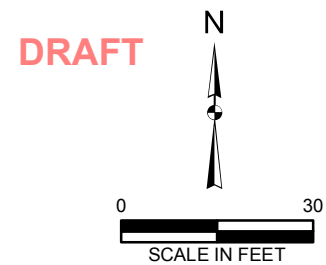
FIGURE 2
SITE PLAN
FORMER EVERGREEN FUEL FACILITY
661 EAST PINE STREET
SHELTON, WASHINGTON

FARALLON PN: 863-001



- LEGEND**
- MONITORING WELL
 - FIRE HYDRANT
 - UTILITY POLE
 - FORMER EXCAVATION AREAS
 - APPROXIMATE SITE BOUNDARY
 - RESIDUAL SOIL CONTAMINATION AREAS

- 12.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- (10.63) GROUNDWATER ELEVATION (2/16/16)



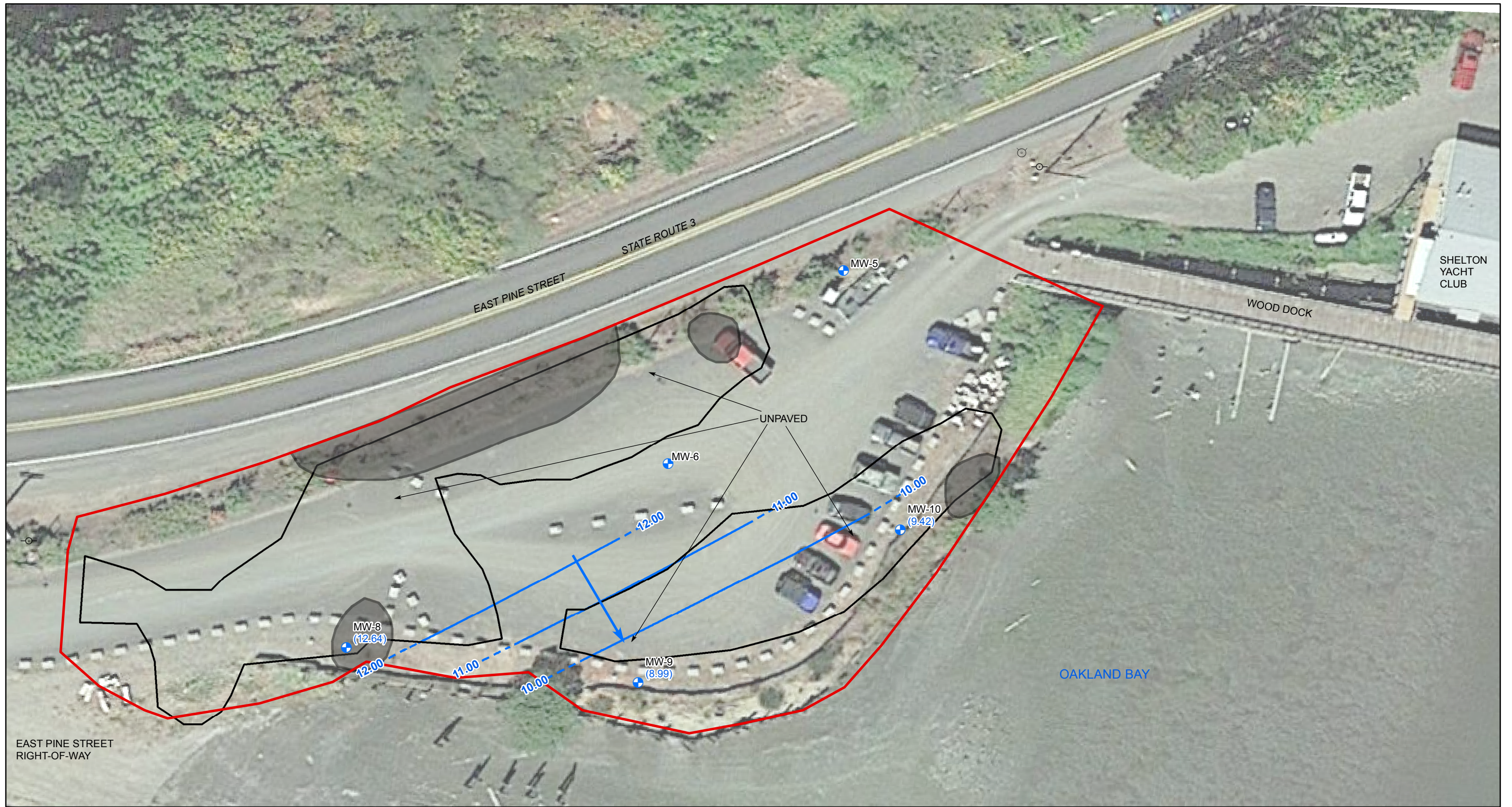
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FIGURE 3
GROUNDWATER ELEVATION CONTOURS
AND FLOW DIRECTION
FEBRUARY 16, 2016
FORMER EVERGREEN FUEL FACILITY
661 EAST PINE STREET
SHELTON, WASHINGTON
FARALLON PN: 863-001

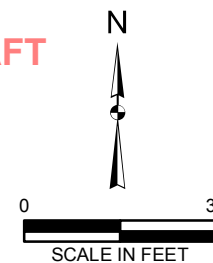


LEGEND

- MONITORING WELL
- ⊙ FIRE HYDRANT
- ⊖ UTILITY POLE
- FORMER EXCAVATION AREAS
- APPROXIMATE SITE BOUNDARY
- RESIDUAL SOIL CONTAMINATION AREA

- - - 12.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- (12.64) GROUNDWATER ELEVATION (8/23/16)

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FIGURE 4
GROUNDWATER ELEVATION CONTOURS
AND FLOW DIRECTION
AUGUST 23, 2016
FORMER EVERGREEN FUEL FACILITY
661 EAST PINE STREET
SHELTON, WASHINGTON

FARALLON PN: 863-001

Drawn By: pemahiser

Checked By: JR

Date: 2/2/2017

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Figure 6
DRO Concentrations versus Groundwater Elevation Data Trends for Monitoring Well MW-9
Former Evergreen Fuel Facility
Shelton, Washington
Farallon PN: 863-001

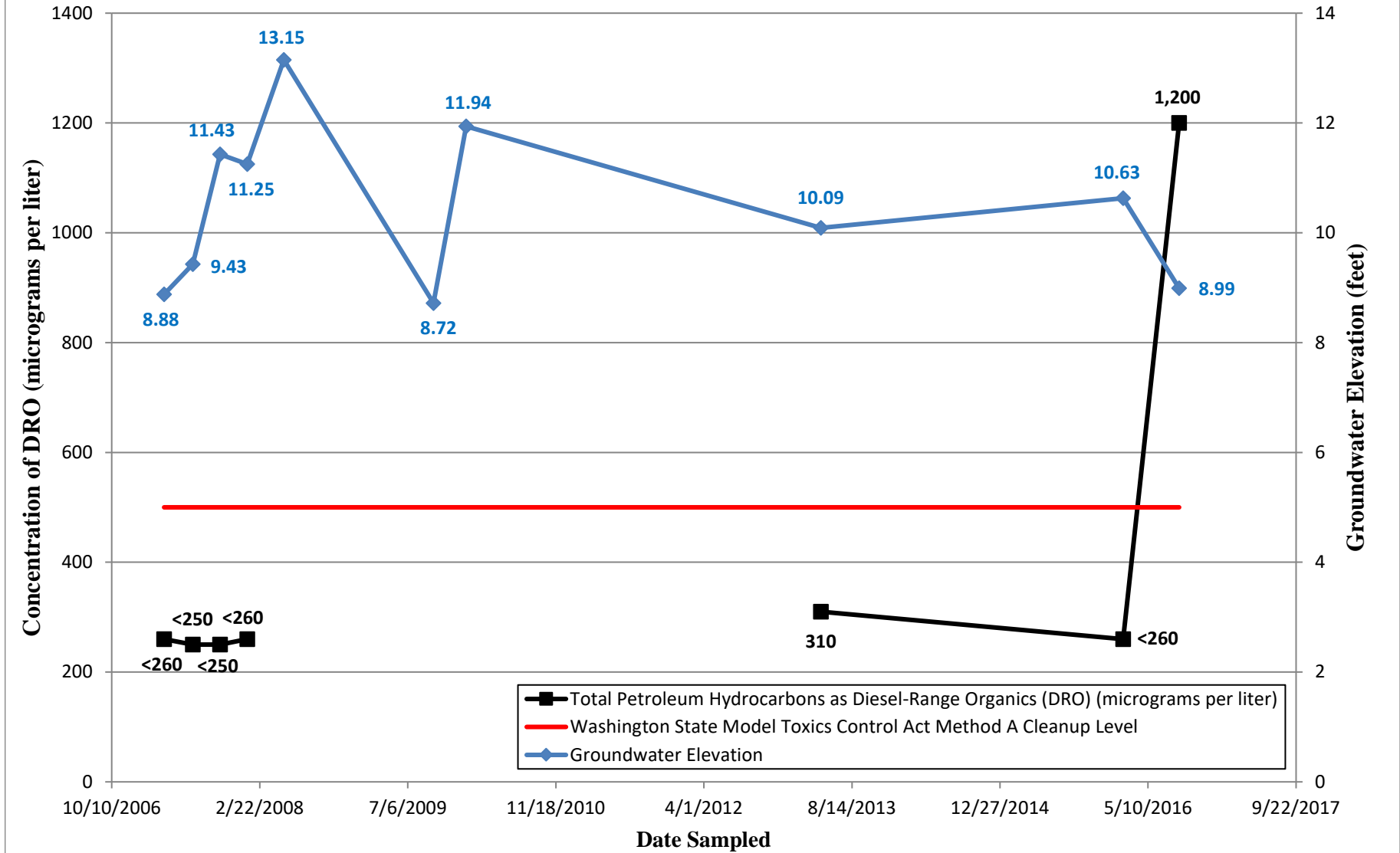
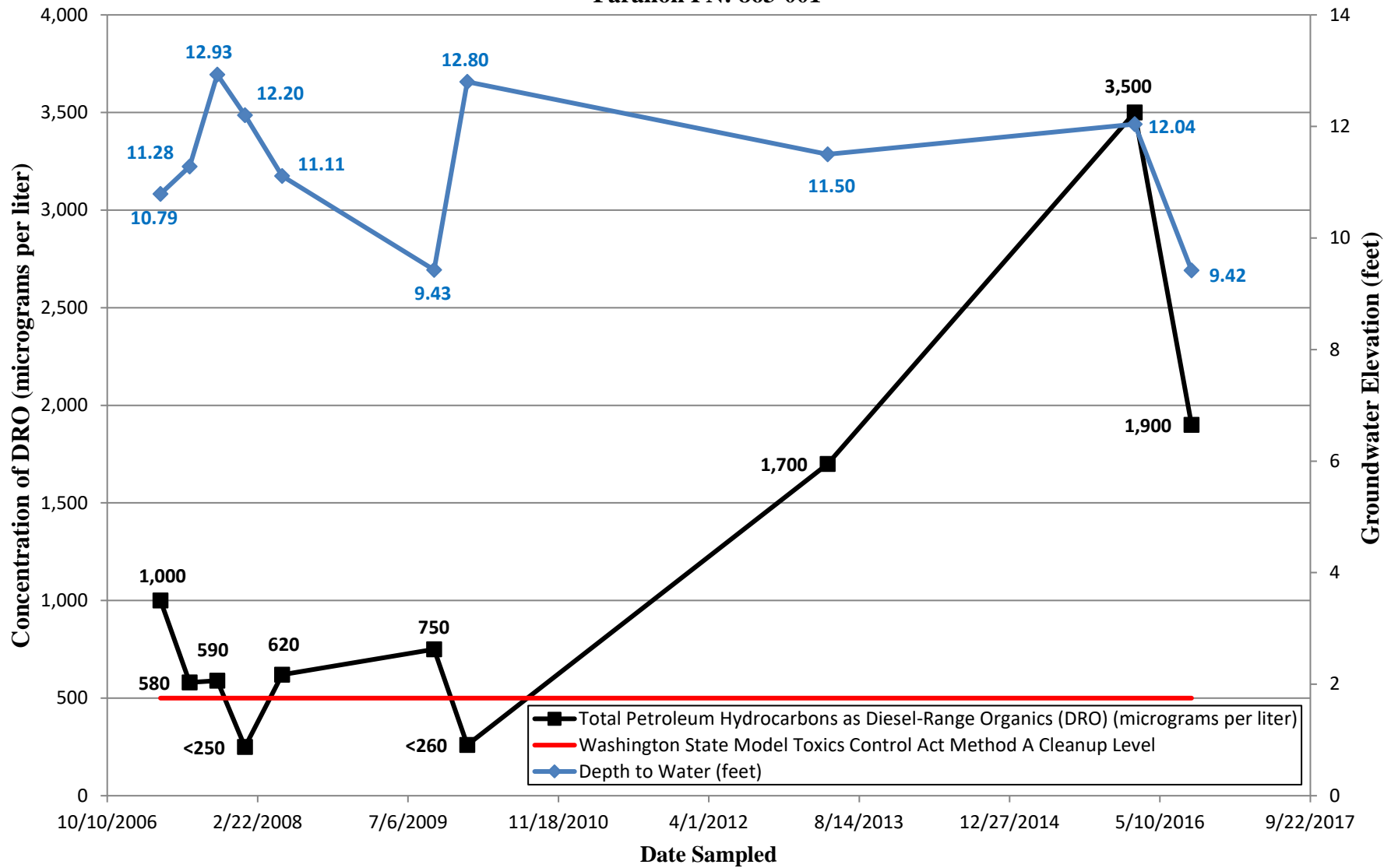


Figure 7
DRO Concentrations versus Groundwater Elevation Data Trends for Monitoring Well MW-10
Former Evergreen Fuel Facility
Shelton, Washington
Farallon PN: 863-001



TABLES

**COMPLIANCE GROUNDWATER MONITORING AND SAMPLING
STATUS REPORT – 2016
Former Evergreen Fuel Facility
661 East Pine Street
Shelton, Washington**

Farallon PN: 863-001

Table 1
Summary of Groundwater Elevation Data
Former Evergreen Fuel Facility
Shelton, Washington
Farallon PN: 863-001

Well Identification	Well Screened Interval (feet bgs) ¹	Top of Monument Elevation ²	Top of Casing Elevation ²	Date Measured	Depth to Water (feet) ³	Groundwater Elevation ²
MW-5	5-15	16.94	16.46	4/5/2007	8.13	8.33
				7/11/2007	7.4	9.06
				10/11/2007	6.57	9.89
				1/11/2008	7.19	9.27
				5/13/2008	NM	NA
				10/1/2009	NM	NA
				1/19/2010	NM	NA
				5/1/2013	NM	NA
				2/16/2016	NM	NA
				8/23/2016	NM	NA
MW-6	3-12	14.93	14.47	4/5/2007	6.24	8.23
				7/11/2007	5.29	9.18
				10/11/2007	4.4	10.07
				1/11/2008	5.1	9.37
				5/13/2008	NM	NA
				10/1/2009	NM	NA
				1/19/2010	NM	NA
				5/1/2013	NM	NA
				2/16/2016	NM	NA
				8/23/2016	NM	NA
MW-8	3-15	18.85	18.48	4/5/2007	6.1	12.38
				7/11/2007	5.18	13.3
				10/11/2007	4.86	13.62
				1/11/2008	5.08	13.4
				5/13/2008	9.27	9.21
				10/1/2009	6.62	11.86
				1/19/2010	4.60	13.88
				5/1/2013	5.35	13.13
				2/16/2016	4.75	13.73
				8/23/2016	5.84	12.64
MW-9	3-15	19.25	18.93	4/5/2007	10.05	8.88
				7/11/2007	9.50	9.43
				10/11/2007	7.50	11.43
				1/11/2008	7.68	11.25
				5/13/2008	5.78	13.15
				10/1/2009	10.21	8.72
				1/19/2010	6.99	11.94
				5/1/2013	8.84	10.09
				2/16/2016	8.3	10.63
				8/23/2016	9.94	8.99

Table 1
Summary of Groundwater Elevation Data
Former Evergreen Fuel Facility
Shelton, Washington
Farallon PN: 863-001

Well Identification	Well Screened Interval (feet bgs) ¹	Top of Monument Elevation ²	Top of Casing Elevation ²	Date Measured	Depth to Water (feet) ³	Groundwater Elevation ²
MW-10	2-17	20.26	19.93	4/5/2007	9.14	10.79
				7/11/2007	8.65	11.28
				10/11/2007	7.00	12.93
				1/11/2008	7.73	12.20
				5/13/2008	8.82	11.11
				10/1/2009	10.5	9.43
				1/19/2010	7.13	12.80
				5/1/2013	8.43	11.50
				2/16/2016	7.89	12.04
				8/23/2016	10.51	9.42

NOTES:

¹Screened interval in feet below ground surface (bgs).

²Elevations relative to vertical survey datum that is based on a mean lower low water (MLLW) elevation of 44.11 feet and referenced from a Washington State Department of Transportation brass cap set in monument with a published elevation of 47.58 feet NAV.

³Depth to water measured in feet below the top of the well casing.

NM = not measured

NA = not available

Table 2
Summary of Groundwater Analytical Results
Former Evergreen Fuel Facility
Shelton, Washington
Farallon PN: 863-001

Sample Identification	Sample Location	Sample Date	Analytical Results (micrograms per liter)						
			GRO ¹	DRO ²	ORO ²	Benzene ³	Toluene ³	Ethylbenzene ³	Total Xylenes ³
MW5-040507	MW-5	4/5/2007	<100	<270	<430	<1.0	<1.0	<1.0	<1.0
MW5-071107		7/11/2007	<100	<250	<400	<1.0	<1.0	<1.0	<1.0
MW5-101107		10/11/2007	<100	<250	<400	<1.0	<1.0	<1.0	<1.0
MW5-011108		1/11/2008	<100	<250	<400	<1.0	<1.0	<1.0	<1.0
NS		5/13/2008	--	--	--	--	--	--	--
NS		10/1/2009	--	--	--	--	--	--	--
NS		1/19/2010	--	--	--	--	--	--	--
NS		5/1/2013	--	--	--	--	--	--	--
NS		2/16/2016	--	--	--	--	--	--	--
NS		8/23/2016	--	--	--	--	--	--	--
MW6-040507	MW-6	4/5/2007	<100	<260	<410	<1.0	<1.0	<1.0	<1.0
MW6-071107		7/11/2007	<100	<250	<400	<1.0	<1.0	<1.0	<1.0
MW6-101107		10/11/2007	<400	<250	<400	<4.0	<4.0	<4.0	<4.0
MW6-011108		1/11/2008	<100	<250	<410	<1.0	<1.0	<1.0	<1.0
NS		5/13/2008	--	--	--	--	--	--	--
NS		10/1/2009	--	--	--	--	--	--	--
NS		1/19/2010	--	--	--	--	--	--	--
NS		5/1/2013	--	--	--	--	--	--	--
NS		2/16/2016	--	--	--	--	--	--	--
NS		8/23/2016	--	--	--	--	--	--	--
MW8-040507	MW-8	4/5/2007	190 ⁴	<250	<410	1.4	<1.0	<1.0	4.0
MW8-071107		7/11/2007	<100	<250	<400	2.6	<1.0	<1.0	<1.0
MW8-101107		10/11/2007	<100	<250	<400	5.7	<1.0	<1.0	<1.0
MW8-011108		1/11/2008	<100	<270	<440	<1.0	<1.0	<1.0	<1.0
MW8-051308		5/13/2008	<100	<270	<430	2.7	<1.0	<1.0	<1.0
MW8-100109		10/1/2009	--	<250	<400	1.4	--	--	--
MW8-011910		1/19/2010	--	<260	<410	<1.0	--	--	--
MW-8-050113		5/1/2013	<100	<250	<410	<1.0	<1.0	<1.0	<2.0
MW-8-021616		2/16/2016	--	<260	<410	--	--	--	--
MW-8-082316		8/23/2016	--	280	<410	--	--	--	--
MW9-040507	MW-9	4/5/2007	<100	<260	<410	<1.0	<1.0	<1.0	<1.0
MW9-071107		7/11/2007	<100	<250	<400	<1.0	<1.0	<1.0	<1.0
MW9-101107		10/11/2007	<100	<250	<410	<1.0	<1.0	<1.0	<1.0
MW9-011108		1/11/2008	<100	<260	<410	<1.0	<1.0	<1.0	<1.0
MW-9-050113		5/1/2013	<100	310	<400	<1.0	<1.0	<1.0	<2.0
MW-9-021616		2/16/2016	--	<260	<410	--	--	--	--
MW-9-082316		8/23/2016	--	1,200	<550 U1	--	--	--	--
MW10-040507		MW-10	4/5/2007	<400	1,000	<420	<4.0	<4.0	<4.0
MW10-071107	7/11/2007		<100	580	<400	<1.0	<1.0	<1.0	<1.0
MW10-101107	10/11/2007		<400	590	<400	<4.0	<4.0	<4.0	<4.0
MW10-011108	1/11/2008		<100	<250	<410	<1.0	<1.0	<1.0	<1.0
MW10-051308	5/13/2008		220	620	<430	<1.0	<1.0	<1.0	<1.0
MW10-100109	10/1/2009		--	750	<410	<1.0	--	--	--
MW10-011910	1/19/2010		--	<260	<410	<1.0	--	--	--
MW-10-050113	5/1/2013		<100	1,700	<410	<1.0	<1.0	<1.0	<2.0
MW-10-021616	2/16/2016		--	3,500	<410	--	--	--	--
MW-10-021616	8/23/2016		--	1,900	<640 U1	--	--	--	--
MTCA Method A Cleanup Levels⁵			800/1,000⁶	500	500	5	1,000	700	1,000

NOTES:

Results in **bold** denote concentrations above applicable cleanup levels.

< denotes analyte not detected at or above the reporting limit listed.

-- denotes sample not analyzed

¹Analyzed by Northwest Method NWTPH-Gx.

²Analyzed by Northwest Method NWTPH-Dx.

³Analyzed by U.S. Environmental Protection Agency (EPA) Method 8260B.

⁴Laboratory analytical report indicates gasoline results are being influenced by the presence of diesel.

⁵Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code as revised November 2013.

⁶The cleanup level for GRO is without/with the presence of benzene.

DRO = total petroleum hydrocarbons as diesel-range organics

GRO = total petroleum hydrocarbons as gasoline-range organics

NS = not sampled

ORO = total petroleum hydrocarbons as oil-range organics

QA/QC = quality assurance/quality control

U1 = the practical quantitation limit is elevated due to interferences present in the sample

Table 3
Summary of Groundwater Geochemical Parameters
Former Evergreen Fuel Facility
Shelton, Washington
Farallon PN: 863-001

Well Identification	Sample Date	Geochemical Results				
		Temperature (°C)	Specific Conductance (mS/cm)	pH (pH units)	Dissolved Oxygen (mg/l)	Oxidation-Reduction Potential (mV)
MW-5	4/5/2007	12.4	0.131	6.12	0.65	471.1
	7/11/2007	19.65	0.147	4.77	1.03	413.2
	10/11/2007	14.96	0.143	6.74	0.91	-10.4
	1/11/2008	11.97	0.177	6.30	0.47	99.9
	5/13/2008	NS	NS	NS	NS	NS
	10/1/2009	NS	NS	NS	NS	NS
	1/19/2010	NS	NS	NS	NS	NS
	2/16/2016	NS	NS	NS	NS	NS
	8/23/2016	NS	NS	NS	NS	NS
MW-6	4/5/2007	11.3	0.393	6.00	0.49	428.2
	7/11/2007	19.25	0.421	4.33	0.94	381.8
	10/11/2007	13.75	0.322	6.77	0.78	-82.8
	1/11/2008	9.6	0.32	6.70	0.74	-35.5
	5/13/2008	NS	NS	NS	NS	NS
	10/1/2009	NS	NS	NS	NS	NS
	1/19/2010	NS	NS	NS	NS	NS
	2/16/2016	NS	NS	NS	NS	NS
	8/23/2016	NS	NS	NS	NS	NS
MW-8	4/5/2007	11.43	0.270	6.70	1.29	443.6
	7/11/2007	21.54	0.386	4.12	0.93	511.9
	10/11/2007	14.59	0.323	7.17	1.62	68.2
	1/11/2008	8.38	0.252	7.37	2.48	-30.4
	5/13/2008	12.1	0.346	7.05	0.98	-44.4
	10/1/2009	17.53	0.468	7.21	4.22	-76
	1/19/2010	9.66	0.12	6.97	6.7	49.7
	5/1/2013	14.83	0.204	6.22	2.06	-7
	2/16/2016	10.62	0.092	6.64	4.37	147
8/23/2016	21.60	0.235	6.72	0.61	-26	
MW-9	4/5/2007	12.44	0.361	6.12	3.57	478.6
	7/11/2007	21.25	0.56	4.64	3.41	420
	10/11/2007	15.11	0.326	6.57	6.4	79.8
	1/11/2008	8.66	0.129	7.25	1.92	69.5
	5/13/2008	NS	NS	NS	NS	NS
	10/1/2009	NS	NS	NS	NS	NS
	1/19/2010	NS	NS	NS	NS	NS
	5/1/2013	16.20	0.135	6.25	0.89	-25
	2/16/2016	10.61	0.150	6.59	2.23	85
8/23/2016	21.80	0.860	6.78	0.54	-40	

Table 3
Summary of Groundwater Geochemical Parameters
Former Evergreen Fuel Facility
Shelton, Washington
Farallon PN: 863-001

Well Identification	Sample Date	Geochemical Results				
		Temperature (°C)	Specific Conductance (mS/cm)	pH (pH units)	Dissolved Oxygen (mg/l)	Oxidation-Reduction Potential (mV)
MW-10	4/5/2007	11.84	0.252	5.87	0.96	480.3
	7/11/2007	20.54	0.316	5.77	0.73	175
	10/11/2007	15.07	0.309	6.56	0.48	-12.7
	1/11/2008	9.4	0.141	6.66	6.13	109.8
	5/13/2008	12.21	0.209	6.72	1.28	-57.8
	10/1/2009	17.16	0.379	6.80	0.07	-91.8
	1/19/2010	10.65	0.108	6.72	1.95	23.2
	5/1/2013	13.99	0.133	5.99	1.00	-16
	2/16/2016	11.33	0.274	6.24	0.88	44
	8/23/2016	18.31	0.343	6.69	0.79	-70

NOTES:

°C = degrees Celsius
mS/cm = millisemens per centimeter
mg/l = milligrams per liter
mV = millivolts
NS = not sampled

**ATTACHMENT A
LABORATORY ANALYTICAL REPORTS**

COMPLIANCE GROUNDWATER MONITORING AND SAMPLING
STATUS REPORT – 2016
Former Evergreen Fuel Facility
661 East Pine Street
Shelton, Washington

Farallon PN: 863-001



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

February 24, 2016

Javan Ruark
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 863-001
Laboratory Reference No. 1602-110

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on February 17, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal stroke extending to the right.

David Baumeister
Project Manager

Enclosures

Date of Report: February 24, 2016
Samples Submitted: February 17, 2016
Laboratory Reference: 1602-110
Project: 863-001

Case Narrative

Samples were collected on February 16, 2016 and received by the laboratory on February 17, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: February 24, 2016
 Samples Submitted: February 17, 2016
 Laboratory Reference: 1602-110
 Project: 863-001

NWTPH-Dx

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-10-021616					
Laboratory ID:	02-110-01					
Diesel Range Organics	3.5	0.26	NWTPH-Dx	2-22-16	2-22-16	
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	2-22-16	2-22-16	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	111	50-150				
Client ID:	MW-9-021616					
Laboratory ID:	02-110-02					
Diesel Range Organics	ND	0.26	NWTPH-Dx	2-22-16	2-22-16	
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	2-22-16	2-22-16	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	108	50-150				
Client ID:	MW-8-021616					
Laboratory ID:	02-110-03					
Diesel Range Organics	ND	0.26	NWTPH-Dx	2-22-16	2-22-16	
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	2-22-16	2-22-16	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	110	50-150				

Date of Report: February 24, 2016
 Samples Submitted: February 17, 2016
 Laboratory Reference: 1602-110
 Project: 863-001

**NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0222W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	2-22-16	2-22-16	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	2-22-16	2-22-16	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>105</i>	<i>50-150</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	02-110-01							
	ORIG	DUP						
Diesel Range Organics	3.53	3.31	NA	NA	NA	NA	6	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>			<i>111</i>	<i>107</i>	<i>50-150</i>			



Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference



OnSite Environmental Inc.
 Analytical Laboratory Testing Services
 14648 NE 95th Street • Redmond, WA 98052
 Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Turnaround Request
(In working days)
(Check One)

Laboratory Number:

02-110

Company: Facallon
 Project Number: 863-001

Same Day
 1 Day
 2 Days
 3 Days

Project Name: Evergreen Fuel Facility
 Project Manager: Javan Rank

Standard (7 Days)
(T/PH analysis 5 Days)

(other) _____

Sampled by: Ryan Ostrow

Lab ID

Date Sampled

Time Sampled

Matrix

Number of Containers		
NWTPH-HCID		
NWTPH-Gx/BTEX		
NWTPH-Gx		
NWTPH-Dx		
Volatiles 8260C		
Halogenated Volatiles 8260C		
Semivolatiles 8270D/SIM (with low-level PAHs)		
PAHs 8270D/SIM (low-level)		
PCBs 8082A		
Organochlorine Pesticides 8081B		
Organophosphorus Pesticides 8270D/SIM		
Chlorinated Acid Herbicides 8151A		
Total RCRA Metals		
Total MTCA Metals		
TCLP Metals		
HEM (oil and grease) 1664A		
% Moisture		

Sample Identification
 1 MW-10-021616
 2 MW-9-021616
 3 MW-8-021616

2/16/16 1513 W 2
 ↓ 1553 W ↓
 ↓ 1622 W ↓

2
 2
 X
 X
 X

RO

Signature

Company

Date

Time

Comments/Special Instructions

Relinquished
 Received
 Relinquished
 Received
 Relinquished
 Received
 Relinquished
 Received
 Relinquished
 Received
 Relinquished
 Received
 Relinquished

Facallon
OnSite

2/17/16 1345
 2-17-16 1345

Reviewed/Date

Reviewed/Date

Chromatograms with final report



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

August 31, 2016

Javan Ruark
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 863-001
Laboratory Reference No. 1608-301

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on August 24, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal stroke extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 31, 2016
Samples Submitted: August 24, 2016
Laboratory Reference: 1608-301
Project: 863-001

Case Narrative

Samples were collected on August 23, 2016 and received by the laboratory on August 24, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: August 31, 2016
 Samples Submitted: August 24, 2016
 Laboratory Reference: 1608-301
 Project: 863-001

NWTPH-Dx

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-10-082316					
Laboratory ID:	08-301-01					
Diesel Range Organics	1.9	0.25	NWTPH-Dx	8-29-16	8-29-16	
Lube Oil Range Organics	ND	0.64	NWTPH-Dx	8-29-16	8-29-16	U1
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	99	50-150				
Client ID:	MW-9-082316					
Laboratory ID:	08-301-02					
Diesel Range Organics	1.2	0.26	NWTPH-Dx	8-29-16	8-29-16	
Lube Oil Range Organics	ND	0.55	NWTPH-Dx	8-29-16	8-29-16	U1
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	97	50-150				
Client ID:	MW-8-082316					
Laboratory ID:	08-301-03					
Diesel Range Organics	0.28	0.25	NWTPH-Dx	8-29-16	8-29-16	
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	8-29-16	8-29-16	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	91	50-150				



Date of Report: August 31, 2016
 Samples Submitted: August 24, 2016
 Laboratory Reference: 1608-301
 Project: 863-001

**NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0829W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	8-29-16	8-29-16	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	8-29-16	8-29-16	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	93	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	08-301-03							
	ORIG	DUP						
Diesel Range Organics	0.278	0.259	NA	NA	NA	NA	7	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				91	87	50-150		





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference



Chain of Custody

Company: **Parallon**
 Project Number: **863-001**
 Project Name: **Evergreen Fuel Facility**
 Project Manager: **Javan Ruark**
 Sampled by: **Daniel Aguilar**



**Turnaround Request
(in working days)**

(Check One)

Same Day 1 Day
 2 Days 3 Days
 Standard (7 Days)
 (TPH analysis 5 Days)
 _____ (other)

Laboratory Number: **08-301**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total FCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	% Moisture	
1	MW-10-082316	8/23/16	1036	H ₂ O	2				X														
2	MW-9-082316	↓	1139	↓	2				X														
3	MW-8-082316	↓	1228	↓	2				X														

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished		Parallon	8/23/16	1740	
Received		OSE	8/23/16	1400	
Relinquished					
Received					
Relinquished					
Received					
Reviewed/Date		Reviewed/Date			Chromatograms with final report <input type="checkbox"/>