



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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August 2, 2017

Patricia Jackman
Lakeside 24 Hour Fuel
16835 Lewis River Rd.
Cougar, WA 98616

Re: No Further Action at the following Site:

- **Site Name:** Lakeside 24 Hour Fuel
- **Site Address:** 16835 Lewis River Rd Cougar, 98616, Cowlitz County
- **Facility/Site No.:** 15218
- **Cleanup Site No.:** 13289
- **VCP Project No.:** SW1593

Dear Ms. Jackman:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Lakeside 24 Hour Fuel facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Ecology has determined that no further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Gasoline range total petroleum hydrocarbons (TPH-G) into the Soil.
- Ethyl benzene into the Soil.
- Xylenes into the Soil

- Naphthalene into the Soil.
- Lead into the Soil.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. EVREN Northwest Inc. (EVREN), *Focused Site Investigation*, May 25, 2017
2. EVREN, Letter to Ecology; RE: 24-Hour Fuel LLC, 16835 Lewis River road, Cougar, Washington 98616, June 27, 2017.

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **no further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A**. The activities conducted are sufficient to characterize the Site, establish cleanup standards, and select a cleanup action. EVREN's Figure 3 showing the Site and sampling points, and EVREN's Table 1 showing analytical results are included in **Enclosure A**. The work conducted at the Site to date includes;

- EVREN conducted a Phase I Environmental Site Assessment (PI) in 2016. The PI revealed that the underground storage tank(s) (UST) had been replaced in 1996, but no evidence of sample collection was identified.

- Due to the lack of sample collection associated with the 1996 UST replacement, EVREN conducted a Phase II Environmental Site Assessment (PII) in 2017 that consisted of a geophysical survey and advancing eight soil borings.
- All soil samples were analyzed for the presence of petroleum hydrocarbons by Method TPH-HCID. Only one sample (B01-11) indicated the presence of petroleum hydrocarbons (gasoline range), and was further analyzed for TPH-G, lead, and applicable volatile organic compounds (VOCs).
- TPH-G was present in sample B01-11 at a concentration of 620 mg/Kg which is above the Method A CUL, but lower than the Model Remedy¹ total petroleum hydrocarbon CUL of 1,500 mg/Kg.
- Lead, ethylbenzene, naphthalene, and xylene were present in the sample below the MTCA Method A CULs.
- All other VOC were below the laboratory detection limit.
- The soil samples collected at a shallower depth and deeper depth in this same boring (B01-5, and B01-13.5) did not show the presence of any petroleum hydrocarbons by method TPH-HCID.
- EVREN demonstrated in their 2017 letter to Ecology that the Site meets the requirements of Ecology's Model Remedies for Sites with Petroleum Contaminated Soils Model Remedy No. 4. The following requirements for Model Remedies with impacts to soil have been met:
 - The Site was limited to only petroleum contamination. Given the history of the Site (summarized in **Enclosure A**), gasoline, diesel, and oil would be the only expected contaminants, therefore only TPH-G, TPH-D, and TPH-O were the contaminants initially analyzed for using method TPH-HCID. The sampling location that indicated the presence of TPH-G was further analyzed for TPH-G, and gasoline related constituents of concern.
 - Only soil is impacted. Groundwater was not encountered in any of borings completed at the Site and appears to be located at a depth greater than the contamination (approximately 100-feet bgs) according to area water well logs. Ecology does not consider groundwater to be at risk of contamination. Ecology does not consider the soil vapor to be impacted do to the low concentrations of VOCs present in the soil.
 - The Site qualifies for a simplified Terrestrial Ecological Evaluation (TEE).

¹ Department of Ecology; State of Washington, Model remedies for Sites with Petroleum Contaminated Soils; Publication No. 15-09-043, September 2015.

- Although no soils were removed after the contamination was discovered by EVREN during the PII activities, it can be reasonably assumed that some amount of soil was removed during the UST upgrade and during the removal of the old dispenser islands. Since the contamination present is already below the applicable CUL, no additional soil removal is required.
- The 1,500 mg/Kg total TPH is being used for the MTCA Method B TPH CUL.
- Direct comparison of sample results to CULs is being use for the Site.

The exposure pathways for the Site as Ecology currently understands them are;

Soil-Direct Contact:

Incomplete. TPH-G is below the Model Remedy total petroleum hydrocarbon CUL of 1,500 mg/Kg and all other constituents of concern are either below the more restrictive Method A CULs or below the laboratory detection limits. Contaminated soils appear to be limited to a small area and depth that is associated with former dispenser islands that had been present on the Site historically.

Soil-Leaching:

Incomplete. Groundwater was not present in any of the borings. Boring completion depths ranged between 15 and 20 feet below ground surface (bgs). Additionally, water well logs for wells in this area show the groundwater level at around 100 feet bgs.

Soil-Vapor:

Incomplete. Although the location of boring B01 is approximately 10-feet from the on Property building, the depth of sample B01-11 is 11-feet bgs and all VOC are below the Method A CULs or laboratory detection limits.

Groundwater:

Incomplete. No groundwater was present in any of the 8 borings completed at the Site. Additionally, water well logs for wells in this area show the groundwater level at around 100 feet bgs.

Ecological:

Incomplete. Given the depth of the contamination, and the fact that contaminant levels are below both CULs and Table 749-2 (WAC 173-340-900) screening levels, and likely present in a very limited area of the Site, Ecology considers this Site to not pose any threat to ecological receptors.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

Standards points of compliance are currently being used for the Site.

- The point of compliance for protection of groundwater is established in the soils throughout the Site.
- For soil cleanup levels based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway, the point of compliance is established in the soils throughout the Site from the ground surface to 15 feet below ground surface (bgs).
- The point of compliance for the groundwater is established throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth that could potentially be affected by the Site.
- The point of compliance for indoor air and soil gas is throughout the Site.

The unrestricted land use cleanup standards for the Site are as follows:

- For direct contact soils, Method B CULs were used as screening levels under Ecology's Model Remedies for Sites with Petroleum Contaminated Soils¹. Applicable soil CULs are listed in the table below.
- For soils protective of groundwater, it has been established by empirical demonstration that current contamination levels are protective of groundwater. Groundwater was not encountered in any of the borings advanced on the Site.
- For groundwater, Method A CULs are being applied. Groundwater was not encountered in any of the borings advanced on the Site. Borings were completed at depths ranging from 15 to 20-feet bgs. Well logs from the area indicate that groundwater is present at a depth of approximately 100-feet bgs. Applicable groundwater CULs are listed in the table below.
- For soil-vapors, all remaining PCS is at depths greater than six feet bgs, and all VOCs present in the soil were either below the Method A CULs or laboratory detection limits, and so there is no soil-vapor concern at the Site.

<u>Method B Soil and Method A Groundwater Cleanup Levels</u>		
Constituent of Concern	Method B soil CUL (mg/Kg)	Method A Groundwater CUL (µg/L)
Benzene	18.18	5
Toluene	6,400	1,000
Ethylbenzene	8,000	700
Xylene	16,000	1,000
Total TPH	1,500*	None
TPH-G	*	1,000**
TPH-D	*	500
TPH-O	*	500
Lead	250	15
MTBE	555.56	20
EDB	0.5	0.01
EDC	10.99	5
<p>* The CUL for TPH in soil has been established under Ecologies Model Remedies for Sites with Petroleum Contaminated Soils as the 1,500 mg/Kg total TPH in soil.</p> <p>** The CUL for TPH-G in groundwater for the Site is established as the higher value because benzene is not present in soil at the Site.</p>		

3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA.

Cleanup actions at the Site to date have included removal of old UST system and fuel dispenser islands to the extent practicable. Because contamination is below the 1,500 mg/Kg total TPH CUL established in Soil Model Remedies for Petroleum Sites¹, no additional cleanup efforts are necessary.

Ecology believes that the cleanup action meets the threshold requirements of WAC 173-340-360(2) in that:

- It is protective of human health and the environment, complies with cleanup standards, and complies with applicable state and federal laws.
- Ecology believes that the cleanup method used is permanent to the maximum extent practicable, and provided for cleanup in a reasonable time frame.

- Since groundwater contamination is unlikely due to the vertical separation distance between the contamination at 11-feet bgs and groundwater at approximately 100-feet bgs, cleanup actions conducted are considered permanent for groundwater.
- The Site is not expected to be used as a school or residential property. Planned future use of the Site is continued use as a commercial shopping center and fuel dispensing facility.
- Contamination in soil is below the 1,500 mg/Kg total TPH established in Soil Model Remedies for Petroleum Sites¹, and the Site qualified for Model Remedy No. 4. Institutional controls are not being required at the Site.
- Because both the source and most of the contamination at the Site have been removed, cleanup actions have prevented any future release and minimized any future migration.
- Cleanup actions are not relying on dilution or dispersion.
- Remediation levels are not being used for this Site.

4. Cleanup.

Ecology has determined the cleanup you performed meets the cleanup standards established for the Site.

The old UST system and fuel dispenser islands had been removed prior to the PII that discovered the contamination. Sufficient samples were taken to show that the contamination is not likely to be the result of the current UST system and dispenser islands. The contamination discovered is below the applicable CULs and no additional cleanup efforts are required.

Listing of the Site

Based on this opinion, Ecology will remove the Site from our Confirmed and Suspected Contaminated Sites List and Leaking Underground Storage Tank List.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Ms. Patricia Jackman
August 2, 2017
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Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#SW1593).

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion or the termination of the Agreement, please contact me by phone at (360) 407-6437 or e-mail at aaren.fiedler@ecy.wa.gov.

Sincerely,



Aaren Fiedler
SWRO Toxics Cleanup Program

AF: kb

By Certified Mail: [91 7199 9991 7037 1758 8785]

Enclosures: A – Description, Diagrams, and Tables of the Site

cc: Lynn D. Green, EVREN Northwest, Inc.
 Stephanie Bussell, Ecology
 Nicholas Acklam, Ecology
 Mark Gordon, Ecology

Enclosure A

Description, Diagrams and Tables of the Site

Site Description

Site Location:

The Site, identified as Lakeside 24 Hour Fuel is located at 16835 Lewis River Rd. in Cougar Washington, Cowlitz County and is approximately 425 feet southwest of the intersection of Lewis River Rd. and Old Lake Merrill Rd. The parcel of land (Parcel ID ES3410001) is approximately 0.36 acres. Adjacent to the Site on the southwest side is a Cowlitz County Fire Station. Private residences are located to the northeast across Lewis River Rd., and adjacent to the Site to the northwest. Also to the northwest of the Site and across Lewis River Rd. is property owned by the Lewis River Telephone Co. Inc. Adjacent to the Site on the southeast side is a heavily wooded property owned by the Pacific Power & Light Co. that has a small portion of the property designated as a "Rest Area". In addition to the fuel dispensers, a Mountain Fresh Deli is also present on the parcel. Site figures and a Map showing the Site location are included in the Site Diagrams section.

Site Use and Contamination:

Currently, the Site consists of a "Card Lock" type fuel dispenser island and a small building that operates as a convenience store and Mountain Fresh Deli. Contamination that was discovered during a PII Focused Site Investigation consisted of gasoline range petroleum hydrocarbons (TPH-G), and some volatile organic compounds (VOCs) typically associated with gasoline. Specifically, ethylbenzene, xylene, and naphthalene. Lead was also present. These constituents of concern were found in the vicinity of where a dispenser island was located from a previous gas station that operated on the Site. TPH-G was the only analyte to exceed the MTCA Method A cleanup level.

Geology:

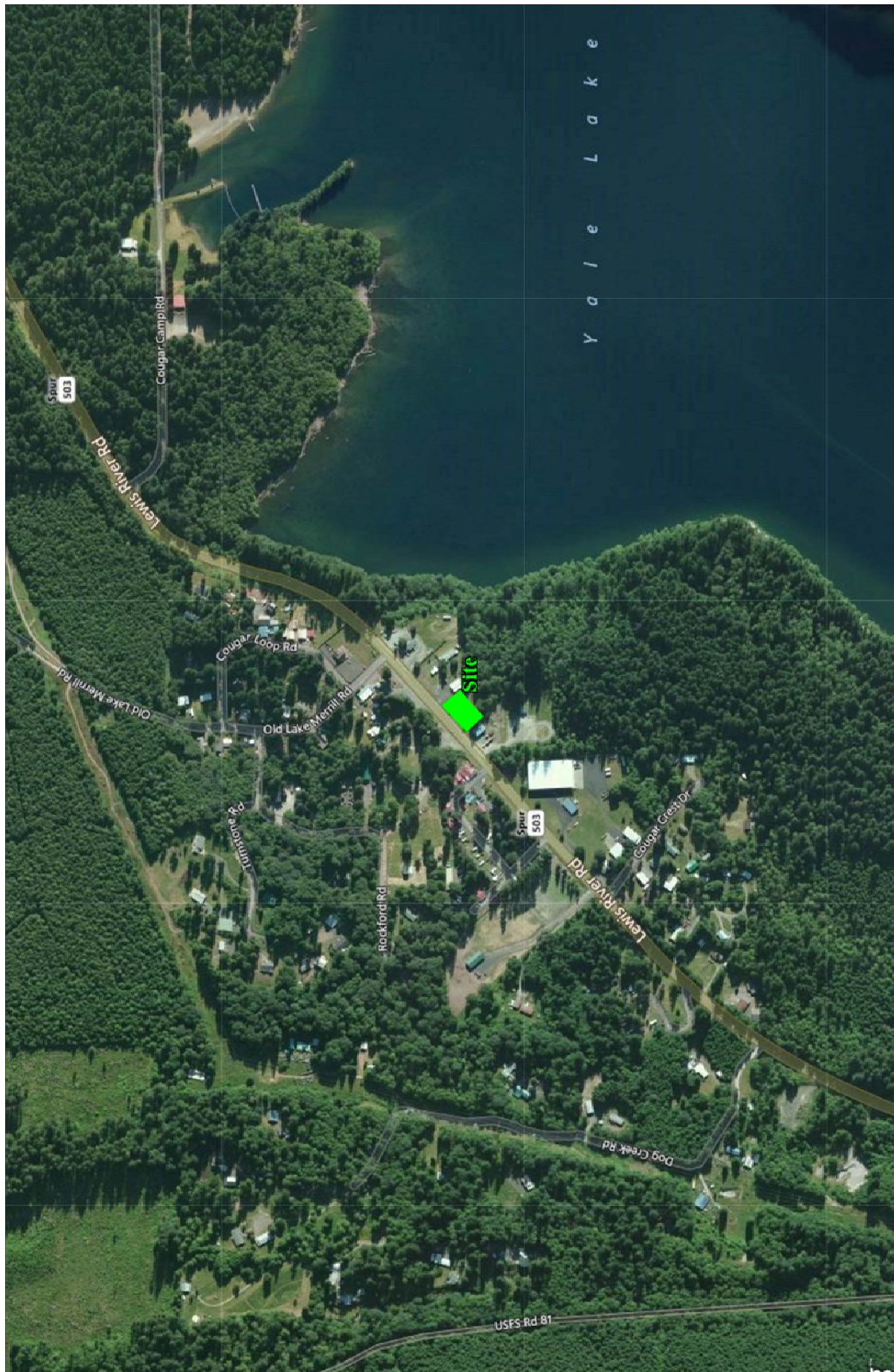
The Site is comprised of a fill material ranging in thickness from less than 1-foot to 5-feet. Various sands and silts and gravels underlay the fill material and include discontinuous cemented layers. The groundwater flow direction was not determined, and groundwater was not encountered in any of the borings. Water well logs from the surrounding area typically show groundwater to be at a depth of approximately 100-feet. Yale Lake is approximately 600 feet to the east-southeast.

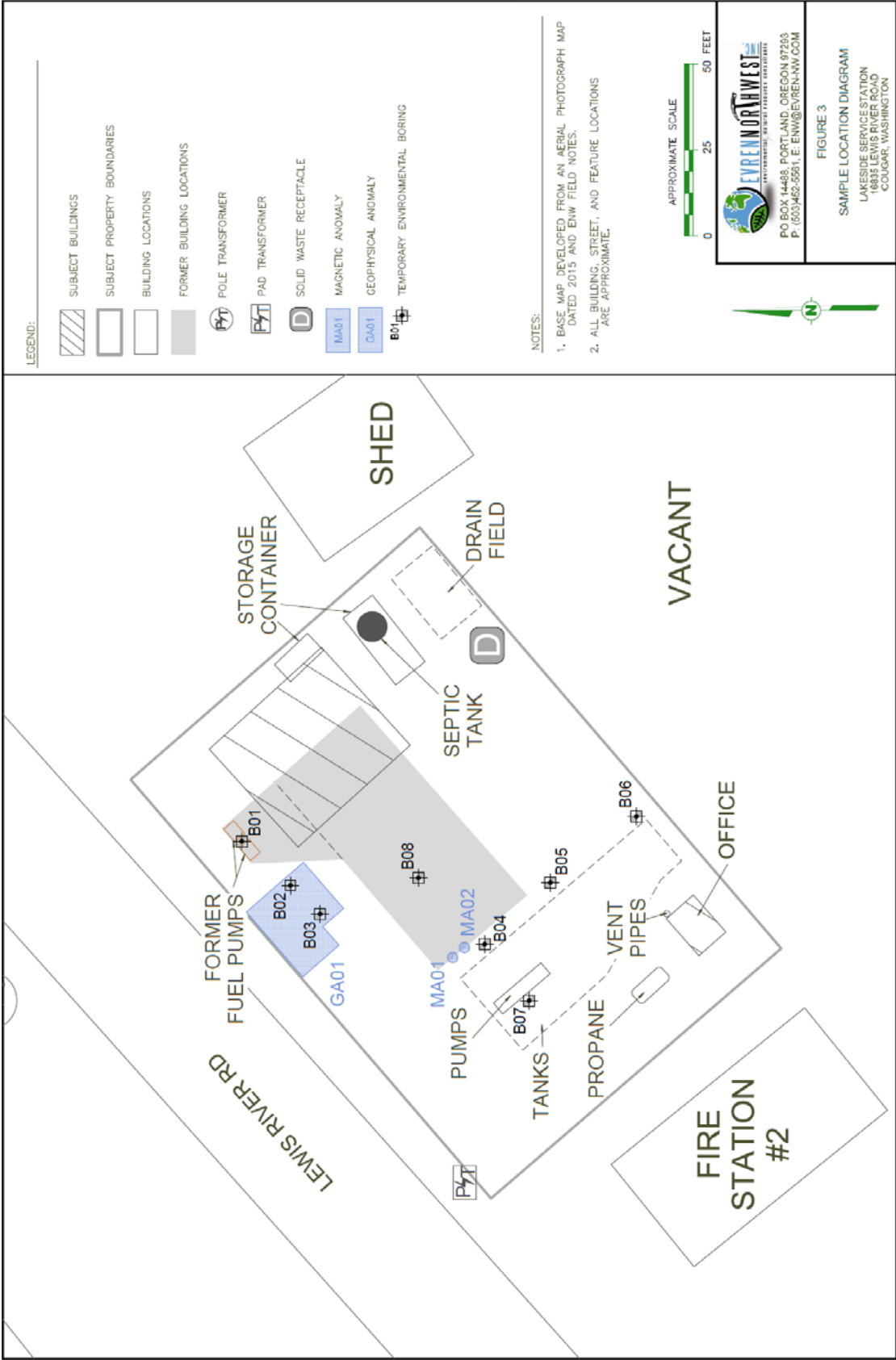
Site History

According to EVREN, the Site has operated as a gas station since the mid-1960s. In 1996, former USTs were replaced with the current 15,000-gallon split tank. The original building associated with the gas station was removed sometime between 2009 and 2011 (Google Earth historical imagery). The PII was conducted because EVREN found no evidence that soil samples were taken at the time of the UST replacement.

The PII consisted of a geophysical survey and 8 borings located across the Site and in the vicinity of potential likely contaminated areas. Soil samples from the borings were analyzed by method TPH-HCID, and all but one of the soil sample showed TPH present. The sample that did show TPH present was B01-11 at 11 feet below ground surface, and was additionally analyzed for TPH, lead, and VOCs. Samples B01-5, located at a depth of 5-feet, and sample B01-13.5, located at a depth of 13.5-feet did not show the presence of any petroleum hydrocarbons.

Site Diagrams





Site Tables

Table 1 - Summary of Analytical Data, Soil

Sample Location	B01				B02				B03				B04				B05				B06			
	Sample ID	B01-5	B01-11	B01-13.5	B02-10	B02-15	B02-15	B02-15	B03-6	B03-15	B03-15	B03-15	B04-6	B04-6	B04-6	B04-6	B05-ALT-10	B05-ALT-15	B05-ALT-15	B05-ALT-15	B06-10	B06-15	B06-15	B06-15
Date Sampled	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017	5/2/2017
Depth Sampled (feet)	5	11	13.5	13.5	10	15	15	15	6	15	15	15	6	6	6	6	10	15	15	10	10	15	15	15
Sampled by:	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location	Former Fuel Island Location				Geophysical Anomaly G001, possible former UST locations				Geophysical Anomaly G001, possible former UST locations				Geophysical Anomaly G001, east of current UST's				East side of current UST west				Southeast corner of current UST West			
	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)
Constituent of Interest	Note																							
Volatiles Organic Constituents (VOCs)																								
Benzene	C, V	---	<0.003 ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dichloroethane)	C, V	---	<0.005 ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	C, V	---	<0.005 ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	RC, V	---	0.17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MIBK (methyl isobutyl ether)	C, V	---	<0.005 ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nonhalogenated (Method 8260)	C, V	---	0.022 J	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	RC, V	---	<0.005 ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	RC, V	---	1.1 VE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metals																								
Lead	NA, IV	---	2.38	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Petroleum Hydrocarbons																								
GRO	RC, V	<20 (NP)	620	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)
DRO	RC, IV	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)
ROO	RC, IV	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)

Notes:
 NP = not present based on NWTPH-HC/D hydrocarbon identification) analysis
 ND = not detected at or above the method reporting limit shown.
 --- = not analyzed or not applicable.
 < = not detected at or above the method reporting limit shown.
 NE = not established.
 mg/kg = milligram per kilogram.
 C = carbon
 RC = noncarcinogenic
 V = volatile
 IV = nonvolatile
 J = the internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
 VE = the analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
 GRO = gasoline-range organics.
 DRO = diesel-range organics.
 ROO = residual-range organics.
 Bolded concentrations exceed either MTCA Cleanup Levels.
 (7) indicates analyte not detected, but detection limit is above

Table 1 - Summary of Analytical Data, Soil

Sample Location		B07		B08		Constituent of Potential Concern (COPC, Method A or B CULs)?	MTCA Method C Soil Cleanup Levels for Industrial Land Uses	Background Concentrations (metals)
Sample ID	Date Sampled	B07-5	B07-11	B08-5	B08-5			
Depth Sampled (feet)	5/22/2017	5	11	5/22/2017	5			
Sampled by:	ENW	ENW	ENW	ENW	ENW			
Location		West of current fuel island	West of current fuel island	Former Service Bay Location (inferred)				
Constituent of Interest	Note	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	Maximum Residual Soil Concentration (detected)	MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses ¹	MTCA Method B Soil Cleanup Levels for Method A or B (if available)	
Volatile Organic Constituents (VOCs)								
Benzene	C, V	---	---	---	<0.003 (ND)	0.03	18.2	NE
EDB (1,2-dichloroethane)	C, V	---	---	---	<0.005 (ND)	0.025	0.5	NE
EDC (1,2-dichloroethane)	C, V	---	---	---	<0.005 (ND)	NE	11	NE
Enthaldehyde	nc, V	---	---	---	0.17	6	8000	NE
MTBE (methyl t-butyl ether)	C, V	---	---	---	<0.005 (ND)	0.1	556	NE
Respirators (Method 2260)	C, V	---	---	---	0.022 J	5	1900	NE
Toluene	nc, V	---	---	---	<0.005 (ND)	7	6400	NE
Xylenes	nc, V	---	---	---	1.1 VE	9	16000	NE
Metals								
Lead	NA, rw	---	---	---	2.38	250	NE	1000
Total Petroleum Hydrocarbons								
GRO	nc, V	<20 (NP)	---	<20 (NP)	620	100	NE	CALC
DRO	nc, rw	<50 (NP)	---	<50 (NP)	<50 (NP)	2000	NE	CALC
RRO	nc, rw	<250 (NP)	---	<250 (NP)	<250 (NP)	2000	NE	2000

NP = not present based on NWTPH-HCD (hydrocarbon identification) analysis
 ND = not detected at or above laboratory method reporting limits

--- = not analyzed or not applicable.

< = not detected at or above the method reporting limit shown.

NE = not established.

mg/kg = milligram per kilogram.

c = carcinogenic

nc = noncarcinogenic

V = volatile

J = nonvolatile

VE = the internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

VE = the analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either MTCA Cleanup Levels.

(Y) indicates analyte not detected, but detection limit is above