

State of Oregon
Department of Environmental Quality

Memorandum

Date: August 28, 2024

To: FILE

Through: Brad Shultz, WR Cleanup Program Manager
Bruce Scherzinger, WR Cleanup Program Lead Worker

From: Nancy Sawka, WR Cleanup Program, Project Manager

Subject: Mid-Valley Motors, LUST #24-11-1116; Staff Memorandum in support of a Conditional No Further Action determination

This document presents the basis for the Oregon Department of Environmental Quality's (DEQ's) recommended conditional No Further Action (cNFA) determination for the Mid-Valley Motors site in Salem. As discussed in this report, contaminant concentrations in soil, groundwater and/or soil gas are below acceptable risk levels.

The proposed cNFA determination meets the requirements of Oregon Administrative Rules Chapter 340, Division 122, Sections 0205 to 0360 and ORS 465.200 through 465.455.

The proposal is based on information documented in the administrative record for this site. The administrative record is located at Your DEQ Online (YDO): <https://ordeq.org/LUST24-11-1116>.

1. BACKGROUND

Site location(Figures 1 and 2).

The site's location can be described as follows:

- Address: 795 12th Street SE, Salem, Marion County, Oregon
- Marion County Tax Lot Map: 073W27DA
- Tax lot: 05200

Site setting.

- Site size: 0.34 acres
- Main structures on site: site is currently vacant and covered in asphalt.
- Adjacent properties include:
 - West: Salem Health Medical Clinic
 - North: An Alley Way followed by parking lot for Salem Health facilities
 - East: 12th Street SE and interchange/overpass followed by commercial businesses
 - South: Mission Street SE followed by Deepwood Museum & Gardens
- Land use zoning: The site is zoned for Commercial Office use. The site is currently vacant and used for parking by Salem Health employees. The future use of the property is currently unknown.

Physical setting.

- Topography: The site is relatively flat with a gentle slope to the north and west towards Pringle Creek and the Willamette River. The site is approximately 150 feet above mean sea level.
- Depth to groundwater: Groundwater was encountered between about 9 and 16 feet bgs during investigations and groundwater monitoring at the site.
- Geology: The site is underlain by Pleistocene sands, silts and clays which overlie coarse grained Plio-Pleistocene sands and gravels. Borings installed at the site encountered several feet of silty fill material mixed with gravel and sand followed by a black-gray-brown, silty, sandy gravel to 20 feet bgs.
- Groundwater flow direction is generally to the north with seasonal fluctuations to the east and west.
- Distance to surface water: The nearest surface water body is Pringle Creek, approximately 350 feet to the north. The Willamette River is approximately one mile to the west.

Site history and current use.

The site operated as an automotive repair facility from 1939 to 1947, a used car lot from 1947 to 1950, a gasoline service station from 1950 until the mid-1980's and an automobile glass repair business from 1986 until 2013. Prior to the 1939 the site was occupied by a residence. The site previously contained three gasoline underground storage tanks (USTs) (two 6,000-gallon tanks and one 8,000-gallon tank) and two dispenser islands on the southeast corner of the property and one fuel UST and one waste oil UST of unknown size on the west side of the property adjacent to the former automobile glass repair building. The USTs were thought to have been removed in 1986, but there are no records of the removal date in DEQ's records. All buildings have been demolished on the property. The site is currently used as a parking lot for nearby Salem Health medical facilities. The owner of the site, Salem Health Hospitals & Clinics, also owns the properties to the west (tax lot 05400), north (tax lots 04700 and 04800) and northeast (tax lots 04400 and 04500). These tax lots are included on Figure 2. The configuration of the former fueling station is shown on Figure 3.

A petroleum release was reported to DEQ in October 2011, after a Phase I and Limited Phase II Environmental Site Assessment completed as part of a property transaction identified petroleum contamination in the soil and groundwater at the site. A geophysical survey was subsequently conducted to confirm that the previous USTs were removed. No remaining USTs were identified, but there was evidence confirming the presence and locations of the removed USTs.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.

The site and surrounding properties are zoned for Commercial Office (CO – the site) and Retail Commercial (CR – property to the north) use. All buildings and structures have been removed from the site. Both the site and the property to the north are used for Salem Health hospital and associated medical facility parking. The owner of the site, Salem Health Hospitals & Clinics (Salem Health), also owns the properties to the west (tax lot 05400), north (tax lots 04700 and 04800) and northeast (tax lots 04400 and 04500). These tax lots are included on Figure 2. The

owner is currently considering multiple development options for the site and the property to the north with potential re-zoning in the future to accommodate a variety of uses which could include residential.

Groundwater use.

The site and surrounding area is serviced by municipal water from the City of Salem. There are no known water wells on the site or within the contaminated area. Given the urban-commercial location and the availability of city water, it is unlikely that groundwater in the area will be developed in the future.

Surface water use.

Pringle Creek is the nearest surface water body located about 350 feet north of the site. Pringle Creek flows west and discharges to the Willamette River which is located about one mile west of the site. Stormwater at the site either infiltrates in unpaved areas or is captured in onsite or adjacent street catch basins that discharge to the City's stormwater system.

3. INVESTIGATION AND CLEANUP WORK

Various consultants completed soil, groundwater and/or soil gas investigations for the site between 2011 and 2023. These investigations focused on defining the extent of petroleum contamination resulting from historical service operations. During this time twenty soil borings (PBS-1 through PBS-20), eleven monitoring wells (MW-1 through MW-11) and fourteen soil gas probes (SG1-SG7, SG1 and 2, and P1 through P5) were installed and sampled. Investigation results are discussed below.

Soil Sample Results.

Select soil samples were collected from soil and monitoring well borings. Locations of the borings and wells are shown in Figures 3, 4 and 5. Samples were tested for gasoline (Gx), diesel (Dx) and heavy oil (HO), volatile organic compounds (VOCs) and lead. Select samples were tested for polynuclear aromatic hydrocarbons (PAHs) and metals – arsenic, barium, cadmium, chromium and lead. The highest levels of contamination were found in 2012 from soil samples collected from MW-1A at 12.5 feet bgs in the area of the former gasoline USTs on the southeast corner of the site. Gx was detected at 6,100 milligram per kilogram (mg/kg) and Dx at 1,880 mg/kg. HO was not detected (ND) in the sample and benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEX+N) were ND, 51.1 mg/kg, 52.6 mg/kg, 453 mg/kg and 33.2 mg/kg, respectively. In 2019 soil sampling in that same area (PBS-7, 8 and 9) at 13 feet bgs encountered little or no contamination indicating the contamination was either localized or natural degradation had occurred over time. Little to no contamination was found around the dispenser islands (PBS-1 to PBS-20), the former waste oil and fuel oil tanks (MW-9, SB8 and SB9) or other areas where soil was tested on the site. Some soil contamination was detected in the boring from offsite monitoring well MW-10 located on the northwest corner of Mission and 12th Street, south of the site. At this location, Gx was detected at 803 and 480 mg/kg at 12.5 and 15 feet bgs, respectively. Low levels of VOCs were also detected. The location of MW-10 is across Mission Street and upgradient from the site. Contamination found in MW-10 is thought to be from

another source, possibly a former gas station located on the southwest corner of Mission and 12th Street. Other potential sources in the area are discussed later. Soil sample results are summarized in Table 1.

Groundwater Monitoring Well Sample Results.

Except for PBS-4, 5 and 6, which were installed and sampled to delineate groundwater contamination, groundwater grab samples from temporary borings are not discussed here but can be found in the April 2022 *Independent Cleanup Pathway Final Report* on the YDO project site. Eight groundwater monitoring events were completed at wells MW-1A through MW-9 at various times and intervals between October 2014 and December 2019. Three monitoring events were completed at MW-10 between September 2017 and December 2019 and one event was completed at MW-11 after it was installed in December 2019. Depth to water ranged between 9.11 and 15.75 feet bgs during this time and the groundwater flow direction was predominantly to the northwest with east and west fluctuations depending on the time of year. Onsite monitoring wells were installed in locations around the source (USTs/dispensers) areas (MW-1A, 6 and 9) and/or in the cross gradient to downgradient groundwater flow direction from the sources (MW-3, 4, 5 and 11). The highest levels of contamination in onsite wells were observed in source area wells MW-1A and MW-9 with Gx, Dx and BTEX+N detections up to 17,500 microgram/liter (ug/L), 450 ug/L, 1.05 ug/L, 148 ug/L, 765 ug/L, 2260 ug/L and 275 ug/L, respectively, in MW-1A and 25,400 ug/L, 504 ug/L, 0.20 ug/L, 91.3 ug/L, 1,370 ug/L, 2,550 ug/L and 210 ug/L, respectively, in MW-9. No HO was detected. Contaminants decreased significantly over the eight monitoring events between August 2016 and December 2019. Gx, Dx and BTEX+N were reduced to 270 ug/L, ND, ND, ND, 3.41 ug/L, 20.5 ug/L and ND, respectively in MW-1A and to 3,500 ug/L, ND, ND, 2.64 ug/L, 22.5 ug/L, 25.8 ug/L and 20.8 ug/L, respectively in MW-9 by the last sampling event in December 2019. Although free product had been found in three onsite temporary wells (TW-4, 5 and 7, Figure 3) earlier in the investigations (2011), no free product was present in any of the permanent monitoring wells during the eight sampling events.

PBS-4, 5 and 6 were installed offsite to the north and northwest in July 2019 to delineate the extent of groundwater contamination downgradient from MW-3 and on the adjacent property north. Groundwater from PBS-4 contained elevated concentrations of Gx and BTEX at 4,090 ug/L, 3.01 ug/L, 13.5 ug/L, 15.2 ug/L and 34.3 ug/L, respectively. However, no contamination was detected in PBS-5 or PBS-6 which were located further downgradient to the west and northwest of SB-4.

Offsite well MW-7 was installed east of the site in the right of way across from 12th street. Groundwater from MW-7 had the highest Dx and HO concentrations of all the monitoring wells with Dx detected up to 2,180 ug/L and HO up to 1,020 ug/L. Gx and BTEX+N in MW-7 were detected at concentrations up to 21,000 ug/L 10.6 ug/L, 250 ug/L, 735 ug/L, 2,730 ug/L and 140 ug/L, respectively. Mid-Valley Motors is not suspected to be the source of contamination in MW-7 given its distance and location (cross-gradient) from the site as well as the different characteristics of the contamination found in the groundwater (higher levels of Dx and HO).

Offsite wells MW-8 and MW-10 were installed upgradient to the south of the site in the Mission Street median and right of way, respectively. Contamination was highest in MW-10 with Gx, Dx and BTEX+N of 13,800 ug/L, 360 ug/L, 28 ug/L, 308 ug/L, 255 ug/L, 1490 ug/L and 47.9 ug/L, respectively. Given the upgradient location of these wells and the significant levels of contamination in MW-10, Mid-Valley Motors does not appear to be the source of contamination in groundwater of MW-8 or MW-10.

The locations of monitoring wells are shown in Figures 3 and 4 and sampling results are summarized in Table 2. In general, groundwater contamination in all monitoring wells appears to be stable or decreasing over time.

Soil Vapor Assessment.

Due to the elevated levels of contamination in soil and groundwater, EnviroLogic Resources Inc. completed a soil vapor assessment at the site in September 2014. Seven temporary soil gas probes (SG-1 through SG-7) were installed across the site. Locations are shown in Figure 3. Four of the samples (SG-1, 2, 3 and 6) failed leak detection protocols and were considered invalid. Low levels of petroleum-related VOCs were detected in SG-4 and SG-5 located in the central part of the site. Petroleum VOCs were not detected in SG-7 on the northeast corner. All three samples contained tetrachloroethene (PCE). The source of PCE, a chlorinated solvent particularly associated with the dry-cleaning industry, is unknown. None of the petroleum VOCs or PCE were detected at concentrations above applicable RBCs.

PBS conducted additional soil vapor sampling in December 2019. PBS installed two soil probes, SG-1/PBS-9 and SG-2/PBS-7 in the area of highest contamination at the southeast corner of the site. Low levels of petroleum VOCs were detected in the samples, but all were below the applicable RBC. Sample locations are shown on Figure 5 and results are summarized in Table 3.

At the request of DEQ and the owner's attempt to achieve an unconditional NFA, PBS conducted a supplemental soil vapor assessment to better characterize the vapor risk across the site and to test for seasonal variability in vapor concentrations. PBS installed five semi-permanent vapor probes (P-1 to P-5) at various locations around the site. Soil gas was collected from each probe in the winter of January 2023 and in the summer of June 2023. Petroleum VOCs, chloroform, PCE and trichloroethylene (TCE) were detected in most of the samples. The concentrations were all below the applicable RBCs, except for benzene in P-3 at 12.9 ug/m³ and in P-5 at 12.4 ug/m³ which is above the residential soil gas RBC of 12 ug/m³ and chloroform in P-2 at 16.3 ug/m³ above the residential soil gas RBC of 4.1 ug/m³ for chronic exposure. All contaminants were below the soil gas RBC for occupational receptors. Sample locations are shown in Figure 6 and soil gas sample results are summarized in Table 3.

Nature and extent of contamination on the site and other sources.

Contaminants of interest include Gx, Dx, HO, VOCs and PAHs in soil, groundwater and soil gas. The estimated extent of remaining soil contamination is shown in Figure 7. Low level of shallow (less than 5 feet bgs) soil contamination remains in the area of the former waste oil tank (PBS-12) and dispensers (PBS-13, 14 and 19). Deeper soil contamination coinciding with the soil/water interface (about 13 feet bgs) remains at low levels near the former USTs on the

southeast corner of the site, PBS-3 on the northeast and around a former catch basin near MW-11 on the southwest corner.

The estimated extent of groundwater contamination is shown in Figure 8. Groundwater contamination extends from the southern boundary of the site to the adjacent property to the north, both owned by Salem Health. Petroleum contamination was found in upgradient wells MW-7, 8 and 10 with the highest detected concentrations of Dx and HO in MW-7. Contamination in these offsite wells is likely from multiple upgradient sources which are potentially contributing and co-mingling with contamination from the site. Historical petroleum sources that were formerly located to the east, southeast and south of the site are discussed below. Because the contamination in the offsite sources has not been fully investigated, the extent of contamination to the south could not be defined and was left open on the figure.

Other Sources of Petroleum Contamination.

EnviroLogic Resources Inc completed a Phase I Environmental Site Assessment in 2012 that identified nearby upgradient petroleum sources that could be contributing to groundwater contamination in the area. These sources include historical gasoline services stations on the adjacent corners of 12th and Mission Streets to the south, southeast and east of the site as follows:

- Based on 1950 and 1978 Sanborn Maps, there was a gasoline service station facility formerly located to the south of the site across Mission Street at 1190 Mission Street SE. DEQ has no UST or LUST records related to this site. The property is currently owned by the City of Salem and is the location of the Deepwood Estate. The map and tax lot number is 073W27DD00100. Contamination in MW-8 and MW-10 could be related to former gas station operations at this property.
- The property to the southeast of the site at 1212 Mission Street SE (aka 828 12th Street SE) is an open DEQ LUST site, file #24-89-4817 with confirmed soil and groundwater contamination. The extent of contamination in the groundwater, especially offsite, is still under investigation. The property map and tax lot is 073W26CC10600. It is currently owned by Zot LLC and occupied by Mohr Motors, a used car dealership.
- The property to the east of the site across 12th Street (790 12th Street SE) used to be occupied by a gasoline repair and service station. The site is listed in DEQ's UST database under facility ID 4610, Weber & Anderson, and appears to have had 5 USTs that were decommissioned, but there is little documentation related to the tanks or the decommissioning dates in the records. The contamination in MW-7 is potentially related to the former service station at this location. The property is currently owned by ODOT who converted the property to a major interchange/overpass at the intersection of 12th and Mission in the late 1980's.

4. RISK EVALUATION

Conceptual site model.

The sources of contamination to soil, groundwater and soil gas at the site are the previously decommissioned gasoline and waste oil USTs and dispensers. There are potential offsite

upgradient/cross gradient sources to the east, southeast and south that could be contributing and/or comingling with the site contamination. These sources were discussed above.

Potential human exposure to site contamination depends on existing exposure routes, contamination levels, and potential receptors. The site, currently a paved parking lot for Salem Health, is zoned for commercial office use. Current receptors include workers exposed to soil or groundwater beneath the asphalt. Future re-zoning could introduce new receptors like residents and construction workers. DEQ provides risk-based concentrations (RBCs) for contaminants, which are conservative estimates for safe levels in soil, groundwater, and air. Table 1 outlines potential exposure pathways and receptors.

Table 1. Identification of applicable RBCs, based on pertinent pathways and receptors

Pathway	Receptor	Is Pathway Complete?	Is RBC Exceeded?	Comment
SOIL				
Ingestion, dermal contact, and inhalation	Residential	Future	No	Potential for future re-zoning to accommodate a variety of uses including residential.
	Urban residential	Future	No	
	Occupational	Yes	No	
	Construction worker	Future	No	
	Excavation worker	Future	No	
	Occupational	Yes	No	
GROUNDWATER				
Ingestion and inhalation from tap water	Residential	No	Yes	City water is provided. Local groundwater is not currently used for drinking water and is not likely to be used for this purpose in the future.
	Urban residential	No	Yes	
	Occupational	No	Yes	
Volatilization to outdoor air	Residential	Future	No	Potential for future re-zoning to accommodate a variety of uses.
	Urban residential	Future	No	
	Occupational	Yes	No	
Vapor intrusion into buildings	Residential	Future	Yes	Potential for future re-zoning to accommodate a variety of uses.
	Urban residential	Future	Yes	
	Occupational	Future	Yes	Currently no buildings on site.
Groundwater in excavation	Construction and excavation worker	Yes	No	
SOIL GAS				
Vapor Intrusion into buildings	Residential	Future	Restriction	Potential for future re-zoning to accommodate a variety of uses.
	Urban residential	Future	Restriction	
	Occupational	Future	No	

Pathway	Receptor	Is Pathway Complete?	Is RBC Exceeded?	Comment
ECOLOGICAL				
Ecological Receptors		No	NA	Site is paved, so little to no soil exposure. Contamination does not reach Pringle Creek.

Contaminant concentrations.

The maximum concentration of contaminants detected in soil is shown in Table 4. The table compares the highest soil concentrations to DEQ's generic RBCs (May 2018 RBCs)¹. Gx in soil of 803 mg/kg and ethylbenzene of 2.69 mg/kg both exceeded the residential vapor intrusion RBCs of 94 mg/kg and 1.3 mg/kg, respectively. The potential for vapor intrusion is further evaluated from soil gas data below. Several constituents in soil also exceeded the leaching to groundwater pathway. However, this pathway is incomplete since the area is serviced by city water and there are no nearby groundwater receptors.

A summary of groundwater data is provided in Table 2. Since groundwater appears to be degrading over time only the last four sampling events were used to assess human health risk. Using the highest concentration from the last four sampling events from the onsite monitoring wells (MW-1 to MW-6, MW-8, MW-9 and MW-11) and comparing those to the RBCs at the bottom of Table 2, none of the detected contaminants in groundwater exceed the May 2018 RBCs for current or likely future uses of the site. Several contaminants found groundwater (Gx, Dx, benzene, ethylbenzene and naphthalene) did exceed the June 2023 RBCs for vapor intrusion into buildings and volatilization to outdoor air for residential and/or occupational receptors. These pathways were further assessed through the soil vapor assessment and collected soil gas data.

Soil gas results are summarized in Table 3. Benzene in soil gas probe P-3 at 12.9 ug/m³ and P-5 at 12.4 ug/m³ exceeded the residential chronic soil gas RBC of 12 ug/m³ in samples collected in June 2023. Both of these samples are located near the former USTs. Chloroform in the most recent soil gas sampling events exceeded the residential chronic RBC of 4.1 at probe P-2 with 16.3 ug/m³ detected in June 2023. Chloroform was not found in the soil or groundwater at the site and is believed to be from the sanitary sewer which runs near P-2. No constituents detected in soil gas exceeded the occupational RBCs.

Human health risk.

Several contaminants remaining in the groundwater exceeded the RBCs for residential and/or occupational vapor intrusion into buildings. However, follow-up soil gas sampling showed that benzene and chloroform were the only constituents remaining at concentrations above an

¹ Soil and groundwater data which was collected and reported to DEQ prior to 2020 was compared to the May 2018 RBCs that were available at the time. However, all soil gas data was compared to the June 2023 RBCs which included updated values for assessing vapor intrusion. Note that since June 2023 soil is no longer used to evaluate for potential vapor intrusion and there are no longer RBCs for vapor intrusion into buildings from soil. Vapor intrusion is now evaluated based on groundwater, soil gas and indoor air data.

applicable RBC – the residential soil gas RBC for chronic exposure. There are currently no buildings on the site and the site is used as a parking lot for the neighboring Salem Health medical facilities. The remaining contamination does not pose an unacceptable risk under these current site conditions or if the site was developed for commercial uses. However, unacceptable risk via the vapor intrusion pathway could be present if the site were developed for residential or residential type uses. To address future risk to potential residential uses on the site, the following restrictions will be placed on the property through an Easement and Equitable Servitudes:

- The property should not be developed for residential or residential-like (daycare, schools, elder care facilities, etc.) uses without an approved engineered vapor controls or further assessment of the soil vapor to determine the current state of the contamination and whether it still presents a vapor intrusion risk.
- The owner must submit plans for any residential development or new buildings to DEQ for review. The plans should include details for proposed engineered vapor mitigation or for additional investigation and sampling and must be approved by DEQ in writing prior to building or development.
- The owner will not allow groundwater wells installed or for groundwater on the property to be used for beneficial uses.
- The owner will make sure that the November, 2023 *Contaminated Media Management Plan*, prepared by PBS is followed during any construction or excavation work on the property.

The EES is required to be recorded with the property deed before DEQ issues the final no further action letter.

Ecological risk.

During the site assessment there were no indications that screening for ecological risks is necessary. The site is covered with asphalt with little soil exposed. There is no surface water at the site and the nearest surface water body is the Pringle Creek located about 350 feet to the north of the contaminated area. It does not appear reasonably likely that impacted groundwater will discharge to surface waters or come into contact with aquatic sediments. Due to the nature of the land use of the site and surrounding area it is unlikely that significant habitat is present or will develop. Therefore, no ecological risks were found to be associated with the site.

5. PUBLIC NOTICE

A 30-day public notice and opportunity to comment on the proposed site closure will be sent to adjacent and impacted properties, the City of Salem, ODOT and interested parties. DEQ will consider and respond to all viable comments before issuing a conditional No Further Action determination.

6. RECOMMENDATION

Based on sample results for soil, groundwater and soil gas and with the implementation of the restrictions and requirements of the EES, acceptable risk levels are not exceeded, and a conditional No Further Action determination is recommended for this site. The No Further Action determination will be recorded in the administrative record for LUST No. 24-11-1116.

7. ATTACHMENTS

FIGURES

Figure 1: Vicinity Map

Figure 2: Site Plan

Figure 3: Former Site Configuration with Investigation Locations between 2011 and 2014

Figure 4: Soil Boring and Monitoring Well Locations post 2014

Figure 5: Site Plan with Boring and Soil Gas Locations post 2014

Figure 6: Site Plan with Soil Gas Probe Locations 2023

Figure 7: Estimated Extent of Remaining Petroleum Contamination in Soil

Figure 8: Estimated Extent of Petroleum Contamination in Groundwater

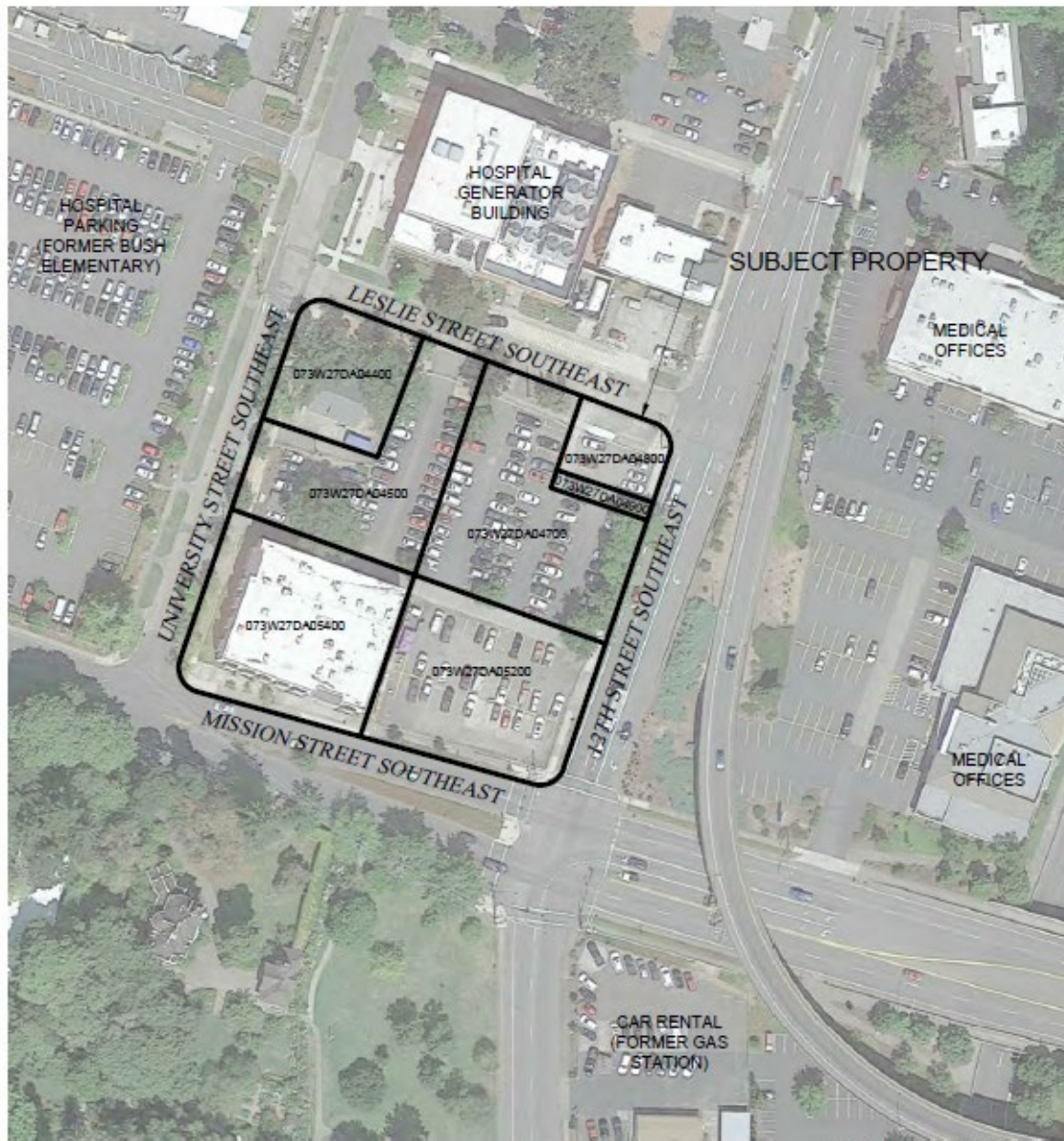
TABLES

Table 1: Summary of Soil Analytical Results

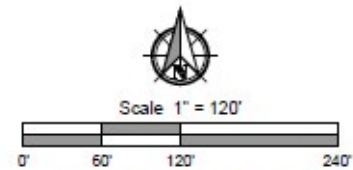
Table 2: Summary of Monitoring Well Analytical Results

Table 3: Summary of Soil Gas Analytical Results

Table 4: Maximum Concentrations Detected in Soil



SOURCE: © 2017 GOOGLE EARTH PRO



PREPARED FOR: SALEM HEALTH



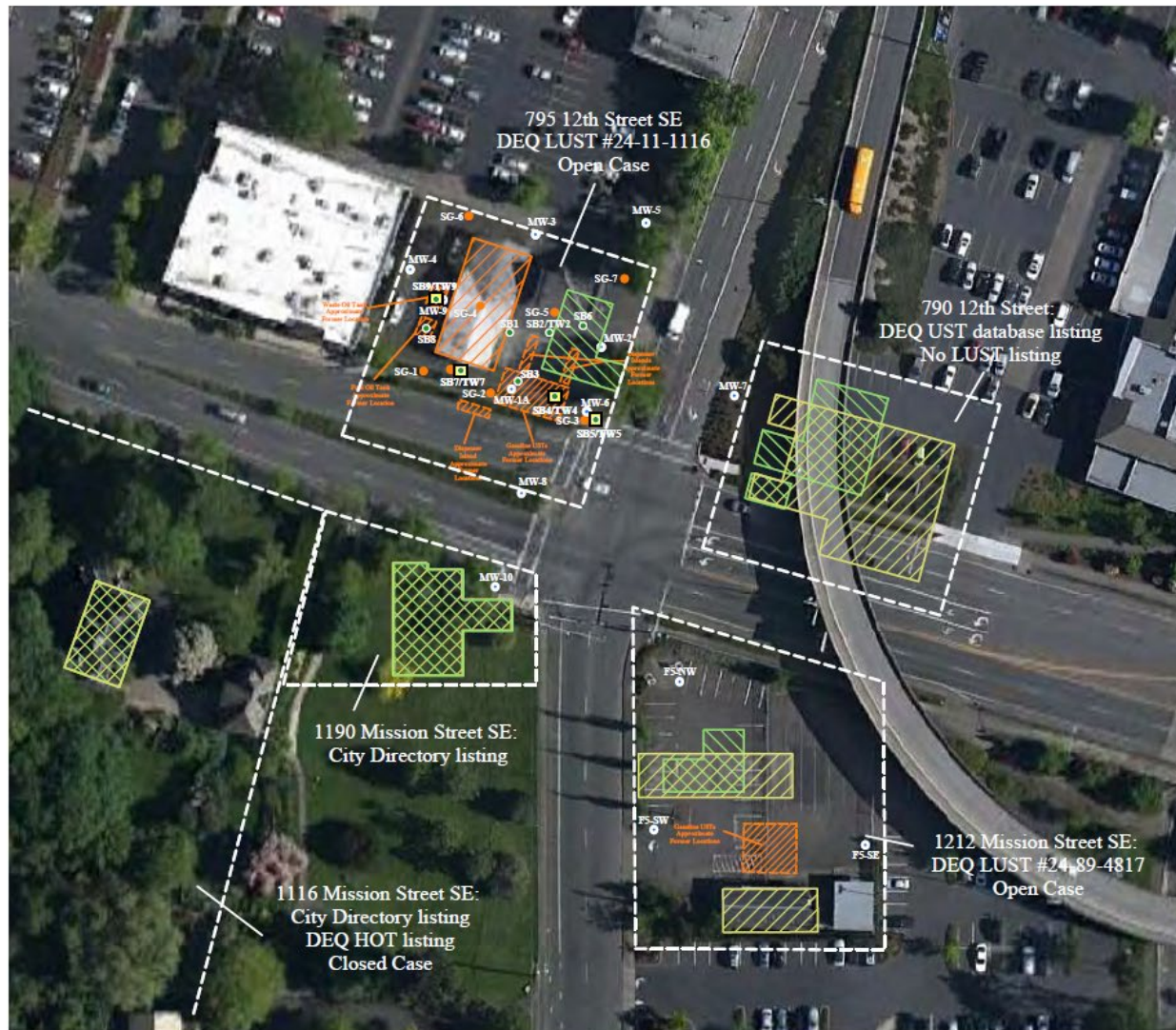
SITE PLAN
1155 MISSION STREET SOUTHEAST
SALEM, OREGON

APR 2022
22643.000

FIGURE

2

Figure 3: Former Site Configuration with Investigation Locations between 2011 and 2014



**FIGURE 3
SOIL BORING, SOIL GAS
PROBE & WELL LOCATIONS**

795 12th Street SE
Salem, Oregon 97302

Explanation

- Approximate Structure Locations Based on 1950 Sanborn Map
- Approximate Structure Locations Based on 1978 Sanborn Map
- Approximate Onsite Structure Locations Based on Present Information
- Monitoring Well Locations
- 10/13/11 Soil Borings/Temporary Wells
- 10/13/11 Free Product Observed
- 2014 Soil Gas Probe Locations

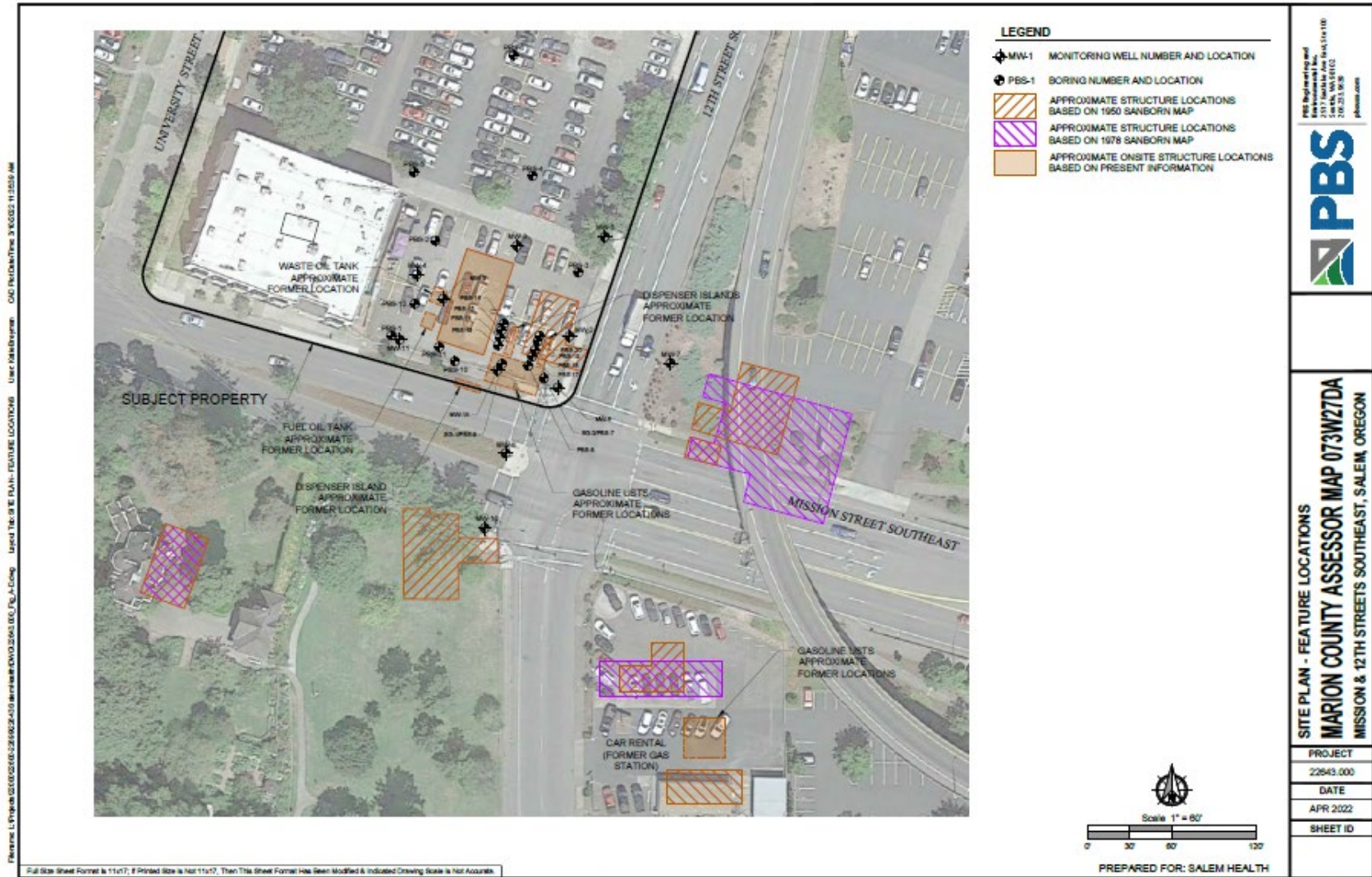


Scale: 1 inch = Approximately 60 Feet



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Figure 4 – Soil Boring and Monitoring Well Locations after 2014





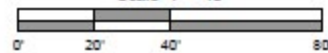
SOURCE: © 2017 GOOGLE EARTH PRO

LEGEND

- PBS-1 BORING NUMBER AND LOCATION
- SG-1/
PBS-9 BORING AND SOIL GAS NUMBER AND LOCATION
- CATCH BASIN



Scale 1" = 40'



PREPARED FOR: SALEM HEALTH



SITE PLAN WITH BORING LOCATIONS

1155 MISSION STREET SOUTHEAST
SALEM, OREGON

APR 2022

22643.000

FIGURE

5

PROJECT: L. 1155 MISSION STREET SOUTHEAST, SALEM, OREGON
DATE: 10/20/2023
DRAWN BY: J. HARRIS
CHECKED BY: J. HARRIS
SCALE: 1" = 40'
SOURCE: © 2017 GOOGLE EARTH PRO

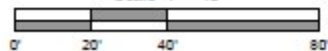


LEGEND

- MW-1 MONITORING WELL NUMBER AND LOCATION
- P1 GAS PROBE LOCATION



Scale 1" = 40'



PREPARED FOR: SALEM HEALTH



Site Plan with Soil Gas Probe Locations 2023

1155 MISSION STREET SOUTHEAST
SALEM, OREGON

OCT 2023
22643.000
FIGURE

Figure 7: Estimated Extent of Remaining Petroleum Contamination in Soil

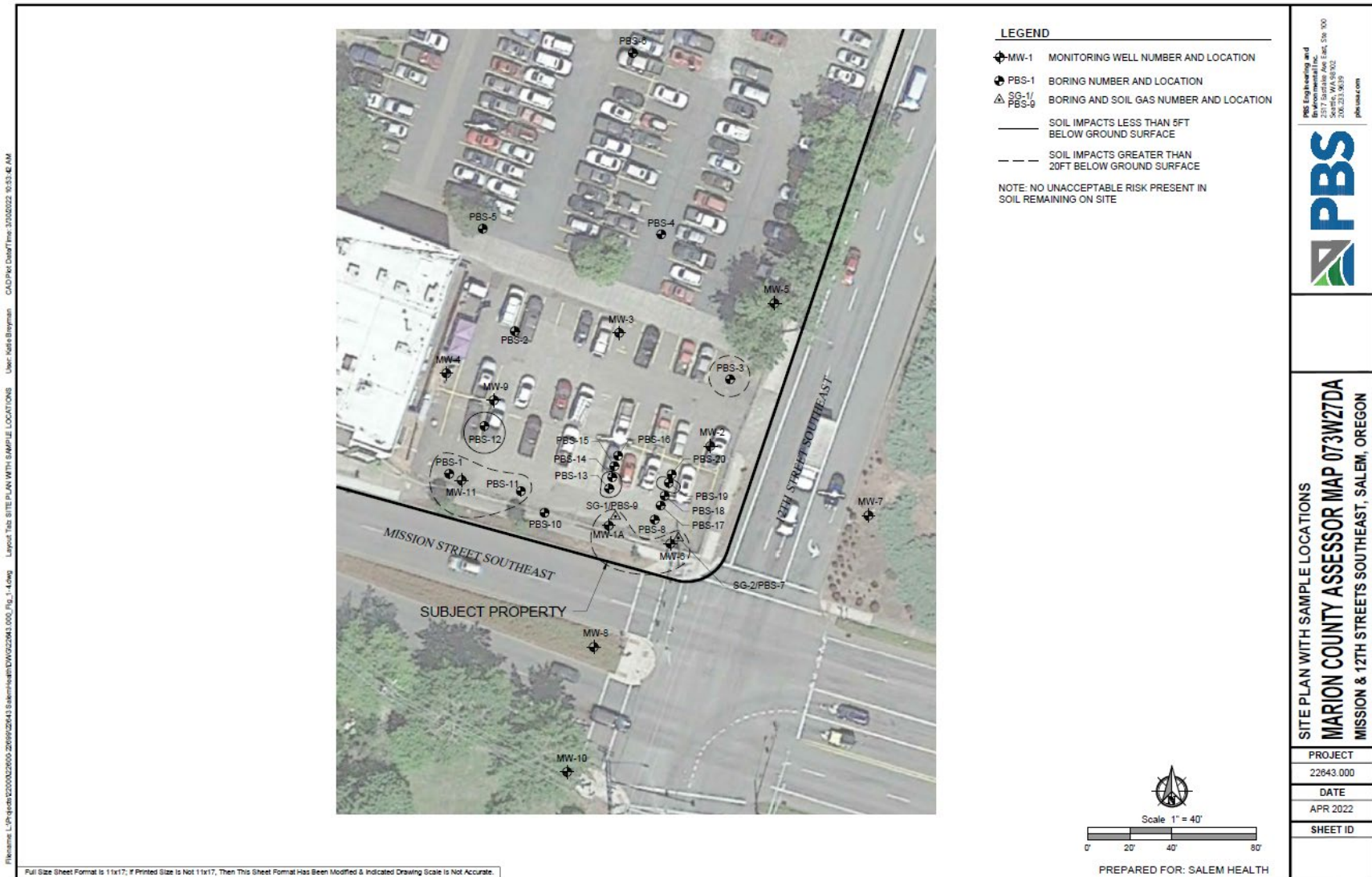


Figure 8: Estimated Extent of Petroleum Contamination in Groundwater



Table 1. Summary of Soil Analytical Results

Mission and 12th Streets SE

Salem, Oregon

LUST File 24-11-1116

Sample ID	Sample Date	Depth Collected (feet bgs)	TPH			VOCs												
			Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	Acetone	n-Butylbenzene	sec-Butylbenzene	2-Butanone (MEK)	Isopropylbenzene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
			mg/kg															
S81-12.5'	10/13/2011	12.5	77.8	ND	ND	<0.0145	<0.058	<0.029	<0.0869	--	--	--	--	<0.058	<0.116	--	<0.058	<0.058
S81-15'	10/13/2011	15	23.4	ND	ND	<0.0115	<0.0461	<0.023	<0.0691	--	--	--	--	<0.0461	0.214	--	0.924	0.283
S82-12.5'	10/13/2011	12.5	258	91.9	<50.0	<0.118	<0.47	<0.235	<0.706	--	--	--	--	<0.47	<0.941	--	21.9	5.37
S82-15'	10/13/2011	15	285	48.5	<50.0	<0.481	<1.92	<0.962	<2.89	--	--	--	--	<1.92	<3.85	--	9.43	4.04
S83-13'	10/13/2011	13	275	109	<50.0	<0.145	<0.578	0.307	1.35	--	--	--	--	<0.578	1.42	--	6.48	1.6
S83-15'	10/13/2011	15	3,960	995	<67.8	<0.477	26.6	42.3	345	--	--	--	--	4.18	21.6	--	162	49.2
S84-14'	10/13/2011	14	648	191	<72.6	<0.306	<1.22	<0.612	2.47	--	--	--	--	<1.22	<2.45	--	<1.22	<1.22
S85-15'	10/13/2011	15	294	120	<50.0	<0.273	<1.09	<0.546	<1.64	--	--	--	--	<1.09	<2.19	--	<1.09	1.35
S86-15'	10/13/2011	15	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
S87-12.5'	10/13/2011	12.5	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
S87-15'	10/13/2011	15	845	95.9	<50.0	<0.655	<2.62	1.52	<3.93	--	--	--	--	<3.38	<5.24	--	46.6	17.6
S88-2.5'	10/13/2011	2.5	ND	<361	4,380	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
S88-10'	10/13/2011	10	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
S88-15'	10/13/2011	15	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
S89-12.5'	10/13/2011	12.5	91.1	ND	ND	<0.0135	<0.0541	<0.0271	<0.0812	--	--	--	--	<0.0541	<0.108	--	0.897	<0.0541
MW-1 @ 12.5'	6/21/2012	12.5	6,100	1,880	<77.3	<0.138	51.1	52.6	453	--	--	--	--	5.14	33.2	--	201	56.7
MW-1 @ 15.0'	6/21/2012	15	32.2	<25.0	<50.0	<0.0133	0.145	0.255	2.02	--	--	--	--	<0.0531	0.178	--	1.06	0.357
MW-2 @ 12.5'	6/21/2012	12.5	<5.3	<25.0	<50.0	<0.0133	<0.053	<0.0265	<0.0796	--	--	--	--	<0.053	<0.106	--	<0.053	<0.053
MW-2 @ 15.0'	6/21/2012	15	<5.55	<25.0	58.8	<0.0139	<0.0555	<0.0278	<0.0833	--	--	--	--	<0.0555	<0.111	--	<0.0555	<0.0555
MW-3 @ 12.5'	6/21/2012	12.5	<5.45	<25.0	<50.0	<0.0136	<0.0545	<0.0273	<0.0818	--	--	--	--	<0.0545	<0.109	--	<0.0545	<0.0545
MW-3 @ 15.0'	6/21/2012	15	<5.19	<25.0	<50.0	<0.013	<0.0519	<0.026	<0.0779	--	--	--	--	<0.0519	<0.104	--	<0.0519	<0.0519
MW-4 @ 12.5'	6/21/2012	12.5	<5.13	<25.0	<50.0	<0.0128	<0.0513	<0.0257	<0.077	--	--	--	--	<0.0513	<0.103	--	<0.0513	<0.0513
MW-4 @ 15.0'	6/21/2012	15	8.31	<25.0	277	<0.0128	<0.0514	<0.0257	<0.0771	--	--	--	--	<0.0514	<0.103	--	<0.0514	<0.0514
MW-5 @ 11.5'	10/8/2014	11.5	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA

Table 1. Summary of Soil Analytical Results

Mission and 12th Streets SE

Salem, Oregon

LUST File 24-11-1116

Sample ID	Sample Date	Depth Collected (feet bgs)	TPH			VOCs												
			Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	Acetone	n-Butylbenzene	sec-Butylbenzene	2-Butanone (MEK)	Isopropylbenzene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
			mg/kg															
MW-5 @ 14'	10/8/2014	14	<5.09	<25.0	<50.0	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
MW-6 @ 12.5'	10/9/2014	12.5	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
MW-6 @ 14'	10/9/2014	14	538	34.8	<50.0	<0.128	<0.513	3.53	8.43	--	--	--	--	1.6	1.53	--	24.5	8.77
MW-7 @ 12.5'	10/10/2014	12.5	82.1	<25.0	<50.0	<0.0129	<0.0515	<0.0257	<0.0772	--	--	--	--	<0.0515	<0.103	--	<0.0515	<0.0515
MW-7 @ 15'	10/10/2014	15	71.9	<25.0	<50.0	<0.0114	<0.0455	0.377	1.97	--	--	--	--	0.143	0.152	--	3.64	1.06
MW-8 @ 12.5'	10/13/2014	12.5	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
MW-8 @ 15'	10/13/2014	15	<4.22	<25.0	<50.0	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
MW-9 @ 12.5'	10/13/2014	12.5	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
MW-9 @ 15'	10/13/2014	15	139	<25.0	<50.0	<0.0116	<0.0463	0.146	<0.0694	--	--	--	--	0.321	<0.0925	--	<0.0463	<0.0463
MW-10 @ 12.5'	8/10/2017	12.5	803	<25.0	<50.0	<0.0956	<0.478	2.69	1.18	--	--	--	--	1.41	1.68	--	0.717	0.502
MW-10 @ 15'	8/10/2017	15	480	<25.0	<50.0	<0.0896	<0.448	0.905	<0.672	--	--	--	--	0.838	<0.896	--	2.65	0.726
PBS1-14	07/26/2019	14	<2.70	8.10	37.3	<0.00108	<0.00540	<0.00270	<0.00702	<0.0270	<0.0135	<0.0135	<0.0270	<0.00270	<0.0216	<0.00540	<0.00540	<0.00540
PBS2-14	07/26/2019	14	<2.78	<4.28	<10.7	<0.00107	<0.00535	<0.00267	<0.00695	0.0275	<0.0134	<0.0134	<0.0267	<0.00267	<0.0214	<0.00535	<0.00535	<0.00535
PBS3-14	07/26/2019	14	<2.69	13.4	80.5	<0.00108	0.0311	<0.00269	0.00783	0.0367	<0.0134	<0.0134	0.0337	<0.00269	<0.0215	<0.00538	<0.00538	<0.00538
PBS4-14	07/26/2019	14	<2.73	<4.24	<10.6	<0.00106	<0.00530	<0.00265	<0.00689	<0.0265	<0.0132	<0.0132	<0.0265	<0.00265	<0.0212	<0.00530	<0.00530	<0.00530
PBS5-14	07/26/2019	14	<2.87	<4.29	<10.7	<0.00107	<0.00536	<0.00268	<0.00697	0.0274	<0.0134	<0.0134	0.0300	<0.00268	<0.0214	<0.00536	<0.00536	<0.00536
PBS6-14	07/26/2019	14	<2.62	<4.19	<10.5	<0.00105	<0.00524	<0.00262	<0.00681	0.0324	<0.0131	<0.0131	0.0304	<0.00262	<0.0210	<0.00524	<0.00524	<0.00524
PBS7-13	12/04/2019	13	9.39	<4.25	<10.6	<0.00106	<0.00532	<0.00266	<0.00691	<0.0266	<0.0133	<0.0133	<0.0266	<0.00266	<0.0213	<0.00532	<0.00532	<0.00532
PBS8-13	12/04/2019	13	<2.74	<4.39	28.2	<0.00110	<0.00548	<0.00274	<0.00713	<0.0274	<0.0137	<0.0137	<0.0274	<0.00274	<0.0219	<0.00548	<0.00548	<0.00548
PBS9-13	12/04/2019	13	<2.82	11.4	86.9	<0.00113	0.00582	<0.00282	<0.00733	<0.0282	<0.0141	<0.0141	<0.0282	<0.00282	<0.0226	<0.00564	<0.00564	<0.00564
PBS10-6	12/05/2019	6	<2.78	<4.44	<11.1	<0.00111	<0.00555	<0.00278	<0.00722	<0.0278	<0.0139	<0.0139	<0.0278	<0.00278	<0.0222	<0.00555	<0.00555	<0.00555
PBS10-13	12/05/2019	13	<2.73	<4.37	<10.9	<0.00109	<0.00546	<0.00273	<0.00710	<0.0273	<0.0137	<0.0137	<0.0273	<0.00273	<0.0218	<0.00546	<0.00546	<0.00546
PBS11-13	12/05/2019	13	65.2	<4.36	<10.9	<0.00109	<0.00545	<0.00273	<0.00709	<0.0273	0.176	0.0748	<0.0273	<0.00273	<0.0218	0.0111	<0.00545	<0.00545
PBS12-2.5	12/05/2019	2.5	<3.17	10.8	70.5	<0.00127	<0.00634	<0.00317	<0.00824	<0.0317	<0.0158	<0.0158	<0.0317	<0.00317	<0.0254	<0.00634	<0.00634	<0.00634

Table 2. Summary of Monitoring Well Analytical Results

Mission and 12th Streets SE
Salem, Oregon
LUST File 24-11-1116

Sample ID	Sample Date	Depth to Water (feet bgs)	TPH			VOCs														PAHs						
			Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	n-Butylbenzene	Sec-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	4-Methyl-2-Pentanone (MIBK)	Naphthalene	n-Propylbenzene	Tetrachloroethene	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene	Acenaphthene	Fluorene	Phenanthrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene
			µg/L																							
MW-1A	10/16/2014	11.79	17,500	450	<377	<2.50	159	765	2250	NS	NS	48.8	NS	--	275	149	--	668	--	212	0.0833	0.0727	0.0619	140	--	--
	11/5/2015	9.11	107	<189	<377	<0.200	<1.00	0.57	3.35	NS	NS	<1.00	NS	--	<2.00	0.74	--	1.53	--	<1.00	0.189	0.189	0.189	0.874	--	--
	2/29/2016	10.07	2,490	<190	<381	<0.200	1.07	11.2	43.5	NS	NS	5.43	NS	--	14.8	20.8	--	41.4	--	18.3	0.0381	0.0381	0.0381	2.32	--	--
	5/24/2016	10.23	668	<190	<381	<0.200	<1.00	3.01	8.44	NS	NS	2.53	NS	--	4.17	8.7	--	7.58	--	2.82	0.0381	0.0381	0.0381	1.68	--	--
	8/31/2016	12.32	13,500	232	<377	1.05	148	453	1279	12.34	8.28	60.5	1.194	--	165	96	--	260	--	95.4	0.755	0.755	0.755	89.8	--	--
	9/20/2017	11.27	314	<187	<374	<0.200	<1.00	1.51	8.8	NS	NS	1.42	NS	--	<2.00	--	--	2.64	--	1	0.0374	0.0374	0.0374	0.301	--	--
	07/30/2019	12.77	133	128	<250	<1.00	<1.00	<1.00	<3.00	<1.00	1.68	6.57	<1.00	<10.0	5.81	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.0500	9	1.49	<0.250
12/11/2019	10.51	270	<100	<250	<1.00	<1.00	3.41	20.5	<1.00	<1.00	2.25	<1.00	<10.0	<5.00	1.27	<1.00	2.53	3.41	<1.00	<0.0500	<0.0500	<0.0500	1.22	0.661	<0.250	
MW-2	7/6/2012	13.78	2,820	516	<404	25.8	79.6	91.3	122	NS	NS	33.3	NS	--	10.3	71.4	--	4.88	--	8.92	--	--	--	--	--	--
	10/16/2014	14.02	1,500	<189	<377	78.6	25.9	6.26	24.2	NS	NS	14.6	NS	--	<4.00	37.9	--	<2.00	--	<2.00	0.0377	0.0377	0.0377	0.104	--	--
	11/5/2015	13.34	451	<189	<377	1.33	1.68	1.59	1.5	NS	NS	4.81	NS	--	<2.00	6.38	--	<1.00	--	<1.00	0.0377	0.0377	0.0377	0.0755	--	--
	2/29/2016	13.18	203	<190	<381	2.28	<1.00	<0.500	1.5	NS	NS	<1.00	NS	--	<2.00	<0.500	--	<1.00	--	<1.00	0.0381	0.0381	0.0381	0.0762	--	--
	5/24/2016	13.42	223	<190	<381	1.08	<1.00	<0.500	1.5	NS	NS	1.46	NS	--	<2.00	1.17	--	<1.00	--	<1.00	0.0381	0.0381	0.0381	0.0762	--	--
	8/31/2016	14.11	435	<189	<377	7.49	2.64	1.64	1.68	<1.00	<1.00	5.64	<1.00	--	<2.00	8	--	<1.00	--	<1.00	0.0381	0.0381	0.0381	0.0762	--	--
	9/20/2017	13.70	635	<187	<374	3.5	1.53	1.29	1.54	NS	NS	6.93	NS	--	<2.00	--	--	<1.00	--	<1.00	0.0374	0.0374	0.0374	0.0841	--	--
	07/31/2019	14.13	<100	<100	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.0500	<0.250	--	--
12/12/2019	13.83	<100	<100	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.0500	<0.250	<0.250	<0.250	
MW-3	7/6/2012	14.66	979	<202	<404	<0.250	5.72	44.8	19.5	NS	NS	22.4	NS	--	5.3	43.1	--	1.77	--	3.3	--	--	--	--	--	--
	10/16/2014	15.11	2,930	<189	<377	2.18	8.1	9.98	12.5	NS	NS	55.5	NS	--	<4.00	104	--	<2.00	--	3.9	0.0377	0.0377	0.0377	0.217	--	--
	11/4/2015	14.41	5,560	<189	<377	1.92	21	61.5	26.7	NS	NS	77.3	NS	--	<4.00	178	--	2.02	--	8.02	0.0377	0.0377	0.0377	0.935	--	--
	2/29/2016	13.86	541	<190	<381	<0.200	2.13	7.22	2.9	NS	NS	6.4	NS	--	<2.00	14.8	--	<1.00	--	<1.00	0.0381	0.0381	0.0381	0.107	--	--
	5/24/2016	14.41	1,880	<190	<381	0.38	10.1	49.5	22.7	NS	NS	35	NS	--	<2.00	78.5	--	3.98	--	7.51	0.0381	0.0381	0.0381	0.0887	--	--
	8/30/2016	-	5,960	<189	<377	1.23	28.7	83.1	54.5	21	15.6	121	1.604	--	<2.00	215	--	5.62	--	17.7	0.0381	0.0381	0.0381	0.626	--	--
	9/19/2017	14.70	8,030	<187	<374	1.16	28.7	174	174	NS	NS	<1.00	NS	--	4.37	--	--	27.6	--	49.8	0.0374	0.0374	0.0374	1.61	--	--
	07/31/2019	15.08	4,160	130	<250	<1.00	30.1	88.2	50.3	16.6	13.0	94.8	1.72	<10.0	<5.00	136	<1.00	6.47	11.1	11.5	<0.0500	<0.0500	<0.0500	2.68	12.3	3.71
	12/12/2019	15.03	6,890	<100	<250	<10.0	24.4	43.4	33.4	11.3	11.7	83.1	<10.0	<10.0	<50.0	134	23.7	<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	1.15	12.4	0.394

Table 2. Summary of Monitoring Well Analytical

Mission and 12th Streets SE
Salem, Oregon
LUST File 24-11-1116

Sample ID	Sample Date	Depth to Water (feet bgs)	TPH			VOCs													PAHs							
			Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	n-Butylbenzene	Sec-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	4-Methyl-2-Pentanone (MIBK)	Naphthalene	n-Propylbenzene	Tetrachloroethene	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene	Acenaphthene	Fluorene	Phenanthrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene
			µg/L																							
MW-4	7/6/2012	14.01	<100	<187	<374	<0.250	<1.00	<0.500	<0.500	NS	NS	<1.00	NS	--	<2.00	<0.500	--	<1.00	--	<1.00	0.0374	0.0374	0.0374	0.0748	--	--
	10/16/2014	14.51	104	<189	<377	<0.250	<1.00	<0.500	<1.50	NS	NS	<1.00	NS	--	<2.00	0.68	--	2.09	--	<1.00	0.0377	0.0377	0.0377	0.0377	--	--
	11/4/2015	13.06	<100	<189	<377	<0.200	<1.00	<0.500	<1.50	NS	NS	<1.00	NS	--	<2.00	<0.500	--	<1.00	--	<1.00	0.0377	0.0377	0.0377	0.0755	--	--
	2/29/2016	12.66	<100	<190	<381	<0.200	<1.00	<0.500	<1.50	NS	NS	<1.00	NS	--	<2.00	<0.500	--	<1.00	--	<1.00	0.0381	0.0381	0.0381	0.0762	--	--
	5/24/2016	13.24	<100	<190	<381	<0.200	<1.00	<0.500	<1.50	NS	NS	<1.00	NS	--	<2.00	<0.500	--	<1.00	--	<1.00	0.0381	0.0381	0.0381	0.0762	--	--
	8/30/2016	13.81	<100	<189	<377	<0.200	<1.00	<0.500	<1.50	<1.00	<1.00	<1.00	<1.00	--	<2.00	<0.500	--	<1.00	--	<1.00	0.0381	0.0381	0.0381	0.0762	--	--
	9/19/2017	13.16	<100	<187	<374	<0.200	<1.00	<0.500	<1.50	NS	NS	<1.00	NS	--	<2.00	--	--	<1.00	--	<1.00	0.0374	0.0374	0.0374	0.0748	--	--
	07/31/2019	14.65	<100	<100	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.0500	<0.250	<0.250	<0.250
12/11/2019	14.70	202	<100	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.0500	<0.250	<0.250	<0.250	
MW-5	10/16/2014	14.39	110	<189	<377	<0.250	<1.00	<0.500	<1.50	NS	NS	<1.00	NS	--	<2.00	<0.500	--	<1.00	--	<1.00	0.0377	0.0377	0.0377	0.0377	--	--
	11/5/2015	14.35	104	<189	<377	0.54	<1.00	<0.500	<1.50	NS	NS	<1.00	NS	--	<2.00	<0.500	--	<1.00	--	<1.00	0.0377	0.0377	0.0377	0.0755	--	--
	2/29/2016	14.29	2,120	<190	<381	39	3.14	2.4	4.81	NS	NS	3.72	NS	--	<2.00	<0.500	--	<1.00	--	1.56	0.0381	0.0381	0.0381	0.21	--	--
	5/24/2016	14.42	662	<190	<381	16.5	<1.00	<0.500	<1.50	NS	NS	2.69	NS	--	<2.00	<0.500	--	<1.00	--	<1.00	0.0381	0.0381	0.0381	0.0762	--	--
	8/30/2016	14.67	125	<189	<377	<0.200	<1.00	<0.500	<1.50	<1.00	<1.00	<1.00	<1.00	--	<2.00	0.89	--	<1.00	--	<1.00	0.0381	0.0381	0.0381	0.0762	--	--
	9/19/2017	14.53	<100	<187	<374	<0.200	<1.00	<0.500	<1.50	NS	NS	<1.00	NS	--	<2.00	--	--	<1.00	--	<1.00	0.0374	0.0374	0.0374	0.0748	--	--
	07/31/2019	14.57	<100	101	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.0500	<0.250	<0.250	<0.250
	12/12/2019	14.33	<100	<100	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.0500	<0.250	<0.250	<0.250
MW-6	10/16/2014	13.66	7,820	274	<377	<2.50	21.6	224	492	NS	NS	35.3	NS	--	71.3	117	--	284	--	135	0.0874	0.139	0.132	32.3	--	--
	11/5/2015	12.78	2,980	<189	<377	<2.00	<10.0	53.6	93.7	NS	NS	14.9	NS	--	22.7	45.3	--	57.1	--	37.9	0.0377	0.0377	0.0377	14.9	--	--
	2/29/2016	12.29	2,610	<190	<381	<0.200	6.36	49.1	49.6	NS	NS	10	NS	--	14.8	31.8	--	34.4	--	16.9	0.0381	0.0381	0.0436	5.63	--	--
	5/24/2016	12.77	1,770	<190	<381	<2.00	<10.0	41	62.2	NS	NS	10.2	NS	--	20	25	--	32.6	--	14.6	0.0381	0.0381	0.0381	4.48	--	--
	8/31/2016	13.85	9,180	<189	<377	0.3	19.2	285	524.8	13.54	9.03	50.6	2,724	--	85.4	118	--	240	--	166	0.377	0.377	0.377	52.7	--	--
	9/20/2017	13.12	3,350	<187	<374	<1.00	7.87	87.7	163	NS	NS	13.8	NS	--	18.1	--	--	47.4	--	26.9	0.0374	0.057	0.0739	6.46	--	--
	07/30/2019	14.17	2,610	297	<250	<1.00	9.9	151	158	7.22	5.68	25.8	1.14	<10.0	33.1	80.6	<1.00	72.4	111	43.6	0.0872	0.118	0.0856	20.1	10.4	9.43
	12/11/2019	13.34	3,400	<100	<250	<1.00	<1.00	15.4	12.6	4.16	2.96	7.75	<1.00	<10.0	<5.00	14.5	<1.00	7.1	19.7	5.34	<0.0500	0.0615	0.0741	4.18	4.7	5.1
MW-7	10/16/2014	15.45	21,000	454	<377	10.6	250	735	2730	NS	NS	80.5	NS	--	140	197	--	1250	--	332	0.22	0.495	0.249	44.2	--	--
	11/5/2015	14.96	12,000	795	<377	8.25	223	363	1520	NS	NS	<25.0	NS	--	50	52	--	361	--	106	0.755	0.755	0.755	17.1	--	--
	2/29/2016	13.90	7,110	385	<381	<2.00	52.4	107	574	NS	NS	13.7	NS	--	20	30.5	--	224	--	82.8	0.0381	0.12	0.0381	6.18	--	--
	5/24/2016	14.73	4,970	996	<381	<1.00	<5.0	42.5	232	NS	NS	18.2	NS	--	10.8	43.4	--	174	--	63.8	0.0381	0.32	0.0381	5.94	--	--
	8/31/2016	15.52	2,730	1,190	<377	0.92	18.8	32.8	155.6	2,624	2.74	15.7	<2.00	--	4.82	29.7	--	53.1	--	19.2	0.109	0.187	0.0381	0.3814	--	--
	9/20/2017	15.36	5,030	755	<370	3.12	54.4	124	461	NS	NS	18.7	NS	--	14.7	--	--	111	--	29.5	0.0374	0.372	0.0374	1.25	--	--
	07/30/2019	15.33	1,530	2,180	1,020	<1.00	3.38	14.2	91.9	1.87	2.05	12.5	<1.00	<10.0	<5.00	27.2	<1.00	77.7	40.6	22.5	0.0735	0.0667	<0.0500	<0.250	<0.250	<0.250
	12/12/2019	15.11	9,590	152	593	3.38	82.6	149	2070	1.39	1.9	18.8	<1.00	<10.0	<10.0	17.6	36	<1.00	142	50.8	34.7	0.157	0.325	0.0514	70.5	7.14

Table 2. Summary of Monitoring Well Analytical

Mission and 12th Streets SE
Salem, Oregon
LUST File 24-11-1116

Sample ID	Sample Date	Depth to Water (feet bgs)	TPH			VOCs													PAHs							
			Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	n-Butylbenzene	Sec-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	4-Methyl-2-Pentanone (MIBK)	Naphthalene	n-Propylbenzene	Tetrachloroethene	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene	Acenaphthene	Fluorene	Phenanthrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene
			µg/L																							
MW-8	10/16/2014	15.49	8,610	572	<377	<2.50	<10.0	147	509	NS	NS	27.3	NS	--	33	99.3	--	548	--	173	0.177	0.319	0.62	36.4	--	--
	11/5/2015	14.85	2,710	<189	<377	<2.00	15.7	75.7	78	NS	NS	24.9	NS	--	20	72.6	--	26.2	--	11.1	0.0377	0.0377	0.0377	10.5	--	--
	2/29/2016	13.60	2,290	<190	<381	0.422	15	40.1	61.3	NS	NS	19.7	NS	--	10.7	62.8	--	4.62	--	2.73	0.0381	0.0381	0.0381	4.38	--	--
	5/24/2016	14.42	2,190	<190	<381	0.896	27.9	62.7	113	NS	NS	19.5	NS	--	15.8	61	--	6.77	--	2.56	0.0381	0.0381	0.0381	6.35	--	--
	8/31/2016	14.95	2,690	<189	<377	0.78	21.8	51.5	55.54	6.46	6.43	31.2	<1.00	--	18.2	72	--	<1.00	--	1.43	0.0381	0.0381	0.0381	5.94	--	--
	9/20/2017	13.85	365	<187	<374	<0.200	1.46	1.85	2.23	NS	NS	3.22	NS	--	<2.00	--	--	<1.00	--	<1.00	0.0374	0.0374	0.0374	0.304	--	--
	07/30/2019	15.50	294	<100	<250	<1.00	<1.00	<1.00	<3.00	1.69	2.84	8.48	<1.00	<10.0	<5.00	19.9	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.0500	<0.250	0.406	<0.250
12/12/2019	15.75	726	<100	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.0500	<0.250	0.678	<0.250	
MW-9	10/16/2014	15.01	25,400	501	<377	<0.600	91.3	1370	2550	NS	NS	149	NS	--	210	485	--	1350	--	408	0.0434	0.0424	0.0519	207	--	--
	11/5/2015	13.44	492	<189	<377	<0.200	1	2	9.21	NS	NS	3.57	NS	--	2.77	2.55	--	12.8	--	3.89	0.0377	0.0377	0.0377	1.47	--	--
	2/29/2016	13.11	9,810	<190	<381	0.202	17.1	247	352	NS	NS	61	NS	--	121	147	--	299	--	120	0.0381	0.0381	0.0381	46.7	--	--
	5/24/2016	13.73	2,220	<190	<381	<0.400	<2.00	26.2	116	NS	NS	20.2	NS	--	32	22.1	--	144	--	23.6	0.0381	0.0381	0.0381	13.1	--	--
	8/31/2016	14.38	5,930	<189	<377	<0.400	2.44	154	153.1	12.74	10.2	79	<2.00	--	88.4	136	--	313	--	45.9	0.381	0.381	0.381	43.1	--	--
	9/20/2017	13.96	<100	<187	<374	<0.200	<1.00	<0.500	<1.50	NS	NS	<1.00	NS	--	<2.00	--	--	<1.00	--	<1.00	0.0377	0.0377	0.0377	0.0755	--	--
	07/31/2019	14.94	2,580	504	<250	<1.00	1.11	16.4	8.45	6.32	7.67	39.7	<1.00	31.9	9.8	48.6	<1.00	35.8	7.99	2.45	<0.0500	<0.0500	<0.0500	11.8	3.03	1.66
12/11/2019	15.01	3,500	<100	<250	<1.00	2.64	22.5	25.8	7.94	9.98	64.9	<1.00	<10.0	20.8	69.4	<1.00	76.6	10.7	4.27	<0.0500	<0.0500	<0.0500	20.6	5	0.933	
MW-10	9/20/2017	12.57	13,800	360	<377	1.65	308	255	1490	NS	NS	19	NS	--	47.9	--	--	538	--	159	0.189	0.244	0.454	55.5	--	--
	07/30/2019	14.30	<100	<100	<250	<1.00	<1.00	1.74	<3.00	<1.00	<1.00	1.15	<1.00	<10.0	<5.00	3.55	<1.00	17.3	3.45	3.54	<0.0500	<0.0500	<0.0500	<0.250	<0.250	<0.250
	12/12/2019	14.50	6,980	<100	<250	28	167	239	952	<1.00	1.03	10.8	<1.00	<10.0	44.6	25.5	<1.00	181	81.4	53.4	<0.0500	<0.0500	<0.0500	42.1	3.44	5.28
MW-11	12/11/2019	14.31	3,440	<100	<250	<1.00	2.62	10.3	19.8	12	8.95	20.9	<1.00	<10.0	<5.00	50.9	<1.00	11	11.8	6.2	<0.0500	<0.0500	<0.0500	1.11	3.95	0.577

Oregon RBC - Ingestion and Inhalation from Tap Water ¹	Residential	110	100	0.46	1100	1.5	190	NS	NS	440	NS	NS	0.17	NS	12	54	NS	59	510	280	NS	0.17	NS	NS
	Urban Residential	110	100	2	4,400	6.7	710	NS	NS	1,800	NS	NS	0.78	NS	49	230	NS	240	2,400	1,400	NS	0.78	NS	NS
				430	2.1	6,300	6.4	830	NS	NS	2,000	NS	0.72	NS	48	250	NS	280	2,500	1,300	NS	0.72	NS	NS
				>S	3,100	>S	9,900	>S	NS	NS	>S	NS	NS	3,600	NS	64,000	>S	NS	>S	>S	NS	3,600	NS	NS
				>S	7,400	>S	23,000	>S	NS	NS	>S	NS	NS	8,500	NS	150,000	>S	NS	>S	>S	NS	8,500	NS	NS
				>S	14,000	>S	43,000	>S	NS	NS	>S	NS	NS	16,000	NS	>S	>S	NS	>S	>S	NS	16,000	NS	NS
Oregon RBC - Vapor Intrusion into Buildings ¹	Residential	22,000	>S	210	>S	620	86,000	NS	NS	>S	NS	NS	840	NS	3,700	50,000	NS	36,000	>S	>S	NS	840	NS	NS
	Urban Residential	22,000	>S	510	>S	1,500	86,000	NS	NS	>S	NS	NS	2,000	NS	8,700	50,000	NS	36,000	>S	>S	NS	2,000	NS	NS
	Occupational	>S	>S	2,800	>S	8,200	>S	NS	NS	>S	NS	NS	11,000	NS	48,000	>S	NS	>S	>S	>S	NS	11,000	NS	NS
Oregon RBC - Groundwater in Excavation ¹	Construction & Excavation Worker	>S	>S	1,800	220,000	4,500	23,000	NS	NS	51,000	NS	NS	500	NS	5,600	6,300	NS	7,500	>S	>S	NS	500	NS	NS

Notes:

Only detected chemicals are shown. See laboratory report for full list of analytes.

<: Analyte not detected above the laboratory reporting limit

NS: Value not set

>S: greater than solubility

µg/L: microgram per liter

¹RBC values from DEO's Risk-Based Decision Making for the Remediation of Contaminated Sites. September 22, 2003. Updated May 2018.

Table 3. Soil Gas Analytical Results

Mission and 12th Streets SE
Salem, Oregon
LUST File 24-11-1116

Location	Sample ID	Sample Date	Gasoline-Range Hydrocarbons	Acetone	2-Butanone (MEK)	Benzene	Carbon Disulfide	Chloroform	Chloromethane	Cyclohexane	Dichlorodifluoromethane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Ethanol	Ethylbenzene	4-Ethyltoluene	Heptane	n-Hexane	Methylene Chloride	2-Propanol	Propene	4-Methyl-2-Pentanone (MIBK)	Styrene	Trichlorofluoromethane	Tetrachloroethylene	Tetrahydrofuran	Toluene	Trichloroethylene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2,2,4-Trimethylpentane	Vinyl Acetate	Total Xylenes (m, p, and o)	
			µg/m ³																															
Near MW-11	SG-1	9/22/2014	--	<15,000	--	<15,000	--	<15,000	--	--	--	--	--	--	<15,000	<15,000	--	--	--	--	--	--	--	--	<15,000	--	<15,000	--	<15,000	<15,000	--	--	<15,000	
Near MW-1A	SG-2	9/22/2014	--	<50	--	<50	--	<50	--	--	--	--	--	--	<50	<50	--	--	--	--	--	--	--	--	<50	--	<50	--	<50	<50	--	--	<50	
Near MW-6	SG-3	9/22/2014	--	<1,500	--	<1,500	--	<1,500	--	--	--	--	--	--	<1,500	<1,500	--	--	--	--	--	--	--	--	<1,500	--	<1,500	--	<1,500	<1,500	--	--	<1,500	
Center of former gas station building	SG-4	9/22/2014	--	<20	--	<20	--	41	--	--	--	--	--	--	<20	<20	--	--	--	--	--	--	--	--	130	--	<20	--	<20	<20	--	--	20	
North of former USTs	SG-5	9/22/2014	--	<20	--	<20	--	<20	--	--	--	--	--	--	36	23	--	--	--	--	--	--	--	--	--	200	--	54	--	65	29	--	--	174
Northwest of former gas station	SG-6	9/22/2014	--	<3,000	--	<3,000	--	<3,000	--	--	--	--	--	--	<3,000	<3,000	--	--	--	--	--	--	--	--	<3,000	--	<3,000	--	<3,000	<3,000	--	--	<3,000	
South of MW-5	SG-7	9/22/2014	--	<20	--	<20	--	<20	--	--	--	--	--	--	<20	<20	--	--	--	--	--	--	--	--	360	--	<20	--	<20	<20	--	--	<20	
At PBS-9 location	SG-1	12/4/2019	<826	13.4	<3.69	1.19	<0.622	28.2	<0.413	<0.689	1.89	<1.20	<1.20	7.52	1.60	2.23	<0.818	<0.705	<0.694	<3.07	10.6	<5.12	<0.851	<1.12	9.84	<0.590	81.0	<1.07	3.94	3.94	<0.934	<0.704	11.4	
At PBS-7 location	SG-2	12/4/2019	<826	18.3	20.3	4.18	<0.622	<0.973	0.764	<0.689	2.04	<1.20	<1.20	34.9	<0.867	<0.982	<0.818	1.83	5.83	<3.07	9.61	<5.12	<0.851	<1.12	11.7	7.25	53.9	<1.07	0.991	0.991	<0.934	<0.04	4.33	
P-1	010923P-1-SG	1/9/2023	<826	<2.97	<3.69	0.846	0.903	<0.973	<0.413	16.0	2.41	<1.20	<1.20	16.9	1.37	<0.982	<0.818	<2.22	<0.694	<3.07	<2.15	<5.12	<0.851	<1.12	57.0	<0.590	6.14	4.39	1.94	<0.982	<0.982	179	106	8.31
	010923P-2-SG	1/9/2023	2,860	<2.97	<3.69	0.719	0.928	8.47	<0.413	107	2.20	<1.20	<1.20	10.2	<0.867	<0.982	<0.818	<2.22	<0.694	<3.07	3.60	<5.12	<0.851	<1.12	88.3	<0.590	3.21	3.60	<0.982	<0.982	186	<0.704	2.01	
P-2	062823P-2-SG	6/28/2023	<826	19.2	<3.69	1.93	10.9	16.3	<0.413	<0.689	1.32	4.18	7.09	11.6	6.68	<0.982	<0.818	<2.22	<0.694	<3.07	<2.15	<5.12	1.03	1.49	327	1.32	12.5	<1.07	3.64	<0.982	<0.934	<0.704	14.69	
	010923P-3-SG	1/9/2023	<826	5.61	<3.69	1.66	5.10	<0.973	<0.413	<0.689	1.89	<1.20	<1.20	7.15	1.39	<0.982	1.76	2.33	<0.694	<3.07	19.8	<5.12	<0.851	<1.12	24.5	<0.590	14.5	<1.07	<0.982	<0.982	<0.934	<0.704	4.59	
P-3	062823P-3-SG	6/28/2023	<826	36.1	4.66	12.9	11.5	<0.973	0.628	0.782	1.44	1.70	<1.20	37.3	1.12	<0.982	<0.818	<2.22	1.98	8.75	<2.15	<5.12	2.10	1.60	35.4	<0.590	11.8	1.83	1.66	<0.982	<0.934	3.66	5.06	
	010923P-4-SG	1/9/2023	1,210	47.5	6.31	1.56	5.20	<0.973	<0.413	53.0	1.96	<1.20	<1.20	7.50	4.05	3.35	<0.818	<2.22	<0.694	<3.07	3.65	5.94	<0.851	1.28	97.1	<0.590	20.2	<1.07	3.65	1.35	56.1	<0.704	20.9	
P-4	062823P-4-SG	6/28/2023	<826	120	12.9	5.91	3.58	1.08	<0.413	<0.689	1.88	2.48	<1.20	17.2	<0.867	<0.982	<0.818	<2.22	<0.694	4.74	<2.15	9.29	<0.851	1.52	309	<0.590	3.88	<1.07	1.24	<0.982	<0.934	<0.704	3.12	
	010923P-5-SG	1/9/2023	<826	<2.97	<3.69	<0.639	0.847	<0.973	<0.413	<0.689	2.06	<1.20	<1.20	4.07	<0.867	<0.982	<0.818	<2.22	<0.694	<3.07	<2.15	<5.12	<0.851	1.17	41.1	<0.590	2.63	<1.07	1.31	<0.982	<0.934	<0.704	5.41	
P-5	062823P-5-SG	6/28/2023	<826	28.5	<3.69	12.4	11.4	<0.973	<0.413	<0.689	1.52	<1.20	<1.20	19.6	1.04	<0.982	<0.818	<2.22	<0.694	10.5	<2.15	<5.12	1.51	1.78	87.6	<0.590	7.08	<1.07	2.06	<0.982	<0.934	2.26	5.94	
Oregon DEQ RBC ¹ - Vapor Intrusion into Buildings	Chronic	Residential	10,000	NITI	170,000	12	24,000	4.1	3,100	210,000	3,500	NITI	8.5	NS	37	NS	14,000	24,000	10,000	NS	NS	100,000	35,000	NITI	360	70,000	170,000	16	2,100	2,100	NITI	7,000	3,500	
		Commercial	40,000	NITI	730,000	52	100,000	18	13,000	880,000	15,000	NITI	37	NS	160	NS	58,000	100,000	41,000	NS	NS	440,000	150,000	NITI	1,600	290,000	730,000	100	8,800	8,800	NITI	29,000	15,000	

Notes:

See laboratory report for full list of analytes

µg/m³: micrograms per cubic meter

NS: screening level not set for this compound

NITI: No inhalation toxicity information

<: not detected above laboratory method reporting limit

¹Oregon Department of Environmental Quality Risk-Based Decision-Making for the Remediation of Petroleum-Contaminated Sites, Vapor Intrusion Risk-Based Concentrations, June 2023

Table 4. Maximum Concentrations in Soil

Mission and 12th Streets SE
Salem, Oregon
LUST File 24-11-1116

		TPH			VOCs																					
		Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	Acetone	n-Butylbenzene	sec-Butylbenzene	2-Butanone (MEK)	Isopropylbenzene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene									
Highest Concentration Detected (2017-2019)		803	13.4	86.9	NA	0.0311	2.69	1.18	mg/kg									0.0367	0.176	0.0748	0.0337	1.41	1.68	0.0111	2.65	0.726
Oregon RBC - Soil Ingestion, Dermal Contact, and Inhalation ¹	Residential	1,200	1,100		8.2	5,800	34	1,400	NS	NS	NS	NS	NS	NS	5.3	NS	430	430								
	Urban Residential	2,500	2,200		24	12,000	110	2,900	NS	NS	NS	NS	NS	NS	25	NS	860	860								
	Occupational	20,000	14,000		37	88,000	150	25,000	NS	NS	NS	NS	NS	NS	23	NS	6,900	6,900								
	Construction Worker	9,700	4,600		380	28,000	1,700	20,000	NS	NS	NS	NS	NS	NS	580	NS	2,900	2,900								
	Excavation Worker	>MAX	>MAX		11,000	770,000	49,000	560,000	NS	NS	NS	NS	NS	NS	16,000	NS	81,000	81,000								
Oregon RBC - Volatilization to Outdoor Air ¹	Residential	5,900	>MAX		11	>Csat	36	>Csat	NS	NS	NS	NS	NS	NS	6.4	NS	>Csat	>Csat								
	Urban Residential	5,900	>MAX		27	>Csat	85	>Csat	NS	NS	NS	NS	NS	NS	15	NS	>Csat	>Csat								
	Occupational	69,000	>MAX		50	>Csat	160	>Csat	NS	NS	NS	NS	NS	NS	83	NS	>Csat	>Csat								
Oregon RBC - Vapor Intrusion into Buildings ¹	Residential	94	>MAX		0.16	>Csat	1.3	160	NS	NS	NS	NS	NS	NS	6.4	NS	140	98								
	Urban Residential	94	>MAX		0.38	>Csat	3.0	160	NS	NS	NS	NS	NS	NS	15	NS	140	98								
	Occupational	>MAX	>MAX		2.1	>Csat	17	>Csat	NS	NS	NS	NS	NS	NS	83	NS	>Csat	>Csat								
Oregon RBC - Leaching to Groundwater ¹	Residential	31	9,500		0.023	84	0.22	23	NS	NS	NS	NS	NS	NS	0.077	NS	10	11								
	Urban Residential	31	9,500		0.10	340	0.94	87	NS	NS	NS	NS	NS	NS	0.37	NS	43	45								
	Occupational	130	>MAX		0.10	490	0.90	100	NS	NS	NS	NS	NS	NS	0.34	NS	48	53								

Note: Note that since June 2023 and development of new vapor intrusions RBCs, soil is no longer used to evaluate for potential vapor intrusion and there are no longer RBCs for vapor intrusion into buildings from soil. Vapor intrusion is now evaluated through groundwater, soil gas and indoor air data.

Notes:

Only detected chemicals are shown. See laboratory report for full list of analytes.

TPH: total petroleum hydrocarbons

VOCs: volatile organic compounds

PAHs: polycyclic aromatic hydrocarbons

bgs: below ground surface

mg/kg: milligram per kilogram

--: analyte not tested or data not available

<: analyte not detected above the laboratory reporting limit

ND: analyte not detected above the laboratory reporting limit

>MAX: The RBC for this pathway is greater than 1,000,000 mg/kg. This substance is not deemed to pose a risk in this scenario.

>Csat: This soil RBC exceeds the limit of three-phase equilibrium partitioning.

NV: not volatile

NS: value not set

NA: not applicable

*: Leaching-to-Groundwater RBCs are not provided for inorganic chemicals.

¹RBC values from DEQ's Risk-Based Decision Making for the Remediation of Contaminated Sites. September 22, 2003. Updated May 2018.

PAHs												Metals			
Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	2-Methylnaphthalene	Arsenic	Barium	Chromium	Lead
mg/kg															
0.0196	0.0291	0.0325	0.0296	0.0121	0.0208	0.0462	0.0204	0.262	0.0195	0.0504	0.0224	2.56	99.6	20.4	5.2
1.1	0.11	1.1	NS	11	110	2,400	1.1	5.3	NS	1,800	NS	0.43	15,000	120,000	400
2.5	0.25	2.5	NS	25	250	4,800	2.5	25	NS	3,600	NS	1.0	31,000	230,000	400
21	2.1	21	NS	210	2,100	30,000	21	23	NS	23,000	NS	1.9	220,000	>MAX	800
170	17	170	NS	1,700	17,000	10,000	170	580	NS	7,500	NS	15	69,000	530,000	800
4,800	490	4,900	NS	49,000	490,000	280,000	4,900	16,000	NS	210,000	NS	420	>MAX	>MAX	800
>Csat	NV	NV	NS	NV	NV	NV	NV	6.4	NS	>MAX	NS	NV	NV	NV	NV
>Csat	NV	NV	NS	NV	NV	NV	NV	15	NS	>MAX	NS	NV	NV	NV	NV
>Csat	NV	NV	NS	NV	NV	NV	NV	83	NS	>MAX	NS	NV	NV	NV	NV
>Csat	NV	NV	NS	NV	NV	NV	NV	6.4	NS	>MAX	NS	NV	NV	NV	NV
>Csat	NV	NV	NS	NV	NV	NV	NV	15	NS	>MAX	NS	NV	NV	NV	NV
>Csat	NV	NV	NS	NV	NV	NV	NV	83	NS	>MAX	NS	NV	NV	NV	NV
1.6	4.4	>Csat	NS	>Csat	>Csat	>Csat	>Csat	0.077	NS	>Csat	NS	*	*	*	30
6.0	>Csat	>Csat	NS	>Csat	>Csat	>Csat	>Csat	0.37	NS	>Csat	NS	*	*	*	30
>Csat	>Csat	>Csat	NS	>Csat	>Csat	>Csat	>Csat	0.34	NS	>Csat	NS	*	*	*	30

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