

Contaminated Media Management Plan

Marion County Assessor Map 073W27DA

Lots 04400, 04500, 04700, 04800, 04900, 05200, and 05400

Mission Street SE and 12th Street SE

Salem, Oregon 97302

Prepared for:

Salem Health

890 Oak Street SE

Salem, Oregon 97301

November 2023

PBS Project 22643.000



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1 INTRODUCTION

1.1 Purpose of Plan

PBS Engineering and Environmental Inc. (PBS) has completed this Contaminated Media Management Plan (CMMP or Plan) to facilitate proper management of potentially impacted media that may be encountered during future construction activities at lots 04400, 04500, 04700, 04800, 04900, 05200, and 05400 located at Mission Street SE and 12th Street SE in Salem, Oregon (Site; see Figure 1).

In generating the Plan, the *Independent Cleanup Pathway Final Report*, completed by PBS in April 2022, and the *Soil Gas Sampling Assessment*, completed by PBS in October 2023, were used to inform the recommendations presented in this Plan.¹ A copy of the relevant figures and data tables were extracted from the PBS reports and are included as attachments to the Plan.

1.2 Site Description

The Site is in the northeast ¼ of the southeast ¼ of Section 27, Township 7 South, Range 3 West, of the Willamette Base and Meridian. It is bounded to the north by Leslie Street SE, to the east by 12th Street SE, to the south by Mission Street SE, and to the west by University Street SE (Figure 2). The Site comprises the entire block and is owned by Salem Health.

The Site is in a relatively flat area of Salem, Oregon, with an elevation of approximately 150 feet above mean sea level. Pringle Creek is located approximately 350 feet to the northeast, and the Willamette River is located approximately 1 mile to the west.

1.3 Project Background

An out-of-use service station historically occupied the southeast corner of the block but was recently demolished. Historical records show the gas station operated until the mid-1980s. The most recently demolished building appears to be the second gas station building on the site that was used as an automobile glass repair shop until approximately 2013 (Figure 3). The underground storage tanks (USTs) were reportedly removed in the 1970s by a local contractor. A release from the USTs was identified in 2011 and reported to the State of Oregon Department of Environmental Quality (DEQ). The gas station portion of the site was assigned leaking underground storage tank (LUST) file 24-11-1116.

Historical investigations have identified soil and groundwater contamination at the site. The magnitude and extent of contamination was identified through historical investigations, the installation and sampling of groundwater monitoring wells, and sampling events conducted by PBS in July and December 2019 (Figure 4).

The current contamination present at the site consists of gasoline- and diesel-range hydrocarbons, volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbons (PAHs) in soil and groundwater. VOCs are also present in soil gas. Detected concentrations have generally decreased between 2011 and 2019 in soil and groundwater. A zone of elevated gasoline-range hydrocarbons and VOCs were identified in groundwater from temporary borings between Mission Street SE and the former pump island. This zone is not reflected in the monitoring well network and is believed to be from residual soil contamination in the smear zone and is not representative of the aquifer.

¹ PBS (PBS Engineering and Environmental Inc.). (2022, April). *Independent Cleanup Pathway Final Report, 04400, 04500, 04700, 04800, 04900, 05200, and 05400 located at Mission Street SE and 12th Street SE*. (Project 22643.000, Phase 0001). Prepared for Salem Health. PBS (2023, October). *Soil Gas Sampling Assessment*. (Project 22643.000, Phase 0008). Prepared for Salem Health.

Contamination at the site is limited to groundwater in the area from the southern property boundary to approximately 250 feet north of that boundary. Residual soil contamination within this zone is minimal. There is contamination present to the east and south of the site, as can be seen in monitoring wells MW-7, MW-8, and MW-10. This contamination is being transported onto the site based on the calculated groundwater flow direction. Monitoring wells MW-1A, MW-6, and MW-11 are located along the southern property boundary and generally have higher concentrations than wells further to the north, which reinforces on-site migration of contamination from off-site sources.

A conceptual site model (CSM) was used to examine residual contamination at the site. Unacceptable risk was not identified in the CSM, except for groundwater around the former USTs and pump islands in the southeast portion of the site. Groundwater in this area exceeded the groundwater in excavation risk-based concentration (RBC) for construction and excavation workers.

1.4 Key Personnel

Key personnel for the current project are identified in the following table. Future projects may have other personnel fill these roles.

Key Personnel		
Company	Name and Title	Contact Information
<i>Project Lead</i> Salem Health	Cindy Wagner	503.561.5200
<i>General Contractor (GC)</i> TBD	TBD	TBD
<i>Excavation Subcontractor</i> TBD	TBD	TBD
<i>Environmental Consultant (EC)</i> PBS Engineering and Environmental Inc.	Scott Braunsten Senior Geologist	Office: 503.417.7737 Mobile: 503.939.7910

2 IDENTIFIED ENVIRONMENTAL CONDITIONS

2.1 Identified Environmental Concerns

Shallow isolated pockets of soil containing low concentrations of contaminants are present in the top 5 feet below ground surface (bgs) in the southeast portion of the Site. Deeper pockets of soil contamination are present near the top of the groundwater table at approximately 12 to 14 feet bgs. The deeper pockets of contamination are associated with the groundwater smear zone, created by the seasonal fluctuation of the groundwater table, and may exhibit higher concentrations of contaminants depending on their location. The shallow and deep soil contamination areas are indicated on Figure 4.

In general, site workers can expect to encounter contaminated soil and groundwater across most of the eastern portion of the Site, except for the northeast corner. Specifically, groundwater contamination extends south beyond monitoring well MW-10, onto the property to approximately 250 feet north of Mission Street SE, and between monitoring well MW-4 in the south central portion of the Site and MW-7 located on the east side of 12th Street SE. Figure 5 illustrates the extent of the contamination.

2.2 Contaminants of Concern

Contaminants of concern that may pose a risk to construction and excavation workers include gasoline- and diesel-range petroleum hydrocarbons as well as VOCs and PAHs. Risk to workers can be managed by having workers take protective measures to avoid direct skin contact with groundwater and soil that has residual contamination.

Workers may encounter petroleum odors when excavating soil. Petroleum odors may be from diesel, gasoline, or their individual constituents. Risk to workers can be managed by having workers perform air monitoring when odors are present. This task can be completed by the General Contractor (GC), a trained designee, or the Environmental Consultant (EC). An action level of 10 parts per million (ppm) above ambient background air concentrations should be observed to ensure worker safety. If site conditions change, the EC will be contacted, and this section must be revised to address the change in conditions.

3 HEALTH AND SAFETY INFORMATION

All workers should be advised of the known areas of contamination, and of the potential for unexpected contamination. All employers at the site are required to develop and manage their own corporate safety program for their workers. This program must be compliant with regulations governed by Oregon Occupational Safety and Health Administration (OR-OSHA), which generally follows federal OSHA requirements.

4 AREAS REQUIRING MANAGEMENT

Soil may meet the definition of DEQ clean fill; however, the GC should work with disposal facilities accepting from this site on disposal facility requirements. Meeting clean fill standards is not a guarantee of being accepted at a clean fill facility. See Figure 4 for a depiction of areas of soil requiring proper handling and disposal based on the results and observations of previous investigations. Soil within these areas should be considered contaminated and handled according to the procedures outlined below.

If field indicators of contamination are present, such as unusual odor, petroleum odor, staining, or sheen outside of the areas depicted on Figure 4, that soil likely does not meet the DEQ definition of clean fill and could warrant proper handling and disposal. Follow the procedures outlined in section 5.

See Figure 5, which indicates the area where groundwater is anticipated to be contaminated based on the results and observations of previous investigations. Any groundwater encountered in these areas should be considered contaminated and handled according to the procedures in section 6.

5 SOIL MANAGEMENT

This CMMP addresses evaluating and handling contaminated soil that may be encountered during future site development activities in a manner that protects the environment and ensures proper off-site disposal of impacted media.

As discussed in section 2, soil contamination may be encountered on the site. If unanticipated or suspect contaminated soil, groundwater, containers, or other unusual findings are encountered during earthwork, the EC will immediately be notified to perform a field inspection, screening, and appropriate sampling to determine proper disposition of the materials. Based on the type and concentrations of contamination, contaminated soil removal may need to be handled in accordance with Oregon Administrative Rule (OAR) 340-093-040, or as hazardous waste in accordance with the Resource Conservation and Recovery Act (RCRA). Contaminated soil must be transported to a DEQ landfill authorized to accept the material if it is not

considered acceptable as clean fill. Section 5.3 describes the soil sampling procedures necessary to ensure proper off-site disposal.

5.1 Field Screening for Contaminated Media

Soil solely contaminated with low concentrations of petroleum, VOCs, or PAHs may not exhibit signs of contamination. Petroleum-contaminated soil (PCS) may exhibit gray or blue discoloration, a characteristic odor, and/or may have a petroleum sheen when moist. Screening is the responsibility of all individuals completing work activities.

The following continuous field screening methods will be used by the GC and their subcontractors to assess the potential for disturbed soils to be impacted:

- Visual observation for indications of stained soil or a sheen
- Olfactory observation for petroleum odors emanating from recently exposed soil

Additional field screening of soil following excavation can be conducted using the following methods, typically implemented by the EC, or working in conjunction with the EC:

- A photoionization detector (PID) to screen soil for VOCs
- A sheen test to evaluate soils for the presence of petroleum hydrocarbons

If field screening methods identify potentially contaminated soil, site activities around suspect soil should be halted and the GC, Construction Manager, and project lead's representative need to be notified of the contamination and approve of the resulting decisions.

Buried objects such as drums, septic tanks, drywells, and USTs may also be encountered during construction activities. If an unexpected object is encountered, proper decommissioning and disposal required by DEQ must be followed. In the case of USTs and drywells, completion of decommissioning by a credentialed contractor, as well as pre-permitting may be necessary. The GC, Construction Manager, and project lead's representative will be notified to determine a path forward.

5.2 Soil Handling Procedures

Site monitoring is the responsibility of individuals completing work activities during invasive actions that disturb contaminated soil. The following procedures are also recommended for such activities in areas that have not already been characterized. This section assumes that the material can be managed as nonhazardous waste. If this is not the case, this section must be revised to include proper soil handling protocols.

- Depending on the nature of the contaminated material, the GC and the project lead's representative will determine if contaminated material is suitable for use as excavation backfill or reuse elsewhere within the project. The EC also can assist in making this determination. Any contaminated soil that is not suitable for reuse will require off-site disposal. The receiving facility may require additional analysis prior to accepting this material.
- Soil exhibiting field indications of heavy contamination, such as strong odor, sheen, or free product will not be used for excavation backfill.
- The GC will determine appropriate soil disposal facilities for media known or assumed to be contaminated following the approval of the project lead's representative. The EC can also assist in making this determination.
- The area will be secured for safety, to control sediment and surface water runoff, and to minimize entry or collection of water in excavations. Appropriate construction best management practices

(BMPs) should be utilized including, but not limited to, the use of silt fences and appropriate site grading and sloping. All erosion control measures should be followed, including the effort to avoid the cross-contamination of contaminated media with clean areas.

- Contaminated areas will be excavated in a manner that prevents the commingling of contaminated and uncontaminated soil.
- If unanticipated contamination is encountered and must be temporarily stockpiled on site, the GC will ensure that a berm (e.g., straw bale underlying a plastic barrier) is constructed on all sides so that it adequately isolates the soil and prevents erosion or stormwater runoff and can be readily expanded. The GC will provide enough 6-mil (or thicker) plastic sheeting to place beneath the soil pile and cover it nightly with plastic. Stockpiled soil shall not leave the temporary storage area until the Construction Manager approves its disposal.
- Unanticipated contaminated soil stockpiles will be analyzed to determine the potential for chemicals of potential concern to be present. Section 5.3 describes soil sampling procedures and frequency. Additional analyses may be necessary if unexpected conditions are present.
- Contaminated soil should be loaded into trucks and transported directly to the selected disposal site. The GC will ensure that a valid permit has been obtained from the appropriate disposal facility prior to direct loading.
- The GC or their designee will construct a decontamination area, if necessary, for cleaning excavation equipment used to handle contaminated media.
- Loose material on trucks will be swept off or otherwise removed before the trucks leave the loading area. Contaminated material collected in the loading areas will be placed into the trucks or back into the excavation for future loading.
- Loose construction material brought onto the site, such as gravel, sand, and topsoil, may be stockpiled in areas of known contamination. Clean material should be placed on plastic during storage to avoid mixing with contaminated soil.

5.3 Soil Sampling Procedures

Soil suspected of having contamination different from what has already been encountered, or in an area outside the established contaminated media zone, may require sampling and laboratory analysis before it can be removed for off-site disposal. The GC should coordinate with the EC to ensure the soil is characterized and managed properly.

If suspect contaminated soil, groundwater, containers, or other unusual findings are encountered during the earthwork, the EC will immediately be notified to perform a field inspection, screening, and appropriate sampling to determine proper disposition of the materials. Soil that cannot be reused on site must be tested to meet requirements for disposal at the disposal facility. This plan assumes that waste will be disposed at a Subtitle D landfill. If testing confirms that soil is an RCRA (hazardous) waste requiring disposal at a Subtitle C landfill, this section may require revision.

5.3.1 Sample Numbers

Suspect contaminated material not related to previously identified areas that is slated for off-site disposal will be sampled. PBS suggests a sampling frequency of 1 sample per 100 cubic yards; however, this frequency can often be reduced if the material is relatively homogenous. The specific sampling frequency will be determined by the EC and GC based on discussions with the receiving facility and the nature of stockpiled soil.

5.3.2 Sample Collection and Handling

Samples will be collected in accordance with the following guidelines:

- The sampler will wear a clean pair of disposable nitrile gloves each time a new sample is collected. Composite soil samples will consist of three equal and representative subsamples homogenized then packed into clean containers provided by the laboratory. It is likely that hand tools (such as a trowel or shovel) or a backhoe bucket will be used to obtain representative soil sample material. Hand tools will be decontaminated with a detergent and water rinse prior to each use. Sampling from a backhoe bucket will entail scraping a clean surface before collecting the sample using hand tools and collecting the sample away from the sides of the bucket.
- Custody procedures will ensure that accurate and complete records of sample collection, transfer between personnel, shipment, and receiving by the laboratory are generated and retained.

5.3.3 Sample Identification

At the time of collection, a unique identification number will be assigned to all composite samples and a complete label attached to each sample container. All sample identification numbers and depths will be keyed to the sample location and type and recorded in a field notebook.

5.3.4 Sample Delivery and Schedule

Samples will be stored on ice in a cooler and the sampler will coordinate with an Oregon-certified laboratory to minimize sample transport and holding time to ensure that all shipments are received by laboratory personnel within an appropriate timeframe.

5.3.5 Sample Custody

The chain-of-custody (COC) protocol establishes each sample or group of samples, the possessor of the samples, and the date and time of possession be documented beginning with sample collection and ending with sample disposal. Under no circumstance is there to be a break in this chain of custody. A COC form will be completed by the sampler for each sample or group of samples submitted to the laboratory and will remain with samples until receipt by the laboratory.

5.3.6 Sample Containers and Coolers

The laboratory will provide containers for sampling. Sample containers will be kept away from fuels and solvents. Container type, volume, preservation, and holding time requirements for each sample analysis will be in accordance with laboratory requirements.

5.3.7 Laboratory Analysis

Based on the primary contaminants of concern, the following laboratory analyses may be needed:

- Gasoline- and diesel-range hydrocarbons by Northwest Method Total Petroleum Hydrocarbons, gasoline and diesel extended (NWTPH-Gx and NWTPH-Dx, respectively)
- VOCs by Environmental Protection Agency (EPA) Method 8260
- PAHs by EPA Method 8270 SIM
- RCRA 8 Metals by EPA Method 6010

Elevated concentrations of specific compounds may require additional analysis for leaching prior to disposal. If concentrations of specific compounds exceed RCRA regulations, the following laboratory analysis must be performed:

- Toxicity Characteristic Leaching Procedure (TCLP) of lead by EPA Method 1311

TCLP results exceeding RCRA regulations will require disposal at a Subtitle C landfill or treatment prior to disposal at a Subtitle D landfill. If this occurs, the EC should be notified to update this CMMP and support that effort. Other contaminants, such as some VOCs like benzene, may require TCLP analysis to make an appropriate waste determination. The waste disposal facility should be consulted to determine their analytical needs prior to removing material from the site.

5.4 Analytical Results Reporting

Verbal analytical results will be submitted to the Construction Manager within two days of receipt of laboratory reports and written analytical results from the laboratory will be submitted to the Construction Manager within three days following receipt of laboratory results. Copies of any laboratory reports should also be provided to the EC.

5.5 Transportation and Disposal of Contaminated Soil

In general, unless unanticipated contamination is encountered, soil has already been characterized as nonhazardous waste. Existing data from historical site sampling activities may be sufficient for initial permitting of new PCS, with the suitability of this data determined by the receiving facility.

The GC and its subcontractors will comply with all applicable federal, state, and local laws, codes, and ordinances that govern or regulate contaminated soil transportation. Prior to transportation, the GC will ensure that all required permits are obtained. Drivers hauling contaminated soil will have in their possession all applicable state and local vehicle insurance requirements, valid driver's license, copies of waste disposal permits, and vehicle registration and license. Drivers of haul vehicles shall be informed of:

- The nature of the material being hauled
- The required route to and from disposal site(s)
- The applicable city street regulations and requirements, and Oregon Department of Transportation codes, regulations, and requirements
- The legal maximum load limits per vehicle

Loading and transportation of trucks will be conducted as follows:

- Trucks carrying contaminated material will be loaded so that solids are at least 6 inches below the top of the truck bucket or trailer bed.
- Trucks will be covered to prevent spillage on the way to the disposal site.
- Trucks will not be allowed off site if free liquids (including water) are draining from the load. It may be necessary to line trucks or require dewatering of soil before transporting off site.

Trucks used for the transportation of contaminated soil must be substance-compatible; licensed; insured against spill accidents; and permitted pursuant to federal, state, and local statutes, rules, regulations, and ordinances.

Weigh tickets from any local scale and disposal facility should be retained by the GC and provided to the project lead's representative for future reporting.

6 WATER MANAGEMENT

Groundwater was encountered on site at an approximate depth of 12 to 16 feet below ground surface. If excavation dewatering is required and discharge of water to a municipal sanitary system is proposed, the governing municipality or disposal agent may require permitting, treatment, and characterization of the water prior to discharge. The analyses required will be determined by the governing municipal agency or disposal agent during the permitting process.

If excavation dewatering activities are required, the following will be conducted:

- **Halt Work.** If significant contaminant indicators are observed in water in an area where contaminants were not previously found and characterized, site work will be halted, and the Construction Manager and project lead's representative will be notified prior to proceeding with any analytical testing to determine options for treatment, disposal, and health and safety requirements. Such indicators could include the presence of free phase liquids, odor, or discoloration of groundwater.
- **Contain and Analyze.** Water will be pumped into an appropriate container (temporary tank) and samples collected following de-sedimentation treatment (if needed). The samples will be analyzed to confirm that the water meets applicable disposal requirements. The entity (e.g., publicly operated treatment works) generating the permit for disposal of the containerized water will specify the disposal and analytical requirements. Sediments resulting from the de-sedimentation treatment may be contaminated and may require proper disposal.
- **Disposal.** Water confirmed as contaminated through sampling and analysis must be disposed of in accordance with applicable regulations. Options for disposal include contacting a vendor to collect the water and transport it to a licensed disposal or recycling facility; obtaining a National Pollutant Discharge Elimination System (NPDES) permit from DEQ to allow discharge to the storm sewer; or obtaining a permit from the local municipality to allow discharge to the municipal sanitary sewer. If collected water does not contain contaminants at concentrations above disposal permit screening values, allowable discharge to the municipal storm sewer or other appropriate disposal procedure should be pursued with the approval of the project lead's representative, which may require pre-treatment prior to disposal.

If stormwater is expected to encounter contaminated soil during construction activities, affected water that needs to be managed may need to be collected, sampled, and properly disposed of using the same protocols described above.

7 CONTROL OF CONSTRUCTION SITE RUNOFF

Any runoff from the construction site must be prevented from leaving the work area, as runoff could impact surface water conditions. Construction site runoff may include sediment, suspended solids, colloidal suspensions, and site contaminants in soil or groundwater. Sediment and suspended solids can readily be controlled and minimized using BMPs such as silt fences, biobags, sediment ponds, or straw bales. If maintenance of the BMPs is lacking, or if care is not used when removing these BMPs after the site is finished with construction, then the retained pollutants will still be released into the environment. It will be up to the professional judgment of the GC to choose and implement effective BMPs for the site to control runoff.

8 UST MANAGEMENT

If site activities confirm the presence of a previously unidentified UST, a licensed tank decommissioning contractor should be engaged to ensure proper decommissioning of the UST(s). Characterization and disposal of any contaminated media encountered around the UST(s) during decommissioning will be managed by the tank decommissioning contractor.

9 UIC MANAGEMENT

If site activities confirm the presence of an underground injection control (UIC) system such as a drywell, a licensed geologist or engineer should be contracted to oversee the registration and closure of the UIC system in accordance with OAR 340-044-0040. Characterization and disposal of any contaminated media encountered around the UIC system(s) during decommissioning will be managed by the EC.

10 SUBCONTRACTORS

Subcontracting of work does not relieve the GC of any of their obligations, including obligations to comply with all environmental laws. The Plan must be provided to all subcontractors, and they must adhere to all conditions within the Plan.

11 PROJECT PROTOCOLS

11.1 Compliance with Applicable Environmental Laws and Regulations

The GC and their subcontractors shall comply with all applicable state and federal environmental laws and ensure that on-site workers have been trained on the contents of this plan. Management and handling of contaminated media shall be conducted in accordance with Oregon Revised Statutes (ORS), Chapter 459, Solid Waste Management (ORS 459.005 through 459.997).

11.2 Recordkeeping

Disposal tickets for all impacted media, largely expected to be soil or landfill debris at this site, must be maintained by the disposal contractor and provided to the Construction Manager and project lead's representative promptly upon receipt.

11.3 Unforeseen Conditions

If USTs, drywells, buried drums, or other unforeseen conditions that could pose an environmental concern are encountered at the site, the GC should immediately notify the project lead's representative for further direction.

11.4 Contractor's Use of Hazardous Materials

The GC and their subcontractors shall always properly handle, store, use, and dispose of any hazardous materials brought onto the site in accordance with all applicable environmental laws. In the event of a spill or release of any hazardous material brought onto the site, the procedures as set forth in their corporate safety program, or other management plan concerning hazardous materials encountered during construction, shall be followed.

12 ASSUMPTIONS AND LIMITATIONS

PBS has prepared this plan for use by Salem Health and its contractors during earth-disturbing activities at the site relying on information known and available at the time the Plan was developed. If new information is determined prior to or during the construction period, the Plan should be updated to reflect that information.

This CMMP provides the project team with guidance for the appropriate handling, management, and disposal of potentially contaminated media and is intended to be used as a general overview document for contractors

and the project team during the earthwork portions of the project. Contractors are required to comply with all other applicable rules and regulations when handling contaminated media regardless of whether it is addressed in this CMMP.

The contractor is responsible for notifying subcontractors of pertinent environmental conditions. Each contractor and subcontractor are responsible for the safety of its employees, including compliance with applicable OSHA regulations and compliance with the technical specifications manual for the project.

Figures

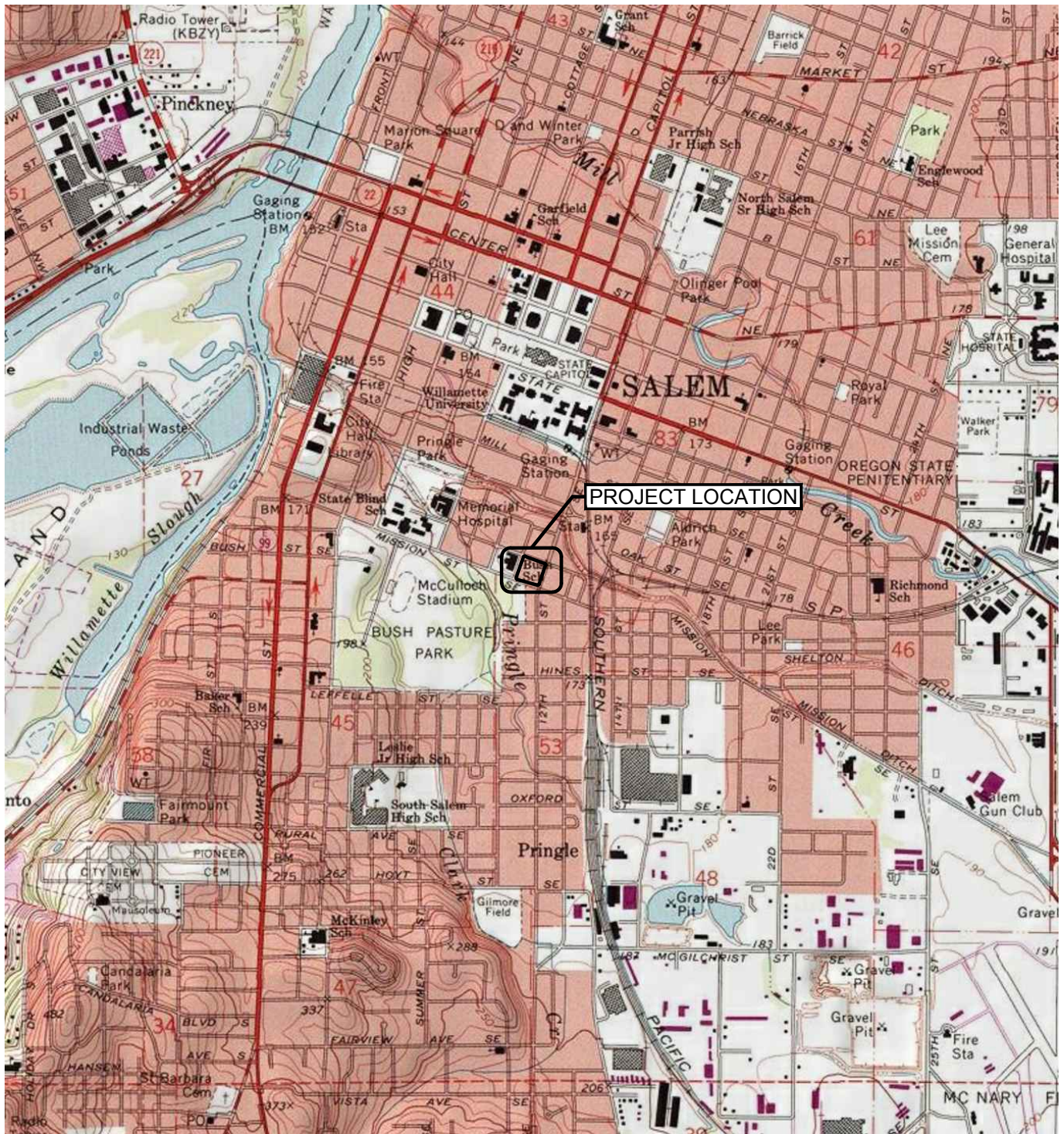
Figure 1. Vicinity Map

Figure 2. Site Plan

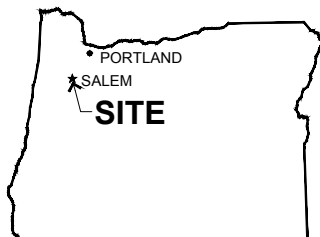
Figure 3. Site Plan – Feature Locations

Figure 4. Site Plan with Sample Locations

Figure 5. Locality of the Facility



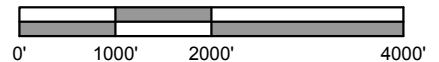
SOURCE: USGS SALEM WEST, OR QUADRANGLE 1986.



OREGON



Scale 1" = 2000'



PREPARED FOR: SALEM HEALTH

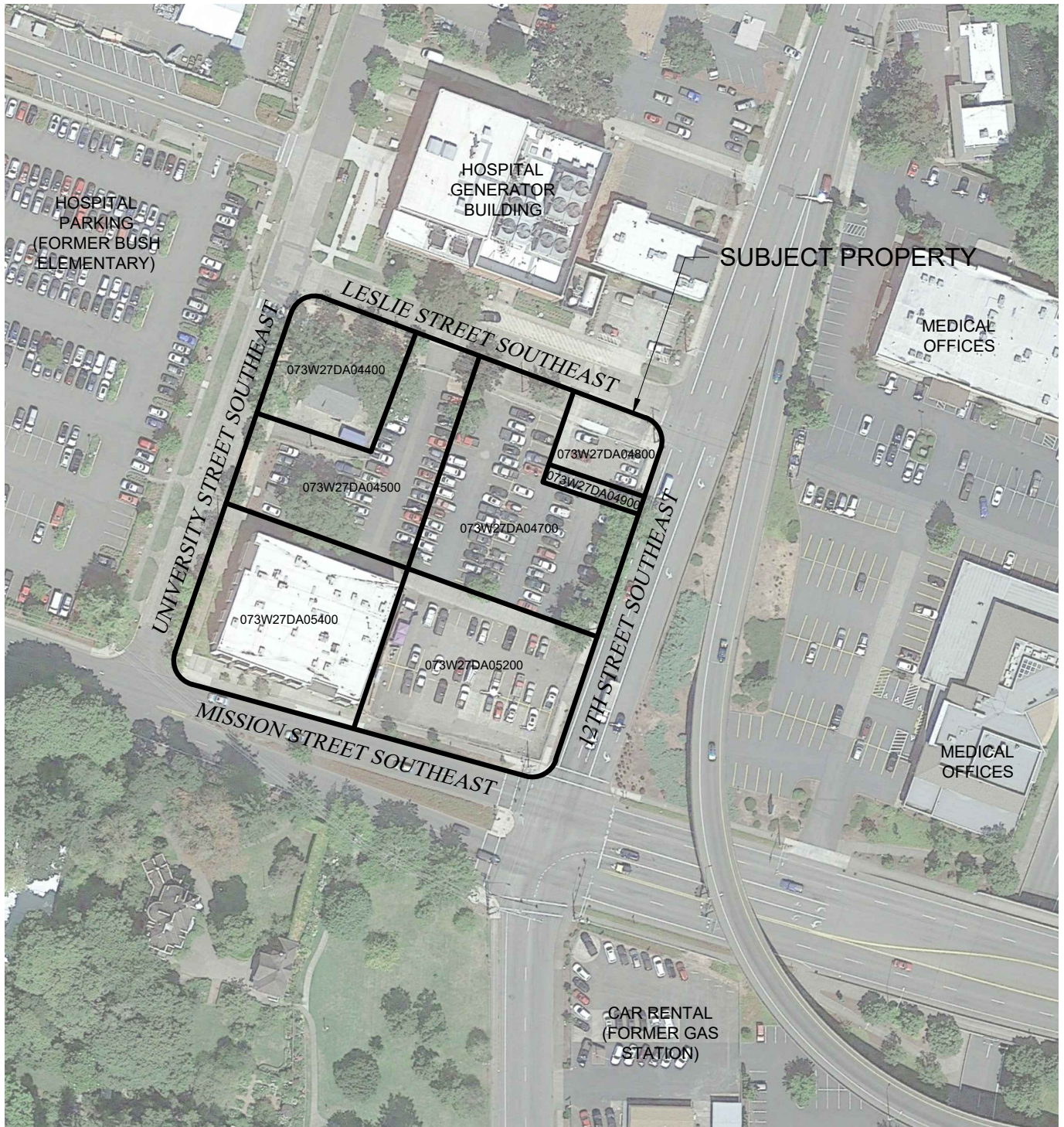


VICINITY MAP
1155 MISSION STREET SOUTHEAST
SALEM, OREGON

NOV 2023
22643.000

FIGURE

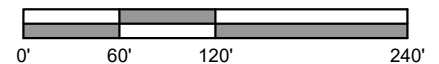
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SOURCE: © 2017 GOOGLE EARTH PRO



Scale 1" = 120'



PREPARED FOR: SALEM HEALTH



SITE PLAN

1155 MISSION STREET SOUTHEAST
SALEM, OREGON

NOV 2023

22643.000

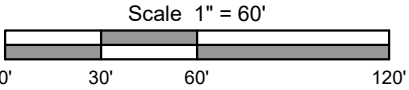
FIGURE

2



LEGEND

- MW-1 MONITORING WELL NUMBER AND LOCATION
- PBS-1 BORING NUMBER AND LOCATION
- APPROXIMATE STRUCTURE LOCATIONS BASED ON 1950 SANBORN MAP
- APPROXIMATE STRUCTURE LOCATIONS BASED ON 1978 SANBORN MAP
- APPROXIMATE ONSITE STRUCTURE LOCATIONS BASED ON PRESENT INFORMATION



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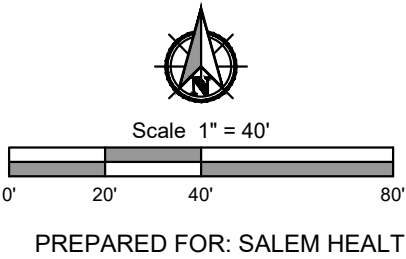
SITE PLAN - FEATURE LOCATIONS
MARION COUNTY ASSESSOR MAP 073W27DA
MISSION & 12TH STREETS SOUTHEAST, SALEM, OREGON

PROJECT
22643.000
DATE
NOV 2023
SHEET ID
3

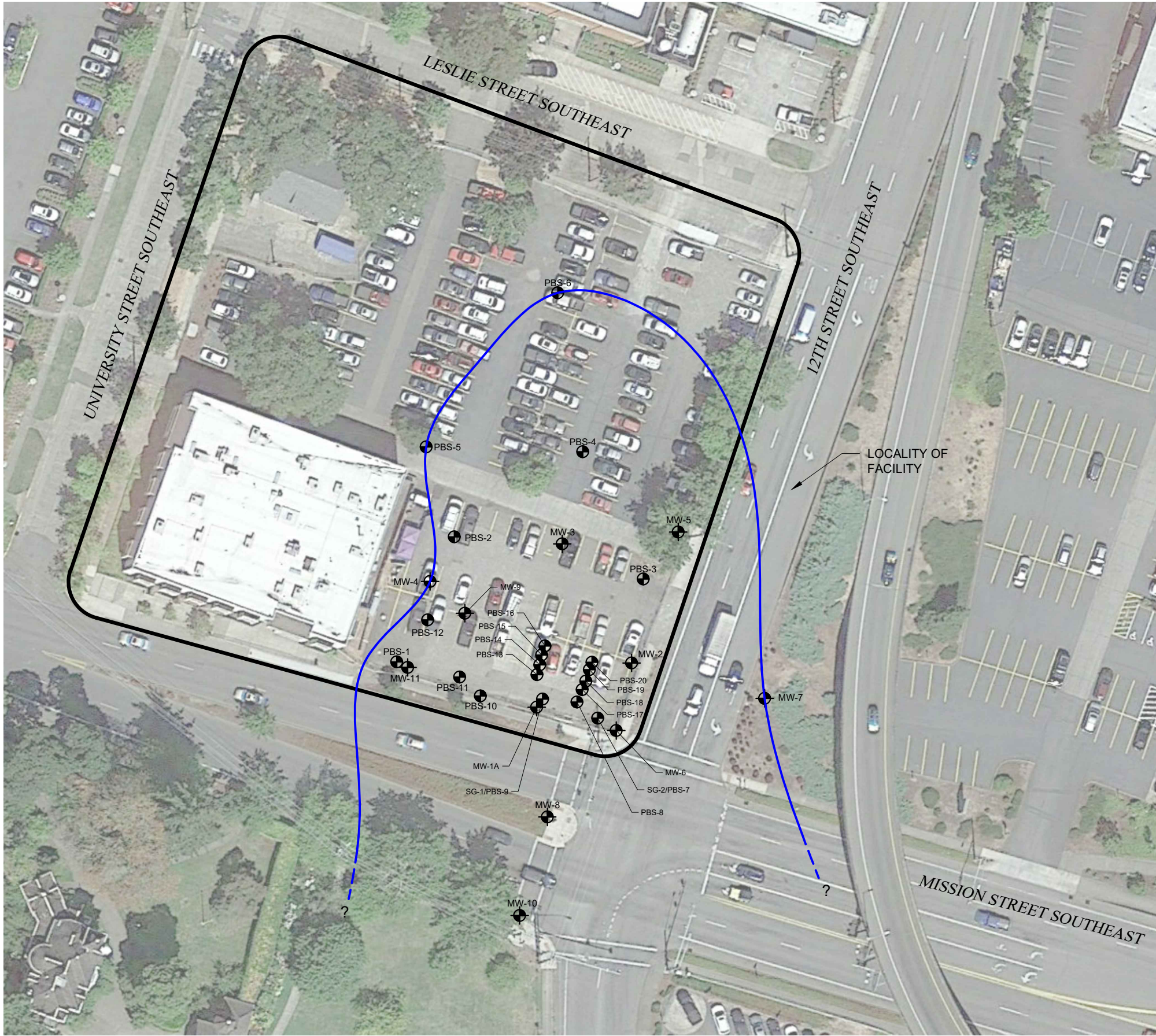


LEGEND

- MW-1 MONITORING WELL NUMBER AND LOCATION
 - PBS-1 BORING NUMBER AND LOCATION
 - SG-1/
PBS-9 BORING AND SOIL GAS NUMBER AND LOCATION
 - SOIL IMPACTS LESS THAN 5FT
BELOW GROUND SURFACE
 - SOIL IMPACTS GREATER THAN
20FT BELOW GROUND SURFACE
- NOTE: NO UNACCEPTABLE RISK PRESENT IN
SOIL REMAINING ON SITE

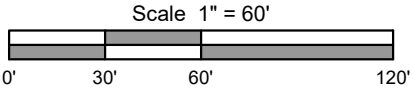


Filename: L:\Projects\220000\22600-22699\22643 SalemHealth\DWG\22643.000_Fig_A-D.dwg Layout Tab: SITE PLAN - LOCALITY OF FACILITY User: Katie Breyman CAD Plot Date/Time: 3/30/2022 10:59:17 AM



LEGEND

- MW-1 MONITORING WELL NUMBER AND LOCATION
- PBS-1 BORING NUMBER AND LOCATION
- LOCALITY OF FACILITY



PREPARED FOR: SALEM HEALTH

SITE PLAN - LOCALITY OF FACILITY
MARION COUNTY ASSESSOR MAP 073W27DA
MISSION & 12TH STREETS SOUTHEAST, SALEM, OREGON

PROJECT
22643.000
DATE
NOV 2023
SHEET ID
5

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Table 9. Summary of Soil Gas Analytical Results

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															
SB1-12.5'	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
SB1-15'	10/13/2011	15	23.4	ND	ND	<0.0115	<0.0461	<0.023	<0.0691	--	--	--	--	<0.0461	0.214	--	0.924	0.283
SB2-12.5'	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
SB2-15'	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
SB3-13'	10/13/2011	13	275	109	<50.0	<0.145	<0.578	0.307	1.35	--	--	--	--	<0.578	1.42	--	6.48	1.6
SB3-15'	10/13/2011	15	3,960	995	<67.8	<0.477	26.6	42.3	345	--	--	--	--	4.18	21.6	--	162	49.2
SB4-14'	10/13/2011	14	648	191	<72.6	<0.306	<1.22	<0.612	2.47	--	--	--	--	<1.22	<2.45	--	<1.22	<1.22
SB5-15'	10/13/2011	15	294	120	<50.0	<0.273	<1.09	<0.546	<1.64	--	--	--	--	<1.09	<2.19	--	<1.09	1.35
SB6-15'	10/13/2011	15	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
SB7-12.5'	10/13/2011	12.5	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
SB7-15'	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
SB8-2.5'	10/13/2011	2.5	ND	<361	4,380	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
SB8-10'	10/13/2011	10	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
SB8-15'	10/13/2011	15	ND	ND	ND	NA	NA	NA	NA	--	--	--	--	NA	NA	--	NA	NA
SB9-12.5'	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 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															
PBS12-10	12/05/2019	10	<2.85	<4.56	<11.4	<0.00114	<0.00570	<0.00285	<0.00741	<0.0285	<0.0142	<0.0142	<0.0285	<0.00285	<0.0228	<0.00570	<0.00570	<0.00570
PBS12-15	12/05/2019	15	<2.65	<4.24	<10.6	<0.00106	<0.00530	<0.00265	<0.00689	<0.0265	<0.0133	<0.0133	<0.0265	<0.00265	<0.0212	<0.00530	<0.00530	<0.00530
PBS13-2	12/05/2019	2	<3.27	<5.23	13.3	<0.00131	<0.00654	<0.00327	<0.00850	<0.0327	<0.0163	<0.0163	<0.0327	<0.00327	<0.0262	<0.00654	<0.00654	<0.00654
PBS14-2.5	12/05/2019	2.5	<3.33	7.15	<13.3	<0.00133	<0.00665	<0.00333	<0.00865	<0.0333	<0.0166	<0.0166	<0.0333	<0.00333	<0.0266	<0.00665	<0.00665	<0.00665
PBS16-2	12/05/2019	2	<3.20	<5.12	<12.8	<0.00128	<0.00640	<0.00320	<0.00832	<0.0320	<0.0160	<0.0160	<0.0320	<0.00320	<0.0256	<0.00640	<0.00640	<0.00640
PBS17-2	12/05/2019	2	<2.98	<4.77	<11.9	<0.00119	<0.00596	<0.00298	<0.00775	<0.0298	<0.0149	<0.0149	<0.0298	<0.00298	<0.0238	<0.00596	<0.00596	<0.00596
PBS18-2	12/05/2019	2	<3.10	<4.96	<12.4	<0.00124	<0.00620	<0.00310	<0.00806	<0.0310	<0.0155	<0.0155	<0.0310	<0.00310	<0.0248	<0.00620	<0.00620	<0.00620
PBS19-2	12/05/2019	2	<2.85	<4.56	21.8	<0.00114	<0.00570	<0.00285	<0.00741	<0.0285	<0.0143	<0.0143	<0.0285	<0.00285	<0.0228	<0.00570	<0.00570	<0.00570
PBS20-2	12/05/2019	2	<3.26	<5.11	<12.8	<0.00128	<0.00638	<0.00319	<0.00830	<0.0319	<0.0160	<0.0160	<0.0319	<0.00319	<0.0255	<0.00638	<0.00638	<0.00638
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	5.3	NS	430	430
	Urban Residential		2,500	2,200		24	12,000	110	2,900	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	23	NS	6,900	6,900
	Construction Worker		9,700	4,600		380	28,000	1,700	20,000	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	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	6.4	NS	>Csat	>Csat
	Urban Residential		5,900	>MAX		27	>Csat	85	>Csat	NS	NS	NS	NS	NS	15	NS	>Csat	>Csat
	Occupational		69,000	>MAX		50	>Csat	160	>Csat	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	6.4	NS	140	98
	Urban Residential		94	>MAX		0.38	>Csat	3.0	160	NS	NS	NS	NS	NS	15	NS	140	98
	Occupational		>MAX	>MAX		2.1	>Csat	17	>Csat	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	0.077	NS	10	11
	Urban Residential		31	9,500		0.10	340	0.94	87	NS	NS	NS	NS	NS	0.37	NS	43	45
	Occupational		130	>MAX		0.10	490	0.90	100	NS	NS	NS	NS	NS	0.34	NS	48	53

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.

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)	PAHs													Metals				
			Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(b+k) fluoranthene	Benzo(k)fluoranthene	Chrysene	Fluoranthene	Indeo(1,2,3-cd)pyrene	Naphthalene	Phenathrene	Pyrene	2-Methylnaphthalene	Arsenic	Barium	Cadmium	Chromium	Lead
			mg/kg																	
SB1-12.5'	10/13/2011	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	4.69
SB1-15'	10/13/2011	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	5.73
SB2-12.5'	10/13/2011	12.5	<0.0999	<0.0999	--	--	<0.0999	--	<0.0999	<0.0999	--	0.178	<0.0999	<0.0999	--	--	--	NA	NA	3.85
SB2-15'	10/13/2011	15	<0.0106	<0.0106	--	--	<0.0106	--	<0.0106	<0.0106	--	0.0513	0.0124	<0.0106	--	--	--	NA	NA	3.13
SB3-13'	10/13/2011	13	<0.0999	<0.0999	--	--	<0.0999	--	<0.0999	<0.0999	--	1.08	<ND	<0.0999	--	--	--	NA	NA	5.45
SB3-15'	10/13/2011	15	<0.00955	<0.00955	--	--	<0.00955	--	<0.00955	<0.00955	--	17.4	0.0217	<0.00955	--	--	--	NA	NA	6.08
SB4-14'	10/13/2011	14	0.0299	0.0159	--	--	0.0274	--	0.024	0.0362	--	<0.0142	<0.0118	0.0469	--	--	--	NA	NA	19.8
SB5-15'	10/13/2011	15	<0.0108	<0.0108	--	--	<0.0108	--	<0.0108	<0.0108	--	0.45	<0.0108	<0.0108	--	--	--	NA	NA	4.42
SB6-15'	10/13/2011	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	NA
SB7-12.5'	10/13/2011	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	NA
SB7-15'	10/13/2011	15	<0.0102	<0.0102	--	--	<0.0102	--	<0.0102	<0.0102	--	0.32	<0.0102	<0.0102	--	--	--	NA	NA	4.35
SB8-2.5'	10/13/2011	2.5	<0.22	<0.22	--	--	<0.22	--	<0.242	<0.22	--	<0.22	<0.22	<0.22	--	--	--	NA	NA	NA
SB8-10'	10/13/2011	10	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	NA
SB8-15'	10/13/2011	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	NA
SB9-12.5'	10/13/2011	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	3.79
MW-1 @ 12.5'	6/21/2012	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	8.75
MW-1 @ 15.0'	6/21/2012	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	<4.19
MW-2 @ 12.5'	6/21/2012	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	<4.25
MW-2 @ 15.0'	6/21/2012	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	<4.73
MW-3 @ 12.5'	6/21/2012	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	<4.57
MW-3 @ 15.0'	6/21/2012	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	<4.11
MW-4 @ 12.5'	6/21/2012	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	<4.14
MW-4 @ 15.0'	6/21/2012	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	<4.75
MW-5 @ 11.5'	10/8/2014	11.5	NA	NA	--	--	NA	--	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)	PAHs														Metals				
			Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(b+k) fluoranthene	Benzo(k)fluoranthene	Chrysene	Fluoranthene	Indeo(1,2,3-cd)pyrene	Naphthalene	Phenathrene	Pyrene	2-Methylnaphthalene	Arsenic	Barium	Cadmium	Chromium	Lead	
			mg/kg																		
MW-5 @ 14'	10/8/2014	14	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	2.18	
MW-6 @ 12.5'	10/9/2014	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	NA	
MW-6 @ 14'	10/9/2014	14	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	5.01	
MW-7 @ 12.5'	10/10/2014	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	3.71	
MW-7 @ 15'	10/10/2014	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	3.38	
MW-8 @ 12.5'	10/13/2014	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	NA	
MW-8 @ 15'	10/13/2014	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	2.69	
MW-9 @ 12.5'	10/13/2014	12.5	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	NA	NA	NA	
MW-9 @ 15'	10/13/2014	15	NA	NA	--	--	NA	--	NA	NA	--	NA	NA	NA	--	--	--	0.22	9.19	2.45	
MW-10 @ 12.5'	8/10/2017	12.5	<10.5	<10.5	--	--	<10.5	--	<10.5	<10.5	--	0.262	<10.5	<10.5	--	--	--	NA	NA	4.37	
MW-10 @ 15'	8/10/2017	15	<10.6	<10.6	--	--	<10.6	--	<10.6	<10.6	--	0.165	<10.6	<10.6	--	--	--	NA	NA	4.82	
PBS1-14	07/26/2019	14	<0.00648	<0.00648	<0.00648	<0.00648	--	<0.00648	<0.00648	<0.00648	<0.00648	<0.0135	<0.00648	<0.00648	<0.0216	<2.16	74.3	<0.540	16.5	2.32	
PBS2-14	07/26/2019	14	<0.00642	<0.00642	<0.00642	<0.00642	--	<0.00642	<0.00642	<0.00642	<0.00642	<0.0134	<0.00642	<0.00642	<0.0214	2.56	99.6	<0.535	12.1	<0.535	
PBS3-14	07/26/2019	14	<0.00646	<0.00646	<0.00646	<0.00646	--	<0.00646	<0.00646	<0.00646	<0.00646	<0.0134	0.00850	0.00890	<0.0215	<2.15	48.8	<0.538	14.2	5.20	
PBS4-14	07/26/2019	14	<0.00636	<0.00636	<0.00636	<0.00636	--	<0.00636	<0.00636	<0.00636	<0.00636	<0.0132	<0.00636	<0.00636	<0.0212	<2.12	48.5	<0.530	20.4	1.37	
PBS5-14	07/26/2019	14	<0.00643	<0.00643	<0.00643	<0.00643	--	<0.00643	<0.00643	<0.00643	<0.00643	<0.0134	<0.00643	<0.00643	<0.0214	<2.14	47.5	<0.536	17.3	1.51	
PBS6-14	07/26/2019	14	<0.00629	<0.00629	<0.00629	<0.00629	--	<0.00629	<0.00629	<0.00629	<0.00629	<0.0131	<0.00629	<0.00629	<0.0210	<2.10	38.0	<0.524	12.4	3.42	
PBS7-13	12/04/2019	13	<0.00638	<0.00638	<0.00638	<0.00638	--	<0.00638	<0.00638	<0.00638	<0.00638	<0.0133	<0.00638	<0.00638	<0.0213	--	--	--	--	--	
PBS8-13	12/04/2019	13	<0.00658	<0.00658	<0.00658	<0.00658	--	<0.00658	<0.00658	<0.00658	<0.00658	<0.0137	<0.00658	<0.00658	<0.0219	--	--	--	--	--	
PBS9-13	12/04/2019	13	<0.00677	<0.00677	<0.00677	<0.00677	--	<0.00677	<0.00677	<0.00677	<0.00677	<0.0141	<0.00677	<0.00677	<0.0226	--	--	--	--	--	
PBS10-6	12/05/2019	6	<0.00667	<0.00667	<0.00667	<0.00667	--	<0.00667	<0.00667	<0.00667	<0.00667	<0.0139	<0.00667	<0.00667	<0.0222	--	--	--	--	--	
PBS10-13	12/05/2019	13	<0.00655	<0.00655	<0.00655	<0.00655	--	<0.00655	<0.00655	<0.00655	<0.00655	<0.0137	<0.00655	<0.00655	<0.0218	--	--	--	--	--	
PBS11-13	12/05/2019	13	<0.00654	<0.00654	<0.00654	<0.00654	--	<0.00654	<0.00654	<0.00654	<0.00654	<0.0136	<0.00654	<0.00654	0.0224	--	--	--	--	--	
PBS12-2.5	12/05/2019	2.5	<0.00761	<0.00761	0.00851	0.0101	--	<0.00761	<0.00761	0.0106	<0.00761	<0.0158	<0.00761	0.0116	<0.0254	--	--	--	--	--	

Table 1. Summary of Soil Analytical Results

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

			PAHs												Metals					
Sample ID	Sample Date	Depth Collected (feet bgs)	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(b+k) fluoranthene	Benzo(k)fluoranthene	Chrysene	Fluoranthene	Indeo(1,2,3-cd)pyrene	Naphthalene	Phenathrene	Pyrene	2-Methylnaphthalene	Arsenic	Barium	Cadmium	Chromium	Lead
mg/kg																				
PBS12-10	12/05/2019	10	<0.00684	<0.00684	<0.00684	<0.00684	--	<0.00684	<0.00684	<0.00684	<0.00684	<0.0142	<0.00684	<0.00684	<0.0228	--	--	--	--	--
PBS12-15	12/05/2019	15	<0.00636	<0.00636	<0.00636	<0.00636	--	<0.00636	<0.00636	<0.00636	<0.00636	<0.0133	<0.00636	<0.00636	<0.0212	--	--	--	--	--
PBS13-2	12/05/2019	2	<0.00785	<0.00785	<0.00785	<0.00785	--	<0.00785	<0.00785	<0.00785	<0.00785	<0.0163	<0.00785	<0.00785	<0.0262	--	--	--	--	--
PBS14-2.5	12/05/2019	2.5	<0.00799	<0.00799	<0.00799	<0.00799	--	<0.00799	<0.00799	<0.00799	<0.00799	<0.0166	<0.00799	<0.00799	<0.0266	--	--	--	--	--
PBS16-2	12/05/2019	2	<0.00768	<0.00768	<0.00768	<0.00768	--	<0.00768	<0.00768	<0.00768	<0.00768	<0.0160	<0.00768	<0.00768	<0.0256	--	--	--	--	--
PBS17-2	12/05/2019	2	<0.00715	<0.00715	<0.00715	<0.00715	--	<0.00715	<0.00715	<0.00715	<0.00715	<0.0149	<0.00715	<0.00715	<0.0238	--	--	--	--	--
PBS18-2	12/05/2019	2	<0.00744	<0.00744	<0.00744	<0.00744	--	<0.00744	<0.00744	<0.00744	<0.00744	<0.0155	<0.00744	<0.00744	<0.0248	--	--	--	--	--
PBS19-2	12/05/2019	2	0.0196	0.0291	0.0325	0.0296	--	0.0121	0.0208	0.0462	0.0204	<0.0143	0.0195	0.0504	<0.0228	--	--	--	--	--
PBS20-2	12/05/2019	2	<0.00766	<0.00766	<0.00766	<0.00766	--	<0.00766	<0.00766	<0.00766	<0.00766	<0.0160	<0.00766	<0.00766	<0.0255	--	--	--	--	--
Oregon RBC - Soil Ingestion, Dermal Contact, and Inhalation ¹	Residential		1.1	0.11	1.1	NS	NS	11	110	2,400	1.1	5.3	NS	1,800	NS	0.43	15,000	78	120,000	400
	Urban Residential		2.5	0.25	2.5	NS	NS	25	250	4,800	2.5	25	NS	3,600	NS	1.0	31,000	160	230,000	400
	Occupational		21	2.1	21	NS	NS	210	2,100	30,000	21	23	NS	23,000	NS	1.9	220,000	1,100	>MAX	800
	Construction Worker		170	17	170	NS	NS	1,700	17,000	10,000	170	580	NS	7,500	NS	15	69,000	350	530,000	800
	Excavation Worker		4,800	490	4,900	NS	NS	49,000	490,000	280,000	4,900	16,000	NS	210,000	NS	420	>MAX	9,700	>MAX	800
Oregon RBC - Volatilization to Outdoor Air ¹	Residential		>Csat	NV	NV	NS	NS	NV	NV	NV	NV	6.4	NS	>MAX	NS	NV	NV	NV	NV	NV
	Urban Residential		>Csat	NV	NV	NS	NS	NV	NV	NV	NV	15	NS	>MAX	NS	NV	NV	NV	NV	NV
	Occupational		>Csat	NV	NV	NS	NS	NV	NV	NV	NV	83	NS	>MAX	NS	NV	NV	NV	NV	NV
Oregon RBC - Vapor Intrusion into Buildings ¹	Residential		>Csat	NV	NV	NS	NS	NV	NV	NV	NV	6.4	NS	>MAX	NS	NV	NV	NV	NV	NV
	Urban Residential		>Csat	NV	NV	NS	NS	NV	NV	NV	NV	15	NS	>MAX	NS	NV	NV	NV	NV	NV
	Occupational		>Csat	NV	NV	NS	NS	NV	NV	NV	NV	83	NS	>MAX	NS	NV	NV	NV	NV	NV
Oregon RBC - Leaching to Groundwater ¹	Residential		1.6	4.4	>Csat	NS	NS	>Csat	>Csat	>Csat	>Csat	0.077	NS	>Csat	NS	*	*	*	*	30
	Urban Residential		6.0	>Csat	>Csat	NS	NS	>Csat	>Csat	>Csat	>Csat	0.37	NS	>Csat	NS	*	*	*	*	30
	Occupational		>Csat	>Csat	>Csat	NS	NS	>Csat	>Csat	>Csat	>Csat	0.34	NS	>Csat	NS	*	*	*	*	30

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.

Table 2. Summary of Groundwater Analytical Results-Temporary Borings

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

Sample ID	Sample Date	Depth Collected (feet bgs)	TPH			VOCs														PAHs					
			Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	n-Butylbenzene	sec-Butylbenzene	2-Chlorotoluene	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene	Acenaphthene	Fluorene	Naphthalene	Phenathrene	1-Methylnaphthalene	2-Methylnaphthalene
			µg/L																	µg/L					
SB2/TW2	10/13/2011	15	NA	NA	NA	2.7	30.3	514	773	NS	NS	--	85.9	NS	70.5	245	608	--	168	--	--	--	--	--	--
SB4/TW4	10/13/2011	12.15	NA	NA	NA	<1	<1220	58.7	50.2	NS	NS	--	35.8	NS	36.6	174	51.6	--	37.6	--	--	--	--	--	--
SB5/TW5	10/13/2011	14.95	NA	NA	NA	132	9,200	3,870	22,700	NS	NS	--	210	NS	504	625	5,660	--	1520	--	--	--	--	--	--
SB7/TW7	10/13/2011	14.8	NA	NA	NA	<25.0	263	3,420	7,840	NS	NS	--	216	NS	309	650	3,730	--	928	--	--	--	--	--	--
SB9/TW9	10/13/2011	15.68	NA	NA	NA	<125	<500	11,100	32,650	2170	795	--	2,050	1,450	1,620	7,670	34,500	--	10,300	--	--	--	--	--	--
PBS1-GW	07/26/2019	10-20	6,850	103	<250	<1.00	4.19	44.4	58.4	19.6	12.0	<1.00	32.6	<1.00	6.66	96.4	74.1	36.4	27.6	<0.0520	<0.0520	6.77	<0.0520	3.75	2.47
PBS2-GW	07/26/2019	10-20	6,190	<100	<250	<1.00	9.40	97.3	36.9	24.6	18.9	<1.00	83.2	<1.00	12.0	113	19.2	22.2	8.88	<0.0500	<0.0500	3.16	<0.0500	7.83	3.76
PBS3-GW	07/26/2019	10-20	<100	<100	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<0.0520	<0.0520	<0.260	<0.0520	<0.260	<0.260
PBS4-GW	07/26/2019	10-20	4,090	<100	<250	3.01	13.5	15.2	34.3	6.08	7.88	<1.00	30.5	<1.00	<5.00	15.1	2.22	20.6	11.2	<0.0505	<0.0505	0.879	0.0797	8.41	0.347
PBS5-GW	07/26/2019	10-20	<100	<100	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<0.0500	<0.0500	<0.250	<0.0500	<0.250	<0.250
PBS6-GW	07/26/2019	10-20	<100	<100	<250	<1.00	<1.00	<1.00	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<0.0540	<0.0540	<0.270	<0.0540	<0.270	<0.270
PBS8-GW	12/04/2019	10-20	29,500	568	<250	<10.0	157	1,910	9,620	<10.0	<10.0	56.2	95.9	22.5	344	227	1,960	720	503	0.110	0.174	301	0.141	24.1	44.4
PBS11-GW	12/05/2019	10-20	17,800	397	<250	<10.0	188	1,910	1,430	38.7	<10.0	<10.0	134	30.1	274	386	798	493	260	<0.0500	<0.0500	259	<0.0500	15.3	27.0
PBS12-GW	12/05/2019	10-20	29,200	280	<250	<10.0	32.6	807	1,800	<10.0	<10.0	<10.0	151	40.9	135	447	1,130	588	384	<0.0500	<0.0500	68.3	<0.0500	12.1	20.1
Oregon RBC -Ingestion and Inhalation from Tap Water ¹	Residential		110	100		0.46	1,100	1.5	190	NS	NS	NS	NS	NS	0.17	NS	54	NS	59	510	280	0.17	NS	NS	NS
	Urban Residential		110	100		2.0	4,400	6.7	710	NS	NS	NS	NS	NS	0.78	NS	230	NS	240	2,400	1,400	0.78	NS	NS	NS
	Occupational		450	430		2.1	6,300	6.4	830	NS	NS	NS	NS	NS	0.72	NS	250	NS	280	2,500	1,300	0.72	NS	NS	NS
Oregon RBC - Volatilization to Outdoor Air ¹	Residential		>S	>S		3,100	>S	9,900	>S	NS	NS	NS	NS	NS	3,600	NS	>S	NS	>S	>S	>S	3,600	NS	NS	NS
	Urban Residential		>S	>S		7,400	>S	23,000	>S	NS	NS	NS	NS	NS	8,500	NS	>S	NS	>S	>S	>S	8,500	NS	NS	NS
	Occupational		>S	>S		14,000	>S	43,000	>S	NS	NS	NS	NS	NS	16,000	NS	>S	NS	>S	>S	>S	16,000	NS	NS	NS
Oregon RBC - Vapor Intrusion into Buildings ¹	Residential		22,000	>S		210	>S	620	86,000	NS	NS	NS	NS	NS	840	NS	50,000	NS	36,000	>S	>S	840	NS	NS	NS
	Urban Residential		22,000	>S		510	>S	1,500	86,000	NS	NS	NS	NS	NS	2,000	NS	50,000	NS	36,000	>S	>S	2,000	NS	NS	NS
	Occupational		>S	>S		2,800	>S	8,200	>S	NS	NS	NS	NS	NS	11,000	NS	>S	NS	>S	>S	>S	11,000	NS	NS	NS
Oregon RBC - Groundwater in Excavation ¹	Construction & Excavation Worker		14,000	>S		1,800	220,000	4,500	23,000	NS	NS	NS	NS	NS	500	NS	6,300	NS	7,500	>S	>S	500	NS	NS	NS

Notes:
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 DEQ's Risk-Based Decision Making for the Remediation of Contaminated Sites. *September 22, 2003. Updated May 2018.*

Table 3: Summary of Soil Gas Analytical Results - Temporary Borings

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

Sample ID	Location	Sample Date	Gasoline- Range Hydrocarbons	Acetone	2-Butanone (MEK)	Benzene	Chloroform	Chloromethane	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	4-Ethyltoluene	Heptane	n-Hexane	Methylene Chloride	Propene	Tetrachloroethylene	Tetrahydrofuran	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2,2,4-Trimethylpentane	Total Xylenes (m, p, and o)
			µg/m³																					
SG-1	Near MW-11	9/22/2014	--	<15,000	--	<15,000	<15,000	--	--	--	--	<15,000	<15,000	--	--	--	--	<15,000	--	<15,000	<15,000	<15,000	--	<15,000
SG-2	Near MW-1A	9/22/2014	--	<50	--	<50	<50	--	--	--	--	<50	<50	--	--	--	--	<50	--	<50	<50	<50	--	<50
SG-3	Near MW-6	9/22/2014	--	<1,500	--	<1,500	<1,500	--	--	--	--	<1,500	<1,500	--	--	--	--	<1,500	--	<1,500	<1,500	<1,500	--	<1,500
SG-4	Center of former gas station building	9/22/2014	--	<20	--	<20	41	--	--	--	--	<20	<20	--	--	--	--	130	--	<20	<20	<20	--	20
SG-5	North of former USTs	9/22/2014	--	<20	--	<20	<20	--	--	--	--	36	23	--	--	--	--	200	--	54	65	29	--	174
SG-6	Northwest of former gas station	9/22/2014	--	<3,000	--	<3,000	<3,000	--	--	--	--	<3,000	<3,000	--	--	--	--	<3,000	--	<3,000	<3,000	<3,000	--	<3,000
SG-7	South of MW-5	9/22/2014	--	<20	--	<20	<20	--	--	--	--	<20	<20	--	--	--	--	360	--	<20	<20	<20	--	<20
SG-1	At PBS-9 location	12/4/2019	<826	13.4	<3.69	1.19	28.2	<0.413	<0.689	1.89	7.52	1.60	2.23	<0.818	<0.705	<0.694	10.6	9.84	<0.590	81.0	3.94	3.94	<0.934	11.4
SG-2	At PBS-7 location	12/4/2019	<826	18.3	20.3	4.18	<0.973	0.764	<0.689	2.04	34.9	<0.867	<0.982	<0.818	1.83	5.83	9.61	11.7	7.25	53.9	0.991	0.991	<0.934	4.33
Oregon DEQ RBC ¹ - Vapor Intrusion into Buildings		Residential	79,000	NS	NS	72	24	19,000	NS	NS	NS	220	NS	NS	NS	NS	NS	2,200	NS	1,000,000	13,000	13,000	NS	21,000
		Urban Residential	79,000	NS	NS	170	58	19,000	NS	NS	NS	530	NS	NS	NS	NS	NS	5,100	NS	1,000,000	13,000	13,000	NS	21,000
		Occupational	1,700,000	NS	NS	1,600	530	390,000	NS	NS	NS	4,900	NS	NS	NS	NS	NS	47,000	NS	21,900,000	260,000	260,000	NS	440,000

Notes:
See laboratory report for full list of analytes
µg/m³: micrograms per cubic meter
NS: screening level not set for this compound
<: not detected above laboratory method reporting limit
¹Oregon Risk-Based Decision-Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ Sept. 2003, Revised RBCs May 2018

Table 4. Summary of Monitoring Well Analytical Results

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

			TPH			VOCs														PAHs							
Sample ID	Sample Date	Depth to Water (feet bgs)	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	Phenathrene	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	<100	<50.0	134	23.7	<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	1.15	12.4	0.394	

Table 4. 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	Phenathrene	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	17.6	36	<1.00	142	50.8	34.7	0.157	0.325	0.0514	70.5	7.14	8.85

Table 4. 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	Phenathrene	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

Table 4. Summary of Monitoring Well Analytical Results

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

			TPH			VOCs													PAHs							
Sample ID	Sample Date	Depth to Water (feet bgs)	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	Phenathrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene
			µg/L																							
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
	Occupational		450	430		2.1	6,300	6.4	830	NS	NS	2,000	NS	NS	0.72	NS	48	250	NS	280	2,500	1,300	NS	0.72	NS	NS
Oregon RBC - Volatilization to Outdoor Air ¹	Residential		>S	>S		3,100	>S	9,900	>S	NS	NS	>S	NS	NS	3,600	NS	64,000	>S	NS	>S	>S	>S	NS	3,600	NS	NS
	Urban Residential		>S	>S		7,400	>S	23,000	>S	NS	NS	>S	NS	NS	8,500	NS	150,000	>S	NS	>S	>S	>S	NS	8,500	NS	NS
	Occupational		>S	>S		14,000	>S	43,000	>S	NS	NS	>S	NS	NS	16,000	NS	>S	>S	NS	>S	>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 DEQ's Risk-Based Decision Making for the Remediation of Contaminated Sites. *September 22, 2003. Updated May 2018.*

Table 5. Maximum Concentrations Detected 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	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

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	Indeo(1,2,3-cd)pyrene	Naphthalene	Phenathrene	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

Table 6. Maximum Concentrations Detected in Groundwater-Temporary Borings

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

			TPH			VOCs													PAHs			
Sample ID	Sample Date	Depth Collected (feet bgs)	Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	n-Butylbenzene	sec-Butylbenzene	2-Chlorotoluene	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene
			µg/L																			
Highest Concentration Detected (2011)			NA	NA	NA	132	9200	11,100	32,650	2170	795	NA	2050	1450	1,620	7,670	34,500	NA	10,300	NA	NA	NA
Highest Concentration Detected (2019)			29,500	568	NA	3	188	1,910	9,620	39	19	56	151	41	344	447	1,960	720	503	301	24	44
Oregon RBC -Ingestion and Inhalation from Tap Water ¹	Residential		110	100		0.46	1,100	1.5	190	NS	NS	NS	NS	NS	0.17	NS	54	NS	59	0.17	NS	NS
	Urban Residential		110	100		2.0	4,400	6.7	710	NS	NS	NS	NS	NS	0.78	NS	230	NS	240	0.78	NS	NS
	Occupational		450	430		2.1	6,300	6.4	830	NS	NS	NS	NS	NS	0.72	NS	250	NS	280	0.72	NS	NS
Oregon RBC - Volatilization to Outdoor Air ¹	Residential		>S	>S		3,100	>S	9,900	>S	NS	NS	NS	NS	NS	3,600	NS	>S	NS	>S	3,600	NS	NS
	Urban Residential		>S	>S		7,400	>S	23,000	>S	NS	NS	NS	NS	NS	8,500	NS	>S	NS	>S	8,500	NS	NS
	Occupational		>S	>S		14,000	>S	43,000	>S	NS	NS	NS	NS	NS	16,000	NS	>S	NS	>S	16,000	NS	NS
Oregon RBC - Vapor Intrusion into Buildings ¹	Residential		22,000	>S		210	>S	620	86,000	NS	NS	NS	NS	NS	840	NS	50,000	NS	36,000	840	NS	NS
	Urban Residential		22,000	>S		510	>S	1,500	86,000	NS	NS	NS	NS	NS	2,000	NS	50,000	NS	36,000	2,000	NS	NS
	Occupational		>S	>S		2,800	>S	8,200	>S	NS	NS	NS	NS	NS	11,000	NS	>S	NS	>S	11,000	NS	NS
Oregon RBC - Groundwater in Excavation ¹	Construction & Excavation Worker		14,000	>S		1,800	220,000	4,500	23,000	NS	NS	NS	NS	NS	500	NS	6,300	NS	7,500	500	NS	NS

Notes:
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 DEQ's Risk-Based Decision Making for the Remediation of Contaminated Sites. *September 22, 2003. Updated May 2018.*

Table 7: Maximum Concentrations Detected in Soil Gas - Temporary Borings

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

Sample ID	Location	Sample Date	Gasoline-Range Hydrocarbons	Acetone	2-Butanone (MEK)	Benzene	Chloroform	Chloromethane	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	4-Ethyltoluene	n-Hexane	Methylene Chloride	Propene	Tetrachloroethylene	Tetrahydrofuran	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes (m, p, and o)
			µg/m³																			
			Highest Detected Concentration																			
			NA	18.3	20.3	4.18	41	0.764	NA	2	35	36	23	1.83	5.83	11	360	7.25	81	65	29	174
Oregon DEQ RBC ¹ - Vapor Intrusion into Buildings		Residential	79,000	NS	NS	72	24	19,000	NS	NS	NS	220	NS	NS	NS	NS	2,200	NS	1,000,000	13,000	13,000	21,000
		Urban Residential	79,000	NS	NS	170	58	19,000	NS	NS	NS	530	NS	NS	NS	NS	5,100	NS	1,000,000	13,000	13,000	21,000
		Occupational	1,700,000	NS	NS	1,600	530	390,000	NS	NS	NS	4,900	NS	NS	NS	NS	47,000	NS	21,900,000	260,000	260,000	440,000

Notes:
See laboratory report for full list of analytes
µg/m³: micrograms per cubic meter
NS: screening level not set for this compound
<: not detected above laboratory method reporting limit
¹Oregon Risk-Based Decision-Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ Sept. 2003, Revised RBCs May 2018

Table 8. Maximum Concentrations Detected in Monitoring Wells

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

		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	Phenathrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene
		µg/L																							
Highest Detected Concentration		25,400	2,180	1,020	78.6	308	1,370	2,730	21	15.6	149	2,724	31.9	275	485	23.7	1,350	111	408	0.755	0.755	0.755	207	12.4	9.43
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
	Occupational	450	430		2.1	6,300	6.4	830	NS	NS	2,000	NS	NS	0.72	NS	48	250	NS	280	2,500	1,300	NS	0.72	NS	NS
Oregon RBC - Volatilization to Outdoor Air ¹	Residential	>S	>S		3,100	>S	9,900	>S	NS	NS	>S	NS	NS	3,600	NS	64,000	>S	NS	>S	>S	>S	NS	3,600	NS	NS
	Urban Residential	>S	>S		7,400	>S	23,000	>S	NS	NS	>S	NS	NS	8,500	NS	150,000	>S	NS	>S	>S	>S	NS	8,500	NS	NS
	Occupational	>S	>S		14,000	>S	43,000	>S	NS	NS	>S	NS	NS	16,000	NS	>S	>S	NS	>S	>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 DEQ's Risk-Based Decision Making for the Remediation of Contaminated Sites. *September 22, 2003. Updated May 2018.*

Table 9: Summary of 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	17.9	106	8.31
P-2	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
	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
P-3	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
	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
P-4	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
	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
P-5	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
	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