

Date: December 10, 2024

To: FILE

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

From: Nancy Sawka, Project Manager, WR Cleanup Program

Subject: USA Mini Mart #1, LUST 22-98-4178; Staff Memorandum in support of a No Further Action determination

This document presents the basis for the Oregon Department of Environmental Quality's (DEQ's) recommended No Further Action (NFA) determination for the USA Mini Mart #1 site in Sweet Home. As discussed in this report, contaminant concentrations in soil, groundwater and soil gas are below acceptable risk levels.

The proposed NFA 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 located at Your DEQ Online (YDO): <https://ordeq.org/LUST22-98-4187>.

1. BACKGROUND

Site location. (Figure 1)

The site's location can be described as follows:

- Address: 1306 Main Street, Sweet Home, Linn County, Oregon.
- Latitude 44°23'53.16" North, longitude 122° 43'42.96" West
- Tax lot 02600, Township 13 South, Range 1 East, Section 31 AD (Linn County Map Tax Lot 13S01E31AD 02600)

Site setting. (Figure 2)

- Site size: 0.44 acres
- Main structures include the service station building on the north side of the property with two dispenser islands to the south. One 15,000-gallon unleaded gasoline underground storage tank (UST) and one gasoline-diesel partitioned 8,000-gallon UST are located south of the station building and west of the dispenser islands under a concrete pad. The remainder of the site outside the building structure is covered with asphalt or concrete.
- Adjacent properties include residential properties to the north, residential and commercial properties to the northwest and southwest across 13th Avenue, respectively, commercial properties directly east and commercial properties to the south across Main Street.

- Land use zoning of the site and surrounding properties is C-1, Central Commercial.

Physical setting.

- Topography of the site is generally flat with a slight downward slope to the northwest and an elevation about 542 feet above mean sea level (msl).
- Depth to groundwater ranged between about 7 and 16 feet below ground surface (bgs) during the site investigations.
- Geology, based on monitoring well logs, consists of brown sandy gravel with silt to about 20 feet bgs.
- Groundwater flow direction is to the northwest towards the South Santiam River.
- Distance to the nearest surface water body, Cotton Creek, is 400 feet north of the site. Cotton Creek is a small tributary of the South Santiam River located 1,700 feet northwest of the site.

Site history.

The site has operated as a gasoline service station since the late 1960's. Historical operations included three USTs; two 5,000 and one 8,000-gallon gasoline tanks. In November 1998, a release was reported when petroleum hydrocarbons were found in a nearby sanitary sewer and the site was assigned LUST 22-98-4187.

In January 2007, the three USTs and dispensers were decommissioned and removed and replaced with the current UST system discussed above (Site setting). Holes were observed in one of the USTs and petroleum contaminated soil (PCS) was encountered in the excavation. The tank pit was over-excavated and about 400 tons of PCS was removed and disposed of at Riverbend Landfill in McMinnville, Oregon. Two smaller USTs were found immediately south of the known USTs and were also removed during the same time. Confirmation soil and groundwater samples were collected from the final excavation. Low concentrations of gasoline (Gx) up to 121 milligram per kilogram (mg/Kg) and diesel (Dx) up to 90 mg/Kg was found in soil and up to 1,140 microgram per liter (ug/L) in groundwater from the tank excavation. Little to no petroleum contamination remained beneath the dispensers.

A warning letter for failure to investigate the extent and magnitude of the contamination from the releases was issued by DEQ in May 2011 to the former owners/operators, Mr. Yoon Suh (Santiam Stop and Shop) and Mr. Mike Armstrong (USA Mini Mart #1). Truax Corporation purchased the site in July 2011 and investigations of contamination in soil and groundwater continued in 2012 and is further discussed below.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.

The site and adjacent properties are zoned C-1, Central Commercial by the City of Sweet Home. Although the adjacent properties north and northwest of the site are zoned C-1, nonconforming residential homes are present. Properties further north are zoned R2, High Density Residential. There are no current or anticipated future changes to the land use zoning in this area, based on information from the City Planning Department.

Groundwater use.

There are no known private wells on the site or adjacent properties. The site and the surrounding area is supplied with municipal water from the City of Sweet Home that comes from Foster Reservoir about 3 miles to the east-northeast. There is one private well located at a small apartment complex (1240 Nandina Street, Linn 587373) approximately 420 feet northwest (downgradient) of the site and 285 feet from the northwestern boundary of the groundwater plume. The well was sampled five times during the groundwater investigations and petroleum contaminants were never detected. In addition, the furthest downgradient monitoring well MW-9, located about 230 feet upgradient from the private well, has had no detections of petroleum contaminants for the last eleven sampling quarters. Based on this information, groundwater contamination is not expected to reach this downgradient private well and it is not considered a potential receptor in the risk evaluation below.

Surface water use.

The nearest surface water body is Cotton Creek, a small tributary of the South Santiam River, located approximately 400 feet north of the site. Cotton Creek appears to be primarily contained in underground piping. The second closest body of surface water is Ames Creek, another tributary of the South Santiam River, located approximately 1,000 feet south-southwest of the site. The South Santiam River is located 1,700 feet northwest of the site. Due to the distance and/or location from the site and the limited extent of the groundwater plume, it is unlikely that contamination from the site reaches any of these surface water bodies.

There are three catch basins located beneath the canopy between the dispensers on the site that collect runoff from this area. These drain east to an oil-water separator that discharges to the sanitary sewer in the alley north of the site. There are two additional catch basins on the east and west ends of the property and several stormwater drains along the east side of 13th Avenue and north side of Main Street that also collect stormwater runoff from the site prior to discharging to the City's stormwater sewer.

3. INVESTIGATION AND CLEANUP WORK

Investigations and cleanup of contamination in soil, groundwater and/or soil vapor were completed at the site under the ownership of Truax between July 2012 and March 2024 by Martin S. Burck Associates, Inc. (MSBA). During this time, ten monitoring wells (MW-1 to MW-10), twelve soil borings (B1, B2 and borings from MW-1 to MW-10) and two temporary well points (TW-1 and TW-2) were installed and sampled. The location of borings and wells are shown in Figure 2 and Figure 3.

Soil sample results (July and September 2012).

Select soil samples were collected from various depths ranging between 0.5 to 19 feet bgs. Detections of Gx and Dx ranged between 6.8 and 544 mg/Kg. Little to no benzene was detected and ethylbenzene and naphthalene concentrations ranged between 0.388 to 2.980 mg/Kg and 0.887 to 3.310 mg/Kg, respectively. Other volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs) were detected, but at low concentrations including toluene, xylenes, isopropylbenzene, 1,2,3-trimethylbenzene (TMB), 1,3,5-TMB, benzo(a)pyrene,

benzo(a)anthracene, fluoranthene, fluorene and pyrene. Detected lead was below background levels for the area. The highest concentrations of petroleum contaminants were in soil from MW-2 located west-northwest of the USTs at 13 feet bgs, MW-4 north of the station building adjacent to the sewer lateral at 12 feet bgs and MW-5 northwest of the site and adjacent to the sewer manhole along alley at 14 feet bgs. Soil sample results are shown in Figure 3.

Discovery and removal of petroleum product.

Free floating petroleum product was discovered in MW-5 in December 2012, several months after the well was installed in July 2012. MSBA conducted free product removal from the well between January 2013 and July 2018 using both a skimmer and sorbent tubes. Product thickness ranged between less than 0.1 foot to 0.75 feet when present. Product was absent in MW-5 from October 2016 through July 2018, except for one time in October 2017 where it was measured at 0.04 foot. MSBA implemented four focused vacuum extraction events in August and September 2018 in an attempt to depress the groundwater table to expose and remove any residual product in the subsurface formation. No free product accumulated in MW-5 during the vacuum events or was found in subsequent sampling events. About 6.25 gallons of product was removed from MW-5 between 2013 and 2017. Free product was never observed in any of the other monitoring wells.

Groundwater monitoring results (MW-1 through MW-10).

Groundwater monitoring was completed from July 2012 through July 2019. Groundwater flow direction was consistently towards the northwest during the sampling events. Locations of the wells are shown in Figure 2 and include:

- MW-1 located onsite and upgradient from the USTs and dispenser island.
- MW-2 located onsite and downgradient from the USTs and dispenser island
- MW-3, 4, 5 and 7 located offsite and downgradient (MW-3 and 5) to cross-gradient from the site in the alleyway. MW-3, MW-5 and MW-7 are all located adjacent to the sewer line which flows west from MW-3 to MW-5 and then to MW-7. MW-4 is located adjacent to the sanitary sewer lateral from the station building.
- MW-8 and 9 and MW-10 are located further offsite and downgradient (northwest) from the site along Nandina Street and 13th Avenue, respectively. MW-9 is located between the site and the downgradient private well discussed above.
- MW-6 was installed onsite between the station building, USTs and dispensers.
- Temporary wells TW-1 and TW-2 were sampled once in July 2012. TW-1 was installed adjacent to a former small UST that was located east of the building and TW-2 was installed upgradient in the alleyway along the sanitary sewer.

Groundwater samples were analyzed for Gx, Dx, Oil, VOCs, PAHs and initially for dissolved lead. TW-1 was also analyzed for PCBs, cadmium and chromium. Some monitoring wells were eliminated from the monitoring program prior to 2017 after several rounds of samples exhibited a significant reduction in contaminants and/or low to no detections. Little or no contamination was found in groundwater samples collected from TW-1 and TW-2. The highest concentrations of petroleum contaminants were seen in downgradient monitoring well MW-5. However, contamination in the well exhibited a significant reduction over time as shown in the Table 1

below which presents the highest and most recent concentration of the major constituents of concern detected in this well.

Table 1: Groundwater in MW-5 – Highest Detected versus Most Recent Results

Contaminant (ug/L)	MW-5	
	Highest Concentration Detected	Most Recent Concentration
Gx	28,900	1,100
Dx	627,000 (free product present)	602
Benzene	18.4	2.67
Toluene	37	<1.00
Ethylbenzene	975	18.6
Xylenes	640	2.95
Naphthalene	481	8.12

All monitoring well data is summarized in attached Tables 2 and 3. In general, groundwater from all monitoring wells showed a decreasing trend over time. The furthest downgradient well, MW-9 has not had any detections of contamination since October 2016.

Soil vapor sample results.

MSBA installed two semi-permanent vapor points (SV-1 and SV-2) in December 2012 for the collection of soil vapor samples. SV-1 was installed in the area of highest contamination near MW-5 and the sanitary sewer line and SV-2 was installed north of MW-4 and the gravel alley way between the site and the residential home north. Soil gas samples were collected from both points in January and July 2013. Additional samples were collected from SV-2 in October 2016 and March 2024 (requested by DEQ before site closure). Samples were analyzed for Gx and petroleum related VOCs. Soil vapor results are shown in Table 4 and Figure 4 attached. No petroleum related contaminants were detected in SV-1. Gx, benzene, toluene and naphthalene were detected in SV-2, but all were below DEQ's RBC for residential and occupational soil vapors. Note that 1,2-dibromomethane (EDB) was not detected in any of the vapor samples, however, the laboratory was not able to achieve detection limits below the vapor RBCs for this constituent in the 2013 and 2016 sampling events. Detection limits were achieved in the March 2024 sampling event and the chemical was not detected.

Nature and extent of contamination.

Contaminants of interest (COIs) include Gx, Dx, VOCs and PAHs in soil, soil vapors groundwater. The source of this contamination is likely related to historical operations of the UST system and dispensers. Some contamination appears to have migrated through and along (east to west) the sanitary sewer line in the gravel alleyway to the north of the site. Free product that was present in downgradient well MW-5 near the sewer manhole has abated and is no longer present.

Most of the contaminated soil was removed during UST and dispenser decommissioning work in 2007. Little or no contamination is present in soil above 13 feet bgs.

Depth to groundwater has ranged between 7 and 16 feet bgs during the investigations. The extent of remaining contamination in the groundwater is shown in Figure 5. The estimated groundwater plume measures approximately 225 feet long by 125 feet wide and begins just south of the UST pad onsite and extends offsite for about 135 feet to the northwest beneath 13th Avenue, the alleyway and the residents at 1324 and 1354 13th Avenue.

Conceptual site model.

Human exposure to site contamination depends on the extent of the contamination and media affected, the human receptors present within the contaminated area (property use and zoning) and the pathways in which a receptor could be exposed to the contaminants. There is little or no remaining contamination in soil and the estimated extent of remaining contamination in groundwater is shown in Figure 5. The Site and surrounding properties within the area of remaining contamination is zoned for commercial use. Two of the properties within this area and zoning are nonconforming residential homes. All of the properties use municipal water from the City and none of them are known to have or use private groundwater wells. Based on the extent of contamination and current and potential future property uses, the complete exposure pathways as summarized in the Table 5 below and include future exposure by occupational and construction/excavation workers to contaminants remaining in soil by contact, inhalation or ingestion; current or future exposure to residential and occupational workers to contaminant vapors in outdoor and indoor air resulting from contaminated groundwater or soil; and potential construction and excavations worker exposure to contaminated groundwater during subsurface excavation work within the water table.

Table 5. Potential Pathways and Receptors of Contamination

Pathway	Receptor	Is Pathway Complete?	Is RBC Exceeded?	Comment
SOIL				
Ingestion, dermal contact, and inhalation	Residential	No	No	No soil contamination extends offsite.
	Urban residential	No	No	
	Occupational	No	No	Site is paved, so little or no exposure to soil is expected.
	Construction worker	Future	No	
	Excavation worker	Future	No	
Volatilization to Outdoor Air	Residential	Yes - offsite	No	
	Urban Residential	Yes - offsite	No	
	Occupational	Yes	No	
Vapor Intrusion Into Buildings	Residential	Yes - offsite	No	
	Urban Residential	Yes - offsite	No	

Pathway	Receptor	Is Pathway Complete?	Is RBC Exceeded?	Comment
	Occupational	Yes	No	
GROUNDWATER				
Ingestion and inhalation from tap water	Residential	No	Yes	Beneficial use survey shows that City water is provided and there are no current or likely future uses of groundwater onsite or offsite within the area of contamination (Figure 5).
	Urban residential	No	Yes	
	Occupational	No	Yes	
Volatilization to outdoor air	Residential	Yes - offsite	No	
	Urban residential	Yes - offsite	No	
	Occupational	Yes	No	
Vapor intrusion into buildings	Residential	Yes - offsite	No	
	Urban residential	Yes - offsite	No	
	Occupational	Yes	No	
Groundwater in excavation	Construction and excavation worker	Yes	No	
SOIL GAS				
Vapor Intrusion into buildings	Residential	Yes	No	Potential for future re-zoning to accommodate a variety of uses.
	Urban residential	Yes	No	
	Occupational	Yes	No	
ECOLOGICAL				
Ecological Receptors		No	NA	Site is paved, so little to no soil exposure. Contamination does not reach Cotton Creek.

Contaminant concentrations and human health risk.

Attached Table 6 shows the maximum detected concentrations of COIs in the various media including surface soil, subsurface soil, groundwater and soil vapor, compared to the applicable risk-based screening concentrations for the receptors and pathways currently present and/or likely to be present in the future. Groundwater concentrations have reduced significantly over time, so concentrations used in the table are the highest detected over the last four sampling events. Based on a review of the table none of the COIs exceed any of the applicable pathways for the current and potential future uses of the site and surrounding area or the current or potential future beneficial uses of groundwater or surface water at the contaminant boundary.

Table 6 is based on DEQ Generic RBCs from May 2018. These were the most recent RBCs available at the time of the site investigations and proposed closure agreed to by DEQ and so were applied to evaluate the site risk. New DEQ RBCs were developed and implemented in June 2023 with major changes to how vapor intrusion risks are evaluated and to the groundwater and soil gas RBC values. Contaminants in soil are no longer used to screen for vapor intrusion potential. Although, the older, May 2018 RBCs were applied to closure for this site, soil gas

results were also compared to the new June 2023 RBCs for soil vapors. Table 7 shows the results of the comparison. None of the detected contaminants in soil gas exceeded a residential or occupational soil vapor RBC.

Ecological risk.

The site is covered with structures, asphalt and concrete with little exposed soil. There is no surface water at the site and the nearest surface water body is the Cotton Creek located about 400 feet to the north and downgradient of the site. The Creek is outside the area of contamination, and it is unlikely that impacted groundwater will reach the Creek in the future. 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.

4. 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 Sweet Home, and interested parties. DEQ will consider and respond to all viable comments before issuing a conditional No Further Action determination.

5. RECOMMENDATION

Following remedial actions including the removal of PCS from the former tank pit and petroleum product in MW-5 contamination in soil, groundwater and soil gas have been reduced to below acceptable risk levels. The site no longer poses a risk to human health, or the environment and a No Further Action determination is recommended. The No Further Action only applies to the releases referenced in this report. The No Further Action determination The No Further Action determination will be recorded in the administrative record for LUST No. 22-98-4187.

6. ATTACHMENTS

Figures:

Figure 1: Site Location Map

Figure 2: Site Map

Figure 3: MSBA Soil Data Map (2012)

Figure 4: Soil Vapor Data Map

Figure 5: Door-to-Door Well Survey Map and Extent of Groundwater Contamination

Tables:

Table 1: Groundwater in MW-5 – Highest Detected versus Most Recent Results

Table 2: Groundwater Sample Analytical Data – PHCs, VOCs, and PAHs

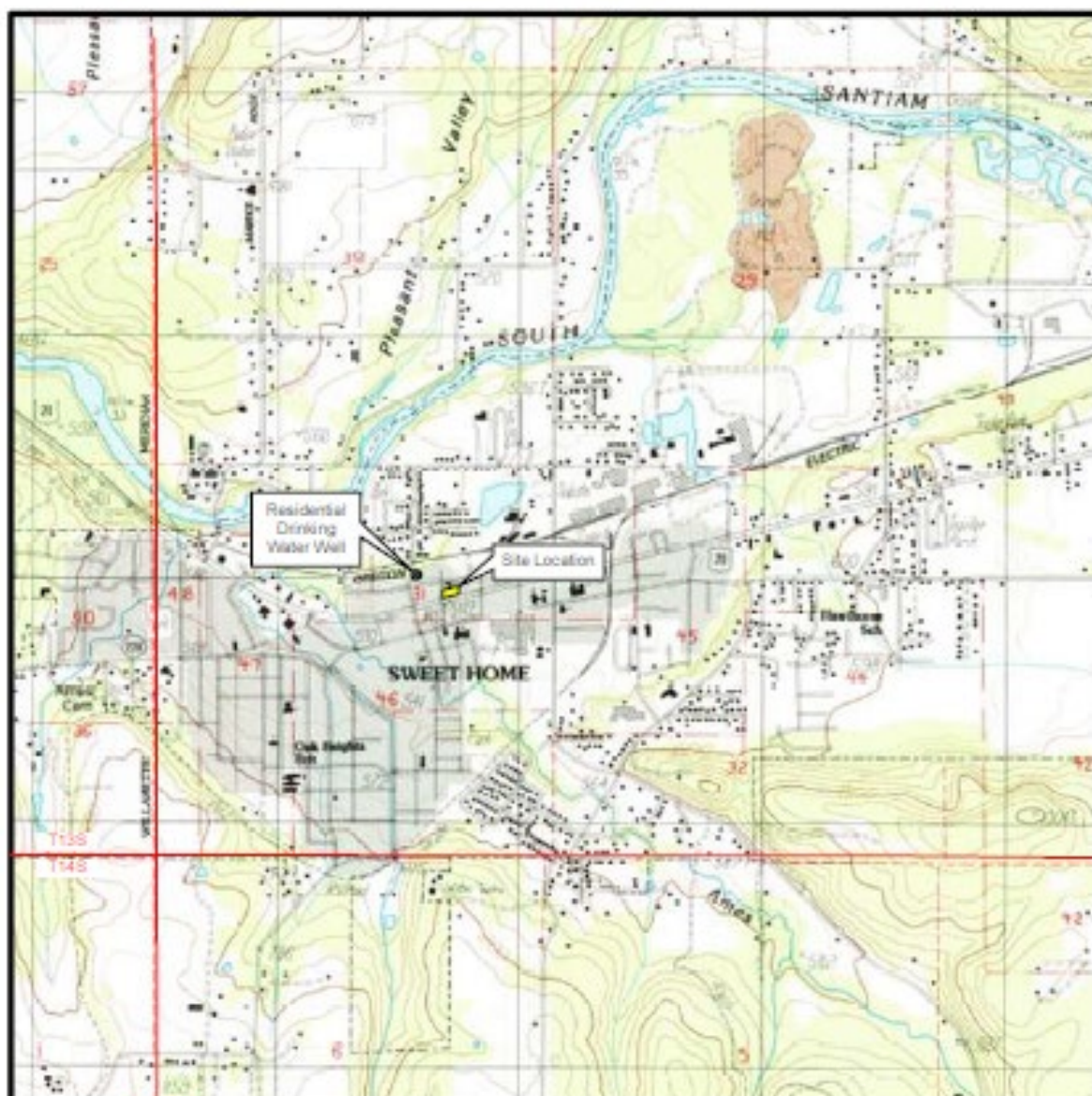
Table 3: Groundwater Sample Analytical Data – Metals and PCBs

Table 4: Soil Vapor Sample Analytical Data

Table 5: Potential Pathways and Receptors of Contamination

Table 6: Maximum Detected Concentrations Compared to Applicable RBCs (May 2018)

Table 7: Maximum Concentrations and Updated Soil Vapor Intrusion RBCs from June 2023



R1W R1E
 Adapted from: Sweet Home Quadrangle, Oregon, 7.5
 Minute Series
 Contour Interval 40 feet
 USGS Topographic Map Field Check 1982, Edited 1984
 National Geodetic Vertical Datum of 1929

0 2000 4000
 Approximate Scale (feet)



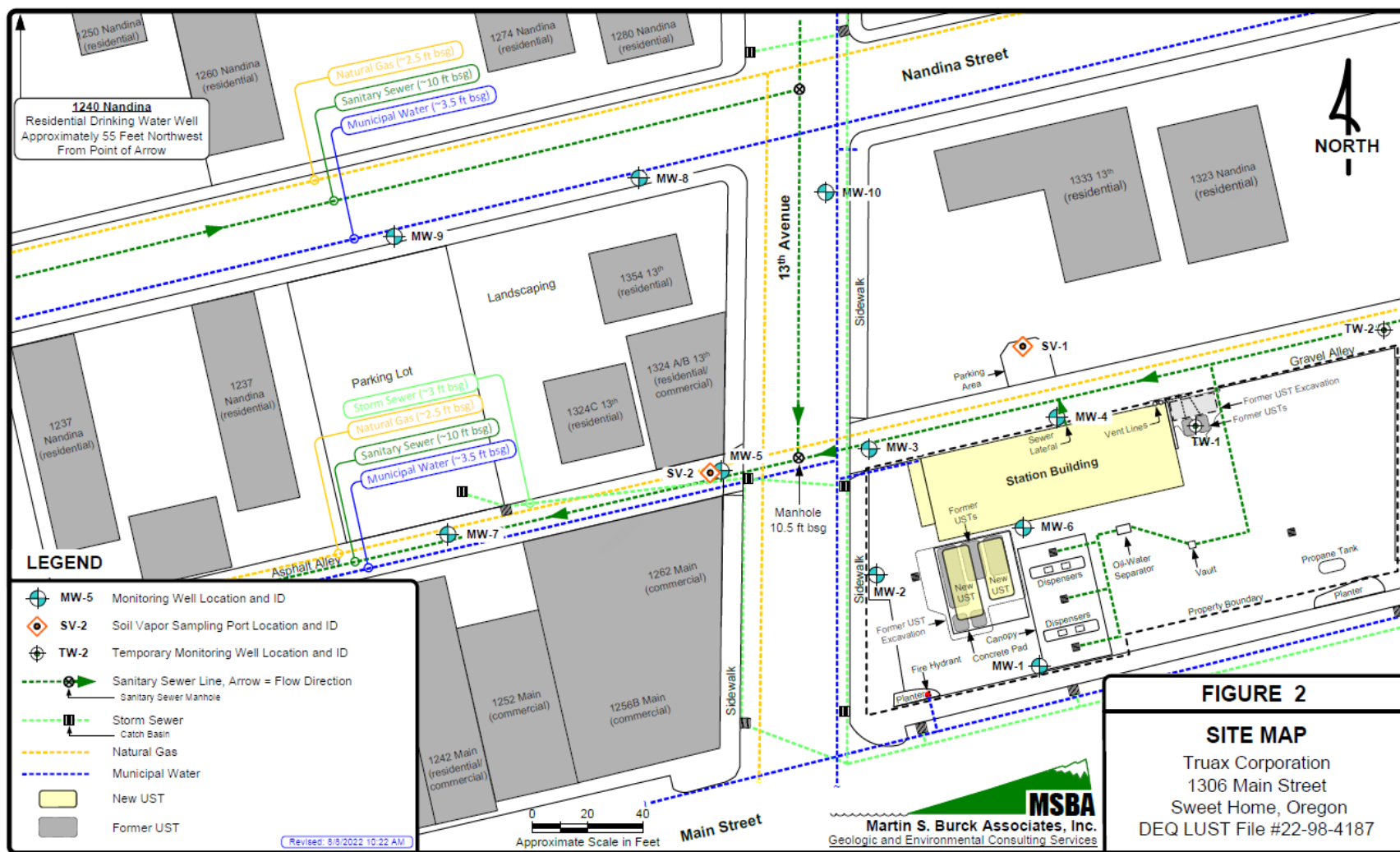
FIGURE 1

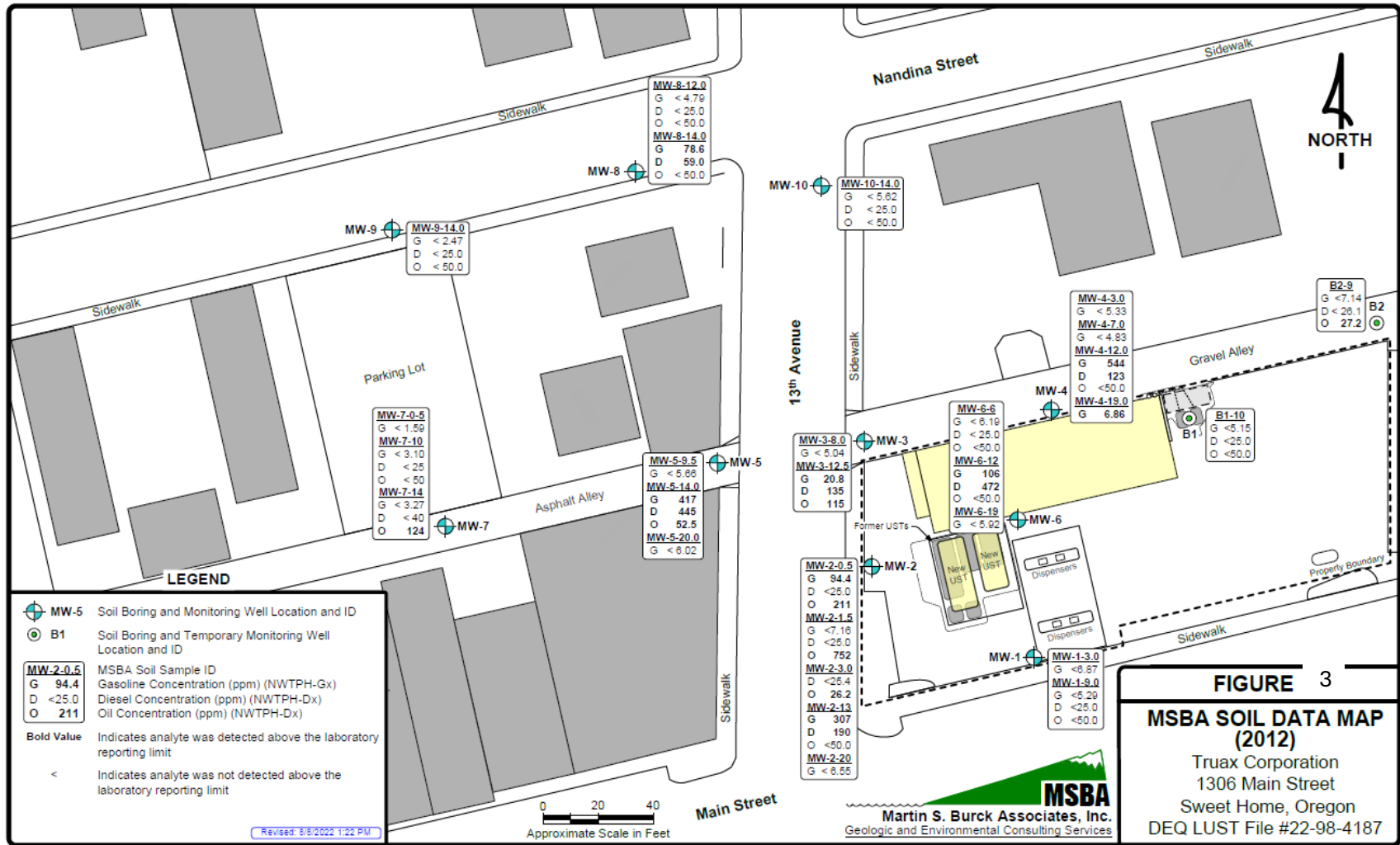
SITE LOCATION MAP

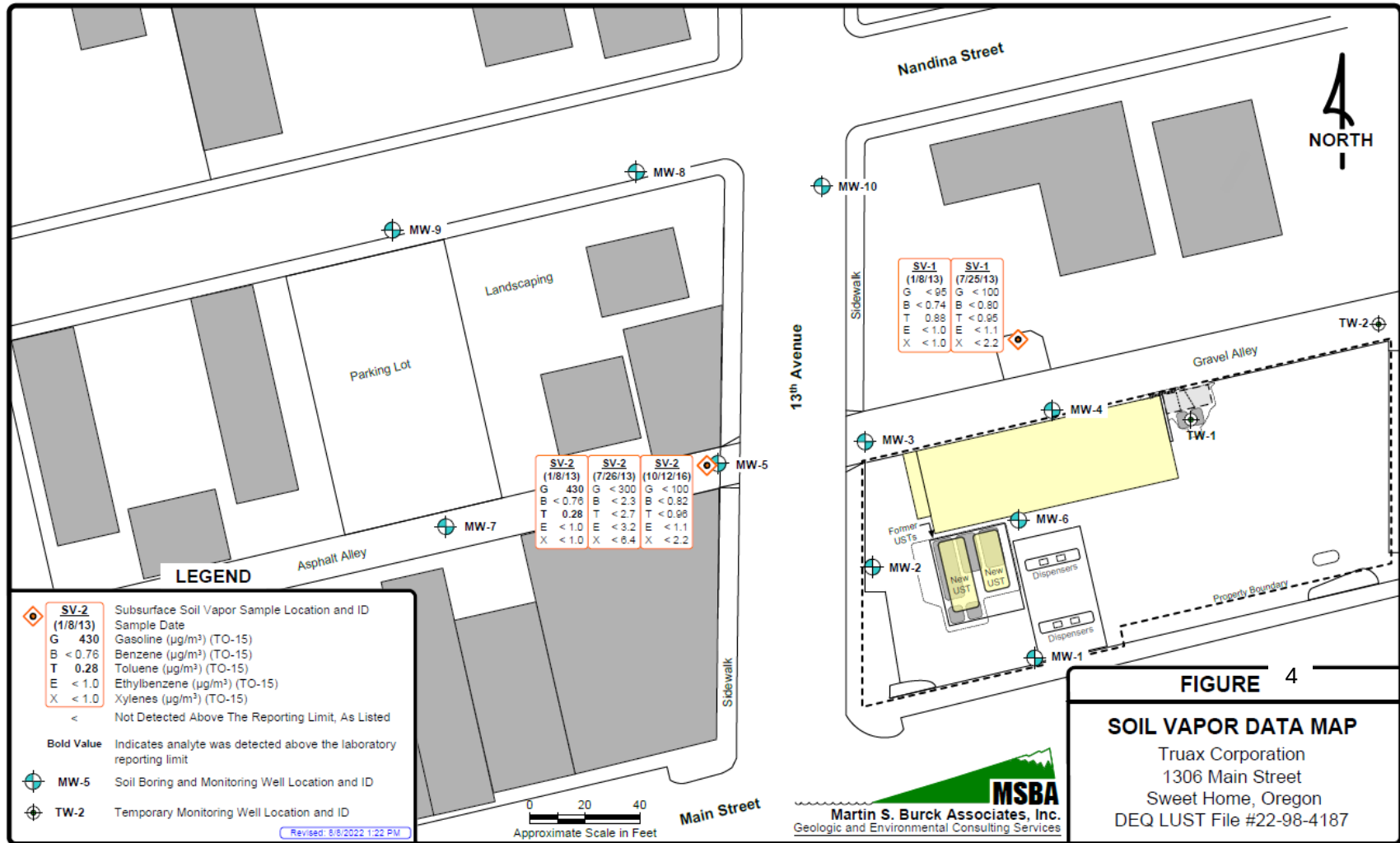
Truax Corporation
 1306 Main Street, Sweet Home, Oregon
 DEQ LUST File #22-98-4187

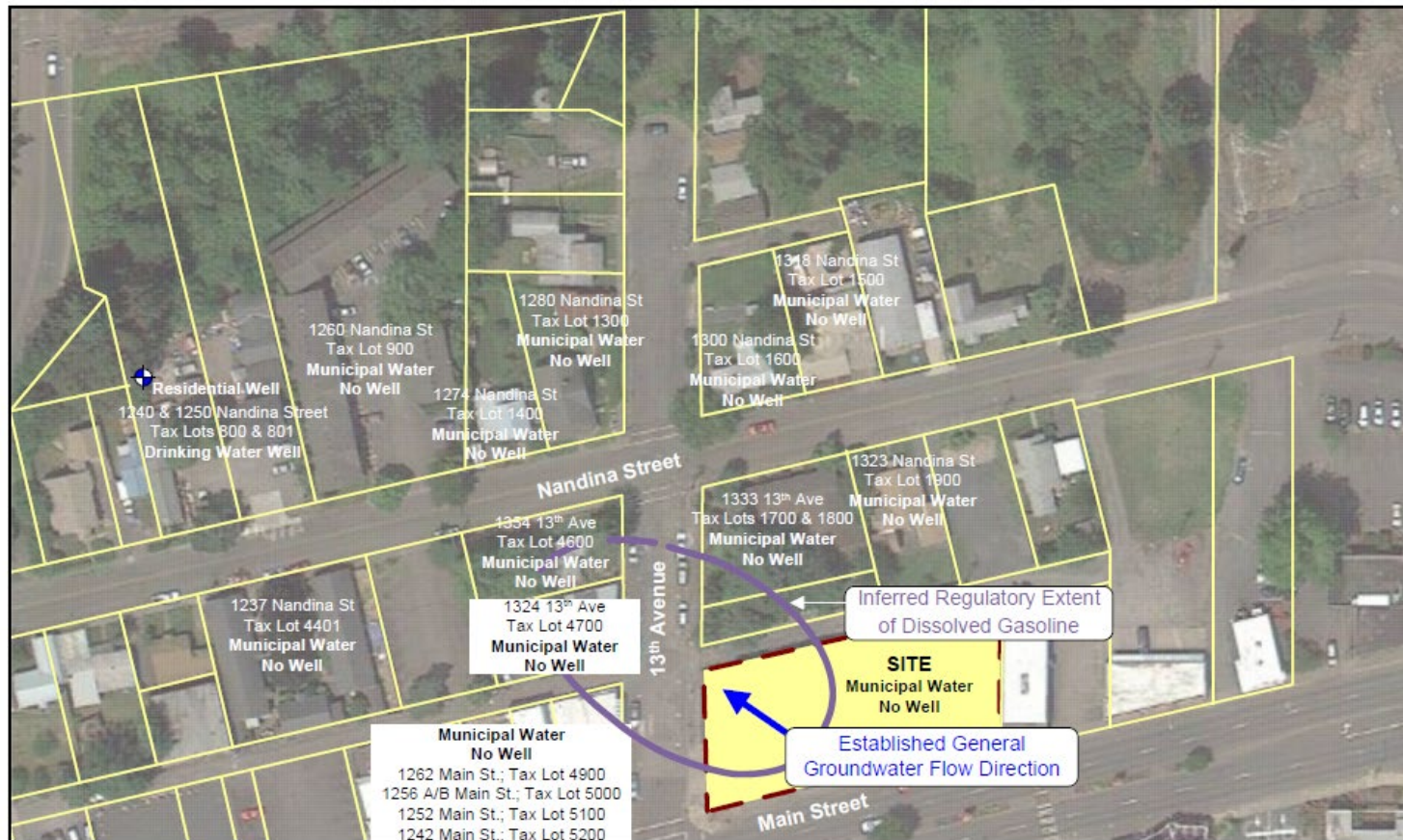
MSBA
 Martin S. Burck Associates, Inc.
 Geologic and Environmental Consulting Services

Revised 8/2002 by G. All









0 100 200
Approximate Scale in Feet

Legend

- Drinking Well Location
- Inferred General Groundwater Flow Direction

4
NORTH

MSBA
Martin S. Burck Associates, Inc.
Geologic and Environmental Consulting Services

FIGURE 5

DOOR-TO-DOOR WELL SURVEY MAP

Truax Corporation
1306 Main Street, Sweet Home, Oregon
DEQ LUST File #22-98-4187

TABLE 2
GROUNDWATER SAMPLE ANALYTICAL DATA - PHCs, VOCs, and PAHs
 Truax Sweet Home
 1306 Main Street, Sweet Home, Oregon
 DEQ File No. 22-98-4187

Sample ID	Sample Date	Petroleum Hydrocarbons ^a (ppb) ^b				Volatile Organic Compounds ^a (ppb)										Polynuclear Aromatic Hydrocarbons ^a (ppb)															
		HClD (see key)	Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-Dibromoethane	1,2-Dichloroethane	Methyl tert-butyl ether	Isopropylbenzene	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Acenaphthene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Naphthalene	Indeno(1,2,3-cd)pyrene	Pyrene		
Decommissioning UST Cavity - CAESCO																															
PW ^a	01/30/07	nd ^f	- ^g	-	-	3,120 ^h	8,830	1,020	5,860	-	-	-	-	-	-	-	1.20	1.3	0.3	0.1	0.2	<0.1 ⁱ	0.2	<0.1	0.4	2.9	388	0.1	0.6		
Monitoring Wells - MSBA																															
MW-1	07/19/12	-	<100	<74.8	<150	<0.250	<1.00	<0.500	<1.50	<0.500 ^j	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	
	09/24/12	-	<100	309	<374	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10/18/12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/18/12	-	<100	<74.8	<150	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	
MW-2	04/10/13	-	<100	<75.5	<151	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	
	07/19/12	-	2,520	728	<155	3.22	2.21	73.2	117	<0.500	<0.500	<1.00	12.6	33.7	103	33.6	<0.187	<0.0374	<0.0374	-	<0.0748	<0.0374	<0.0374	<0.0374	0.0577	0.459	23.3	0.0498	0.103		
	09/25/12	-	3,120	674	<374	48.4	5.60	56.6	94.3	<0.500	<0.500	<1.00	10.7	31.4	110	43.4	<0.374	<0.374	<0.374	-	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	
	10/18/12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/19/12	-	764	496	221	9.31	<1.00	5.20	7.00	<0.500	<0.500	<1.00	3.36	5.83	15.6	10.6	0.0635	<0.0374	<0.0374	-	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	0.156	4.26	<0.374	0.0390	
	04/10/13	-	2,250	178	<151	68.0	6.98	29.4	44.1	<0.500	<0.500	<1.00	8.44	18.5	42.2	8.67	<0.189	<0.189	<0.189	-	<0.189	<0.189	<0.189	<0.189	<0.189	<0.189	0.287	6.34	<0.189	<0.189	
	07/25/13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/18/13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/05/13	-	2,730	214	<162	114	16.5	84.3	27.7	<0.500	<0.500	<1.00	18.3	31.8	54.9	2.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/15/14	-	746	<75.9	<154	34.8	3.76	6.20	2.35	<0.500	<0.500	<1.00	1.58	3.55	8.41	<1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/23/14	-	944	<78.4	<157	47.7	5.75	23.8	3.52	<0.500	<0.500	<1.00	6.60	3.73	6.91	<1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/09/14	-	956	393	154	32.4	4.07	23.9	3.83	<0.500	<0.500	<1.00	8.06	2.53	3.59	<1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/14/15	-	2,570	-	-	91.0	5.68	37.7	4.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/14/15	-	3,360	-	-	66.4	4.52	88.5	7.89	<0.500	<0.500	<1.00	20.9	5.64	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/16/15	-	233	-	-	1.52	<1.00	<0.500	<1.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/06/16	-	853	-	-	30.7	2.68	2.84	2.53	-	-	-	-	2.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/14/16	-	1,270	-	-	36.6	3.91	25.3	2.74	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/12/16	-	879	-	-	19.4	2.00	9.47	2.86	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/05/17	-	334	-	-	9.87	<1.00	5.67	<1.50	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/20/17	-	250	-	-	10.0	<1.00	3.68	<1.50	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/25/17	-	531	-	-	17.7	1.90	15.3	<1.50	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/09/17	-	447	-	-	8.73	<1.00	6.62	<1.50	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/23/18	-	688	-	-	13.4	1.64	6.88	1.78	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/18/18	-	812	-	-	16.4	1.55	4.78	1.69	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/12/18	-	1,270	3,370	-	19.0	2.29	17.8	3.03	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/01/19	-	1,330	-	-	41.3	5.08	18.8	4.02	-	-	-	-	2.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/09/19	-	<100	-	-	0.768	<1.00	0.583	<1.50	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/01/19	-	658	-	-	12.3	1.78	8.64	1.77	-	-	-	-	<2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	07/20/12	-	4,510	2,160	<302	0.590	2.95	88.7	113	<0.500	<0.500	<1.00	35.8	70.8	189	33.7	<0.411	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	0.966	27.7	<0.0374	<0.0374	
	09/25/12	-	1,640	1,450	<374	0.270	<1.00	9.49	5.84	<0.500	<0.500	<1.00	12.5	10.8	44.3	1.26	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	<0.374	3.58	<0.374	<0.374	
	12/19/12	-	928	1,010	<299	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	4.18	6.57	37.2	1.38	<0.112	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	0.192	4.23	<0.0374	<0.0374	
	04/10/13	-	423	261	<190	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	4.62	<2.00	3.41	<1.00	<0.0566	<0.0377	<0.0377	<0.0377	<0.0377	<0.0377	<0.0377	<0.0377	<0.0377	<0.0377	0.0521	<0.189	<0.0377	<0.0377	
TABLE 2 (continued)																															

TABLE 2 (continued)

TABLE 2 (continued)
GROUNDWATER SAMPLE ANALYTICAL DATA - PHCs, VOCs, and PAHs
 Truax Sweet Home

Sample ID	Sample Date	Petroleum Hydrocarbons ^a (ppb) ^b			Volatile Organic Compounds ^a (ppb)										Polynuclear Aromatic Hydrocarbons ^a (ppb)																
		HCID (see key) ^a	Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-Dibromoethane	1,2-Dichloroethane	Methyl tert-butyl ether	Isopropylbenzene	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Acenaphthene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Naphthalene	Indeno(1,2,3-cd)pyrene	Pyrene		
MW-3 (cont)	07/25/13	-	147	428	< 152	< 0.250	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	1.71	< 2.00	< 1.00	< 1.00	-	-	-	-	-	-	-	-	-	-	-	-	-		
	09/18/13	-	< 100	792	< 1,070	< 0.250	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	< 1.00	< 2.00	< 1.00	< 1.00	< 0.0385	< 0.0385	< 0.0385	< 0.0385	< 0.0385	< 0.0385	< 0.0385	< 0.0385	< 0.0385	< 0.0385	< 0.0769	< 0.0385	< 0.0385		
	12/05/13	-	358	374	< 158	< 0.250	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	1.32	2.58	19.9	< 1.00	-	-	-	-	-	-	-	-	-	-	-	-	-		
	04/15/14	-	< 100	157	< 154	< 0.250	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	< 1.00	< 2.00	< 1.00	< 1.00	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07/23/14	-	< 100	569	< 762	< 0.250	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	< 1.00	< 2.00	< 1.00	< 1.00	-	-	-	-	-	-	-	-	-	-	< 0.0784	-	-		
	10/09/14	-	< 100	124	< 152	< 0.250	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	< 1.00	< 2.00	< 1.00	< 1.00	-	-	-	-	-	-	-	-	-	-	-	-	-		
MW-4	07/20/12	-	1,860	641	< 150	1.59	< 1.00	117	32.3	< 0.500	< 0.500	< 1.00	15.0	73.4	93.8	8.71	< 0.178	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	0.246	19.4	< 0.0374	< 0.0374		
	09/25/12	-	207	197	< 374	1.09	< 1.00	0.900	< 1.50	< 0.500	< 0.500	< 1.00	1.20	< 2.00	1.34	< 1.00	< 0.0935	< 0.0935	< 0.0935	< 0.0935	< 0.0935	< 0.0935	< 0.0935	< 0.0935	< 0.0935	0.125	0.524	< 0.0935	< 0.0935		
	12/19/12	-	413	307	< 150	3.60	< 1.00	1.78	1.57	< 0.500	< 0.500	< 1.00	12.1	2.52	3.26	< 1.00	0.155	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	0.289	1.37	< 0.0374	< 0.0374		
	04/10/13	-	399	90.8	< 154	3.52	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	8.89	< 2.00	< 1.00	< 1.00	0.105	< 0.0377	< 0.0377	< 0.0377	< 0.0377	< 0.0377	< 0.0377	< 0.0377	< 0.0377	0.188	< 0.123	< 0.0377	< 0.0377		
	12/05/13	-	211	111	< 162	1.06	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	2.94	< 2.00	< 1.00	< 1.00	-	-	-	-	-	-	-	-	-	-	0.153	-	-		
	04/15/14	-	209	152	< 162	1.10	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	2.72	< 2.00	< 1.00	< 1.00	-	-	-	-	-	-	-	-	-	-	< 0.219	-	-		
	07/23/14	-	119	123	< 155	0.460	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	< 1.00	< 2.00	< 1.00	< 1.00	-	-	-	-	-	-	-	-	-	-	0.212	-	-		
	10/09/14	-	< 100	< 76.2	< 152	< 0.250	< 1.00	< 0.500	< 1.50	< 0.500	< 0.500	< 1.00	< 1.00	< 2.00	< 1.00	< 1.00	-	-	-	-	-	-	-	-	-	-	-	-	-		
MW-5	07/20/12	-	5,350	2,340	< 150	12.6	9.24	336	122	< 0.500	< 0.500	< 1.00	46.1	145	162	82.0	< 0.579	< 0.0467	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	1.83	97.4	< 0.0374	< 0.0374		
	09/25/12	-	8,090	1,830	< 374	18.4	12.5	368	212	< 1.00	< 1.00	< 2.00	46.7	229	367	125	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	1.27	75.1	< 0.935	< 0.935		
	12/19/12	-	5,220	627,000	< 15,100	1.26	< 2.00	83.2	78.9	< 1.00	< 1.00	< 2.00	23.0	107	348	128	< 1.20	< 0.187	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.131	3.75	59.1	< 0.0374	0.121	
	04/10/13	-	2,740	1,250	< 158	10.2	< 5.00	86	37.8	< 2.50	< 2.50	< 5.00	15.9	43.4	139	51.1	< 1.87	< 1.87	< 1.87	< 1.87	< 1.87	< 1.87	< 1.87	< 1.87	< 1.87	< 1.87	< 1.87	< 1.87	< 1.87		
	07/26/13	-	3,560	802	< 151	10.1	5.96	98.8	44.9	< 1.00	< 1.00	< 2.00	19.3	48.6	128	49.0	-	-	-	-	-	-	-	-	-	-	-	-	-		
	09/18/13	-	3,890	690	< 755	11.1	< 10.0	218	96.3	< 5.00	< 5.00	< 10.0	21.4	106	243	62.8	0.293	< 0.0485	< 0.0388	< 0.0388	< 0.0388	< 0.0388	< 0.0388	< 0.0388	< 0.0388	1.13	46.7	< 0.0388	< 0.0388		
	12/05/13	-	3,880	659	< 155	8.55	7.75	214	116	< 2.50	< 2.50	< 5.00	20.2	119	273	72.2	< 0.425	< 0.0377	< 0.0377	< 0.0377	< 0.0377	< 0.0377	< 0.0377	< 0.0377	< 0.0377	1.30	71.1	< 0.0377	< 0.0377		
	04/15/14	-	1,430	2,050	< 154	3.47	2.04	43.0	24.0	< 0.500	< 0.500	< 1.00	10.4	24.4	63.9	24.3	< 200	< 0.0381	< 0.0381	< 0.0381	< 0.0381	< 0.0381	< 0.0381	< 0.0381	< 0.0381	0.448	10.4	< 0.0381	< 0.0381		
	07/23/14	-	3,120	328	< 154	17.1	7.46	137	71.7	< 0.500	< 0.500	< 1.00	17.1	85.8	147	37.8	< 0.360	< 0.0400	< 0.0400	< 0.0400	< 0.0400	< 0.0400	< 0.0400	< 0.0400	< 0.0400	0.918	44.3	< 0.0400	< 0.0400		
	10/09/14	-	2,810	601	< 777	8.55	5.16	150	79.1	< 0.500	< 0.500	< 1.00	12.2	87.3	155	36.9	0.292	< 0.194	< 0.194	< 0.194	< 0.194	< 0.194	< 0.194	< 0.194	< 0.194	1.04	50.5	< 0.194	< 0.194		
	01/14/15	-	5,400	-	-	6.44	7.92	262	164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	04/29/15	-	3,480	-	-	10.3	5.16	132	65.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07/14/15	-	6,180	-	-	19.5	9.75	200	95.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	10/14/15	-	28,900	-	-	45.1	37.0	975	640	< 5.00	< 5.00	< 10.0	89.0	481	1,420	238	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/16/15	-	13,600	-	-	13.7	19.2	440	364	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	04/06/16	-	5,740	-	-	4.91	6.32	111	135	-	-	-	-	74.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07/14/16	-	3,020	-	-	6.30	< 10.0	94.6	73.6	-	-	-	-	46.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	10/12/16	-	6,070	-	-	12.0	14.8	324	200	-	-	-	-	154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	01/05/17	-	4,760	-	-	4.87	6.06	155	114	-	-	-	-	93.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	04/20/17	-	1,720	-	-	1.53	1.20	24.1	21.1	-	-	-	-	18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07/25/17	-	2,050	-	-	9.21	4.12	48.3	26.6	-	-	-	-	29.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	10/09/17	-	2,040	-	-	1.98	2.03	42.2	25.4	-	-	-	-	35.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	01/23/18	-	3,590	-	-	4.26	< 5.00	107	47.0	-	-	-	-	71.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07/18/18	-	3,190	-	-	11.7	6.60	78.0	29.1	-	-	-	-	39.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	08/02/18	-	2,980	-	-	Focused Vacuum Removal Event (MW-5) ^b										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		-				9.11	5.04	51.4	19.8	-	-	-	-	34.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	08/16/18	-		-	-	Focused Vacuum Removal Event (MW-5) ^b										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	4,040	-	-	5.44	4.44	93.2	36.8	-	-	-	-	67.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	08/30/18	-		-	-	Focused Vacuum Removal Event (MW-5) ^b										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	3,830	-	-	7.97	6.85	127	49.7	-	-	-	-	43.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

TABLE 2 (continued)

TABLE 2 (continued)

TABLE 2 (continued)
GROUNDWATER SAMPLE ANALYTICAL DATA - PHCs, VOCs, and PAHs
 Truax Sweet Home

Sample ID	Sample Date	Petroleum Hydrocarbons ^a (ppb)				Volatile Organic Compounds ^a (ppb)										Polynuclear Aromatic Hydrocarbons ^a (ppb)															
		HCID (see key) ^a	Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-Dibromethane	1,2-Dichloroethane	Methyl tert-butyl ether	Isopropylbenzene	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Acenaphthene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Naphthalene	Indeno(1,2,3-cd)pyrene	Pyrene		
MW-9 (cont)	10/12/16	-	<100	<192	<385	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.0392	<0.0392	<0.0392	<0.0392	<0.0392	<0.0392	<0.0392	<0.0392	<0.0392	<0.0392	0.933	<0.0392	<0.0392		
	01/05/17	-	<100	<190	<381	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0755	-	-		
	04/20/17	-	<100	<75.5	<151	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0769	-	-		
	07/25/17	-	<100	<78.4	<157	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0792	-	-		
	10/09/17	-	<100	<76.2	<152	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0800	-	-		
	01/23/18	-	<100	<76.9	<154	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0769	-	-		
	07/18/18	-	<100	<79.2	<158	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0762	-	-		
	10/12/18	-	<100	<85.1	<170	0.310	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0800	-	-		
	01/01/19	-	<100	<76.2	<152	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0895	-	-		
	04/09/19	-	<100	<76.9	<154	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.137	-	-		
	07/01/19	-	<100	<76.9	<154	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0784	-	-		
MW-10	09/27/12	-	107	267	<374	0.320	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.589	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0748	<0.0374	<0.0374	
	10/18/12	-	<100	<211	<421	<0.250	<1.00	1.25	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	4.76	1.35	<0.0421	<0.0421	<0.0421	<0.0421	<0.0421	<0.0421	<0.0421	<0.0421	<0.0421	<0.0421	<0.0421	0.651	<0.0421	<0.0421	
	12/19/12	-	<100	<74.8	<150	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0748	<0.0374	<0.0374		
	04/10/13	-	<100	<76.9	<154	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0748	<0.0374	<0.0374		
	07/25/13	-	<100	<76.2	<152	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/09/14		-	<100	-	-	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Temporary Wells - MSBA																															
TW-1	07/19/12	-	<100	<75.5	433	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.0381	<0.0381	<0.0381	<0.0381	<0.0381	<0.0381	<0.0381	<0.0381	<0.0381	<0.0381	<0.0381	<0.0762	<0.0381	<0.0381	
TW-2	07/19/12	-	<100	<75.5	<151	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.0374	<0.0374	<0.0374	0.0409	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0748	0.0378	<0.0374	
Residential Well (Pre-filter) - MSBA																															
1240 Nandina	12/19/12	-	<100	<74.8	<150	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0374	<0.0748	<0.0374	<0.0374		
	07/25/13	-	<100	<75.5	<151	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	-	-	-		
	09/18/13	-	<100	<77.7	<155	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0842	-	<0.0421		
	12/05/13	-	<100	<79.2	<158	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0816	-	-		
04/20/17		-	<100	<75.5	<151	<0.200	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0769	-	-		
Quality Assurance/Quality Control Sample																															
Equipment Blank ^a	12/05/13	-	<100	<79.2	<158	<0.250	<1.00	<0.500	<1.50	<0.500	<0.500	<1.00	<1.00	<2.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	<0.0769	-	-		
DEQ Groundwater Risk-Based Concentrations (RBCs) - Revised May 2018																															
Ingestion & Inhalation from Tapwater	Residential	na ^a	110	100	100	0.48	1,100	1.5	190	0.0075	0.17	14	440	0.17	54	59	510	> S ^a	0.030	0.026	0.26	> S	> S	0.025	> S	390	0.17	> S	110		
	Occupational Worker	na	450	430	430	2.1	6,300	6.4	830	0.034	0.78	68	2,000	0.72	250	280	2,500	> S	0.38	0.47	> S	> S	> S	0.47	> S	1,300	0.72	> S	> S		
	Residential	na	22,000	> S	> S	> S	210	> S	620	86,000	45	300	67,000	> S	840	50,000	38,000	> S	> S	> S	NV ^a	NV	NV	NV	NV	> S	840	NV	> S		
	Occupational Worker	na	> S	> S	> S	2,800	> S	8,200	> S	590	3,900	870,000	> S	11,000	> S	> S	> S	> S	> S	> S	NV	NV	NV	NV	NV	> S	11,000	NV	> S		
	Residential	na	> S	> S	> S	3,100	> S	9,900	> S	180	2,100	350,000	> S	3,800	> S	> S	> S	> S	> S	> S	NV	NV	NV	NV	NV	> S	3,800	NV	> S		
Volatilization to Outdoor Air	Occupational Worker	na	> S	> S	> S	14,000	> S	43,000	> S	790	9,000	1,500,000	> S	16,000	> S	> S	> S	> S	> S	NV	NV	NV	NV	NV	> S	16,000	NV	> S			
Groundwater in Excavation	Construction and Excavation Worker	na	14,000	> S	> S	1,800	220,000	4,500	23,000	27	630	63,000	51,000	500	63,000	7,500	> S	> S	> S	> S	> S	> S	> S	> S	> S	> S	500	> S	> S		
Table 2 (continued)																															

Table 2 (continued)

TABLE 2 (continued)
GROUNDWATER SAMPLE ANALYTICAL DATA - PHCs, VOCs, and PAHs
 Truax Sweet Home

Sample ID	Sample Date	Petroleum Hydrocarbons ^a (ppb) ^b			Volatile Organic Compounds ^a (ppb)										Polynuclear Aromatic Hydrocarbons ^a (ppb)												
		HClD (see key) ^c	Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-Dichloroethane	1,2-Dichloroethane	Methyl tert-butyl ether	Isopropylbenzene	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Acenaphthene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Naphthalene
a Petroleum hydrocarbons (PHCs) were identified using Hydrocarbon Identification Analysis by Department of Environmental Quality (DEQ) NWTPH method HClD or analyzed using DEQ NWTPH methods Gx (gasoline) and Dx (diesel and oil) Hydrocarbon Identification Key: "G" denotes gasoline hydrocarbon detection, "D" denotes diesel hydrocarbon detection, "O" denotes heavy oil hydrocarbon detection, and "ND" denotes none detected b Analytical results reported in parts per billion (ppb) c Volatile organic compounds (VOCs) were analyzed using EPA method 8260B, 8260C, or 8270D d Polynuclear Aromatic Hydrocarbons (PAHs) were analyzed using EPA method 8270D SIM e Brown text indicates the sample is not representative of static groundwater conditions f (nd) Not Detected. Lab Qualifier specifies that the sample was run from the PAH prep. Surrogate was BFB and not HClD surrogate g (-) Not analyzed h Bold value indicates analyte concentration exceeded laboratory reporting limit i Yellow shading Indicates analyte concentration (or one-half the laboratory reporting limit) exceeds an RBC. The exceeded level is also shaded j (<) Analyte concentration not detected above the laboratory reporting limit, as listed k A focused vacuum extraction event was performed at MW-5 to promote recovery of any residual free product, if present beneath the typical seasonal low groundwater surface l Results reported as estimated values due to limited sample volume and limited QC data m Represents the analytical result following Acid/Silica Gel cleanup n An equipment blank was collected from a ceramic container used to collect water from the well house spigot. A separate container was used to minimize excess water discharge in the well house during freezing conditions o (na) Not applicable p (> S) This groundwater RBC exceeds the solubility limit" (Appendix A, RBDM, 2018) q (NV) This chemical is considered "nonvolatile" for the purposes of the exposure calculations" (Appendix A, RBDM, 2018)																											

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TABLE 3
GROUNDWATER SAMPLE ANALYTICAL DATA -
METALS AND PCBs

Truax Sweet Home
1306 Main Street, Sweet Home, Oregon
DEQ File No. 22-98-4187

Sample ID	Sample Date	Dissolved Metals ^a (ppb) ^b			PCBs ^c (ppb)
		Cadmium	Chromium	Lead	
Samples from Monitoring Well Installation and Assessment Activities - MSBA					
MW-3	7/20/12	- ^d	-	< 1.00 ^e	-
MW-4	12/19/12	-	-	< 1.00	-
MW-5	9/25/12	-	-	4.28 ^f	-
	12/19/12	-	-	2.42	-
TW-1	7/19/12	< 1.12	< 2.25	< 1.12	< 0.0943 ^g
Residential Well (Pre Filter)					
1240 Nandina	12/19/12	-	-	< 1.00	-
DEQ Groundwater Risk-Based Concentrations (RBCs) - Updated May 2018					
Ingestion and Inhalation from Tapwater	Residential	20	30,000	15	0.006
	Occupational	160	250,000	15	0.028
Vapor Intrusion Into Buildings	Residential	nv ^h	nv	nv	> S ⁱ
	Occupational	nv	nv	nv	> S
Volatilization to Outdoor Air	Residential	nv	nv	nv	> S
	Occupational	nv	nv	nv	> S
Groundwater in Excavation	Construction Worker	130,000	> S	> S	30
	Excavation Worker				

^a Dissolved metals analyzed using Environmental Protection Agency (EPA) method 6020

^b Analytical results reported in parts per billion (ppb)

^c Polychlorinated Biphenyls (PCBs) analyzed using EPA method 8082A

^d Not analyzed

^e Analyte concentration not detected above the laboratory reporting limit, as listed (<)

^f Bold value indicates analyte concentration exceeds the laboratory reporting limit

^g Yellow shading indicates one-half the laboratory reporting limit exceeds an RBC. The exceeded RBC is also shaded

^h This analyte is considered nonvolatile for purposes of the exposure pathway (nv)

ⁱ The groundwater RBC exceeds the solubility limit (> S)

Table 4

SOIL VAPOR SAMPLE ANALYTICAL DATA

Truax Sweet Home
1306 Main Street, Sweet Home, Oregon
DEQ File No. 22-98-4187

Sample ID	Date	PHCs and RBDM VOCs ^a (µg/m ³) ^b												Helium ^c (%)	2-Propanol (µg/m ³) ^d
		Generic Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Methyl tert-butyl ether	1,2-Dibromoethane	1,2-Dichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Isopropylbenzene		
SV-1	1/8/13	< 95 ^e	< 0.74	< 0.88	< 1.0	< 2.0	< 6.1	< 0.84	< 1.8	< 0.94	< 1.1	< 1.1	< 1.1	< 0.12%	- ^f
	7/25/13	< 100	< 0.80	< 0.95	< 1.1	< 2.2	< 6.6	< 0.91	< 1.9 ^g	< 1.0	< 1.2	< 1.2	< 1.2	-	70 ^h
SV-2	1/8/13	1,800	< 0.76	1.0	< 1.0	< 1.0	< 6.2	< 0.86	< 1.8	< 0.96	< 1.2	< 1.2	< 1.2	< 0.12%	-
	7/26/13	< 300	< 2.3	< 2.7	< 3.2	< 6.4	< 19	< 2.6	< 5.6	< 2.9	< 3.6	< 3.6	< 3.6	-	380
	10/12/16	< 100	< 0.82	< 0.96	< 1.1	< 2.2	< 6.7	< 0.92	< 2.0	< 1.0	< 1.2	< 1.2	< 1.2	-	SV-2: < 3.1 SV2-Shroud ⁱ : 300,000
	3/18/24	897	0.200	4.04	< 2.61	< 6.95	0.461	< 0.721	< 0.00612 ^j	< 0.162	< 2.95	< 1.97	< 1.97	-	SV-2: 11.7 SV2-Shroud: 70,900
Soil Vapor RBCs - Revised March 2024															
Soil Vapor	Residential	10,000	12	170,000	37	3,500	2.8	360	0.16	3.6	2,100	2,100	14,000	N/A ^k	
	Occupational	40,000	52	730,000	160	15,000	12	1,600	0.68	16	8,800	8,800	58,000	N/A	
^a Petroleum hydrocarbons (PHCs) and risk-based decision making (RBDM) volatile organic compounds (VOCs) analyzed by method TO-15 or TO-17.															
^b Analytical results reported in micrograms per cubic meter (µg/m ³)															
^c Helium was analyzed as a leak detection gas															
^d 2-Propanol was analyzed as a leak detection gas															
^e (<) Analyte concentration not detected above the laboratory reporting limit, as listed															
^f (-) Not analyzed															
^g Yellow shading indicates analyte concentration (or one-half the laboratory reporting limit) exceeds an RBC. The exceeded RBC is also shaded															
^h Bold value indicates analyte concentration detected above the laboratory reporting limit															
ⁱ Represents the shroud placed around the sample that was spiked with 2-propanol for leak testing															
^j Laboratory Narrative: "reporting Limit noted is the Method Detection Limit (MDL)"															
^k (N/A) Not Applicable															

Table 6: Maximum Detected Concentrations Compared to Applicable RBCs (May 2018)

[illegible]

Notes:

- 1 A zero (0) for the maximum concentration means the constituent was tested for but was not detected in any sample.
- 2 If the maximum concentration is blank, no samples were analyzed for that constituent in its respective media.
- 3 RBCs Updated May 2018
- 4 Direct or Indirect Pathway Codes have the following meanings: DC means it is a direct contact pathway with a limiting value of Csat. IVS means it is an indirect pathway with a limiting value of Csat. DS means it is a direct contact pathway with a limiting value equal to the solubility, S. IVV means it is an indirect pathway with a limiting value equal to the solubility. S. DCA means it is a direct contact pathway with a limiting value equal to the vapor pressure.
- c This chemical is a known or suspected carcinogen. The RBCs in this row were calculated using equations for carcinogens.
- c* The RBCs in this row were calculated using equations for both carcinogens and noncarcinogens (where lower). For some scenarios the RBCs based on non-carcinogenic effects are lower than RBCs based on cancer effects for these chemicals. You should use the lower of the calculated RBCs for each
- > Csat This soil RBC exceeds the limit of three-phase equilibrium partitioning. Refer to "ChemData" page for the corresponding value of Csat. Soil concentrations in excess of Csat indicate that free product might be present. See Section B.2.14 for additional information.
- L The values for lead reported in this table are not calculated. See Section B.3.4 for the source of the lead numbers and information on applying them.
- > Max The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario.
- BG The standard RBC value has been replaced with the background value from the physiographic region of the site.

Table 7: Maximum Concentrations and Updated Soil Vapor Intrusion RBCs from June 2023

Max Soil Gas Concentration (ug/m ³)	Contaminant	Soil Vapor Intrusion RBC (ug/m ³)	
		Residential	Occupational
1,800	Gx	10,000	40,000
0.2	Benzene	12	52
4.04	Toluene	170,000	730,000
ND	Ethylbenzene	37	160
ND	Xylenes	3,500	15,000
ND	MTBE	360	1,600
0.461	Naphthalene	2.8	12
ND	1,2,3-TMB	2,100	8,800
ND	1,3,5-TMB	2,100	8,800
ND	Iso-Propylbenzene	14,000	58,000
ND	EDB	0.16	0.68
ND	EDC	3.6	16