MONTROSE
ENVIRONMENTAL

1631 E. Saint Andrew Place
Santa Ana, CA 92705
t 714.919.6500

February 14, 2024

Mrs. Nancy Sawka
Oregon Department of Environmental Quality
Western Region Eugene Office
165 East Seventh Avenue, Suite 1000
Eugene, Oregon 97401

DEQ Tanks File No.: 20-20-0844

Fourth Quarter 2023 Groundwater Monitoring Report
United Pacific #5468
5720 Main Street
Springfield, Oregon

Dear Mrs. Sawka:

On behalf of United Pacific (UP), Montrose Environmental Services, Inc. (Montrose) is pleased to provide the *Fourth Quarter 2023 Groundwater Monitoring Report* (Report) for the above referenced Site (**Figure 1**). This Report presents a summary of the liquid-phase hydrocarbon (LPH) removal activities conducted during the fourth quarter of 2023 and a summary of the results for groundwater monitoring conducted on December 12 and 13, 2023.

Groundwater monitoring results indicate that LPH is present in several onsite wells and concentrations of dissolved-phase petroleum hydrocarbons exceed the Oregon Department of Environmental Quality's (DEQs) Risk Based Concentrations (RBCs) for the Ingestion and Inhalation from Tapwater for the occupational receptor scenario are present in groundwater beneath the Site. Monthly LPH removal and quarterly groundwater monitoring are recommended while remedial actions are determined for the Site. Should you have questions regarding this report, the LPH removal activities, or the groundwater monitoring results, please contact the undersigned at (714) 919-6500.

Sincerely,

Montrose Environmental

Laura Skow, RG
Project Manager

c: Mr. Tom Robins, United Pacific

REPORT CONTENTS: **Page No.**

ATTACHMENTS:

SITE INFORMATION

Monitoring and Sampling Date:	December 12 and 13, 2023
Site Location:	United Pacific #5468 5720 Main Street Springfield, Oregon 97478
United Pacific Contact:	Mr. Tom Robins
Montrose Contact:	Mrs. Laura Skow
Regulatory Agency:	Oregon Department of Environmental Quality Western Region Eugene Office DEQ Tanks File No.: 20-20-0844

WORK PERFORMED

Montrose continued procurement of utilities and permits necessary for the two-phase extraction (TPE) pilot testing activities as outlined in the *Workplan for Remedial Pilot Testing* (Workplan). In October 2023, NW Natural approved the application for installation of natural gas service to operate the remediation equipment; scheduling of the service installation with NW Natural is pending securing remaining system operational permits.

In November 2023, Montrose submitted a *Land Use Compatibility Statement* (LUCS) request to the City of Springfield (City) to support air discharge authorization from the Lane Regional Air Protection Agency (LRAPA). Following LUCS approval by the City, Montrose submitted the *Application for Permit to Construct and Operate a Soil Vapor Extraction System* to the LRAPA on January 4, 2024. Additionally, Montrose prepared the *Wastewater Discharge Permit Application, Wastewater Discharge Survey*, for sewer discharge authorization from the City Public Works Department; the applications are currently under review by the respective agencies.

On October 25 and November 21, 2023, Montrose performed LPH removal from select site wells using passive skimmers and manual bailing methods. A total of approximately 0.91 gallons of LPH and 6.90 gallons of groundwater were removed. LPH removal and well gauging field data sheets for the fourth quarter of 2023 are included as **Appendix A**.

On December 12 and 13, 2023, Montrose performed well gauging, LPH removal, and groundwater sampling activities. A total of approximately 0.06 gallons of LPH and 5.20 gallons of groundwater were removed during the LPH removal portion of the work. LPH removal data for the reporting period are summarized in **Table 1**. Site wells not containing measurable amounts of LPH were sampled using DEQ approved low-flow purge sampling techniques.

Groundwater samples were transported to a State approved environmental laboratory and analyzed for the presence of total petroleum hydrocarbons quantified as gasoline (TPH-Gx) by

Method NWTPH-Gx and benzene, toluene, ethylbenzene, total xylenes (BTEX collectively), methyl tert-butyl ether (MTBE), naphthalene, 1-methyl naphthalene, 2-methyl naphthalene, 1,2-dibromoethane (EDB), and 1,2-dichloroethane (EDC) by Environmental Protection Agency (EPA) Method 8260D. Note that the analysis plan was temporarily reduced from full scan volatile organic carbons (VOCs) to short list VOCs since the wells are known to be impacted and remediation is planned for the site. Full scan VOC analysis may be reinstated for future monitoring if directed by the DEQ, for compliance monitoring once remediation is initiated, or for initial screening of new wells installed at the site.

Water quality parameters were measured in the field during sampling and are included in **Table 2**. Field-measured water quality parameters included dissolved oxygen (DO), oxidation reduction potential (ORP), temperature, potential hydrogen level (pH), electrical conductivity, and turbidity. Current and historical groundwater analytical results are presented in **Table 2** and **Table 3**, respectively. An area plan showing the Site and surrounding areas is presented as **Figure 2** and a site plan showing the detailed site configuration and monitoring well locations is presented as **Figure 3**. Site background information is included as **Appendix B**.

SUMMARY DATA

Monitoring Details

Monitoring Wells:	Onsite: 8	Offsite: 3
	Wells gauged: 11	Wells sampled: 8
Extraction Wells:	Onsite: 3	Offsite: 0
	Wells gauged: 3	Wells sampled: 2
Observation Wells:	Onsite: 4	Offsite: 0
	Wells gauged: 4	Wells sampled: 0
Purging Method:	Low-flow with peristaltic pump & dedicated tubing	
Sampling Method:	Grab	
Purge Water Disposal:	Onsite drum, pending disposal (11.9 gallons)	
Wells with LPH:	3	
LPH Thickness:	Sheen to 0.01 feet	
Current Remediation Method:	Passive skimming and manual bailing	

Hydrological Parameters

Depth to Groundwater (below TOC):	Range: 8.72 to 11.78 feet
Groundwater Elevation	Range: 499.67 to 501.17 feet amsl
Groundwater Flow Direction:	Northwest
Groundwater Gradient:	0.003 ft/ft
Average Groundwater Level Change:	2.28 feet increase

Select Analytical Results (Table 2)

Wells with TPH-Gx: 6	Maximum: 200,000 µg/L (EW-2R)
Wells with Benzene: 5	Maximum: 7,000µg/L (EW-4)

FOURTH QUARTER 2023 GROUNDWATER MONITORING RESULTS

Groundwater analytical results and field measurements for the fourth quarter 2023 sampling event are presented in **Tables 2**, **3**, and **4**. **Figure 4** shows the monitoring well locations with the corresponding analytical results for TPH-Gx, benzene, and MTBE. Note that groundwater analytical results are compared to the DEQ RBCs for the Ingestion and Inhalation from Tapwater for the occupational worker scenario. Groundwater monitoring results are summarized below:

- The static groundwater level increased an average of 2.28 feet since the previous monitoring event on September 19, 2023.
- As shown in **Table 2**, groundwater elevations ranged from 499.67 to 501.17 feet above mean sea level (amsl). The groundwater flow direction and gradient were calculated for the Site using data from Wells MW-4, MW-5, and MW-11. The flow direction is toward the northwest at an approximate gradient of 0.003 feet per foot (ft/ft), which is generally consistent with the prior groundwater monitoring event. The groundwater gradient, flow direction, and groundwater elevation contours are shown on **Figure 5**. A summary of historical groundwater flow direction and gradient data is presented in **Table 5** and a rose diagram showing all measured groundwater flow directions and gradients measured to date is presented as **Figure 6**.
- LPH was measured in Well MW-5 at a thickness of 0.01 feet (**Figure 4**); LPH sheen was observed in Wells MW-6, and EW-1R.
- Dissolved-phase TPH-Gx was detected in six of the eleven wells sampled at concentrations ranging from 1,100 micrograms per Liter (μg/L, MW-1) to 200,000 μg/L (EW-2R), which exceed the applicable DEQ RBC of 450 μg/L. TPH-Gx was not detected in the remaining wells sampled at concentrations greater than the laboratory reporting limit (RL).
- Benzene was detected in five of the eleven wells sampled at concentrations ranging from 56 μg/L (MW-4) to 7,000 μg/L (EW-4), which exceed the applicable DEQ RBC of 2.1 μg/L. Benzene was not detected in the remaining wells sampled at concentrations greater than the laboratory RL (<1.0 μg/L).
- Toluene was detected in four wells at concentrations ranging from 43 μg/L (MW-7) to 35,000 μg/L (EW-2R). Concentrations detected at two of the wells exceed the DEQ RBC concentration of 6,300 μg/L for toluene with detected concentrations of 35,000 μg/L (EW-2R) and 17,000 μg/L (EW-4).
- Ethylbenzene was detected in six wells at concentrations ranging from 1.4 μg/L (MW-1) to 3,900 μg/L (EW-2R). The concentrations at Wells MW-2, MW-4, MW-7, EW-2R and EW-4 exceed the applicable DEQ RBC of 6.4 μg/L for ethylbenzene.

- Total xylenes were detected in six wells at a concentration ranging from 11 μg/L (MW-1) to 17,000 μg/L (EW-2R). The concentrations of total xylenes in four of the six wells exceed the applicable DEQ RBC of 830 μg/L. Total xylenes were not detected in the remaining wells sampled at concentrations greater than laboratory RL (<2.0 μg/L).
- MTBE was not detected in any of the wells sampled at concentrations greater than the laboratory RLs. Note that the laboratory RL for MTBE is 5.0 μg/L.
- Naphthalene was detected in five wells at concentrations ranging from 92 μg/L (MW-4) to 610 μg/L (EW-2R), all of which exceed the DEQ RBC of 0.72 μg/L. 1-methyl naphthalene and 2-methyl naphthalene were detected in several wells at concentration ranging from 32 μg/L to 220 μg/L and 16 μg/L to 260 μg/L, respectively; DEQ RBCs are not specified for 1-methyl naphthalene and 2-methyl naphthalene. EDB was not detected in any of the wells sampled at concentrations greater than the laboratory RL (<0.010 μg/L). EDC was not detected in any of the wells sampled at concentrations greater than the laboratory RL (<1.0 μg/L).
- Lead was not detected in in any of the wells sampled at concentrations greater than the laboratory RL (<5.0 μg/L).
- COCs were not detected in the equipment blank collected on December 12, 2023 (EB-1) or in the trip blank sample (TB-1). Low levels of TPH-Gx and BTEX were detected in the equipment blank collected on December 13, 2023 (EB-2), which may indicate potential field, transport, or lab contamination; other COCs were not detected in EB-2. Based on the results, detected COCs are greater in the well samples than the equipment blank, therefore sample results are considered valid and the data usable for its intended purpose. Additional field cleaning procedures may be necessary following sampling of highly impacted wells at the site to help minimize the potential for cross-contamination. Montrose will evaluate the field decontamination procedures for downhole equipment and adjust if needed during future monitoring events.

Field measurements of DO levels ranged from 0.14 milligrams per liter (mg/L) at Well MW-7 to 9.66 mg/L at Well MW-8. ORP levels ranged from -136.0 millivolts (mV) measured at Well MW-4 to 365.5 mV at Well MW-10.

A copy of the laboratory analytical report is provided as **Appendix C**. Groundwater monitoring field forms are provided as **Appendix D**. Montrose's Monitoring Well Sampling Protocols are included as **Appendix E**. Purge water generated during the groundwater monitoring event was placed into a 55-gallon drum, previously staged on site. When the drum is full arrangements will be made to have it transported to an appropriate disposal/recycling facility under manifest.

LPH REMOVAL

LPH removal activities were conducted on October 25, November 21, and December 13, 2023. During each LPH removal event, the skimmers were removed from the wells, emptied, and

volumes of LPH and groundwater recorded (**Appendix A** and **Appendix D**). The wells were then gauged and depths to LPH and groundwater recorded. For remaining wells containing measurable LPH, manual LPH removal was conducted using disposable polyethylene bailers.

The well gauging and LPH removal activities will continue on a periodic basis as long as measurable amounts of LPH are detected in wells at the Site. To date, approximately 360.08 gallons of LPH and 3,722 gallons of impacted groundwater have been removed from site wells during the LPH removal activities (**Table 1**).

HYDROCARBON TREND AND DISTRIBUTION ANALYSIS

A summary of current and historical groundwater sample analytical results is provided in **Tables 2** and **3**, respectively. Groundwater elevation and LPH thickness trends are shown on **Chart 1** and TPH-Gx and benzene concentration trends are shown in **Charts 2** and **3**, respectively.

The average groundwater elevation beneath the Site has increased approximately 2.28 feet since September 29, 2023 (previous monitoring event). **Chart 1** shows a groundwater elevation increase occurring around November 2022; a similar high in groundwater elevations occurred around the same time in 2021. The annual fluctuation in groundwater elevation is well documented since late 2020, the beginning of the current data set.

Measurable LPH was present in one well at a thickness of 0.01 feet (MW-5) on December 13, 2023; a hydrocarbon sheen was present in Wells MW-6 and EW-1R. The distribution of LPH is currently centered near the USTs (confirmed source, historically) and LPH thicknesses exhibit a fluctuating but generally decreasing trend over the period of record (**Chart 1**). For example, the LPH thickness in Well MW-6 has decreased from a maximum thickness of 1.65 feet in March 2021 to a sheen in December 2023. Similarly, the LPH thickness in Well MW-5 has decreased from a maximum thickness of 0.23 feet in August 2021 to 0.01 feet in December 2023 (**Table 1**). Further changes in the distribution and thickness of LPH beneath the Site is expected over time and LPH recovery efforts will continue as long as LPH is detectable in site wells.

TPH-Gx concentrations in the Site wells sampled exhibit fluctuating trends but have generally decreased since the previous monitoring event. For example, the TPH-Gx concentration in Well MW-4 decreased from 4,400 μg/L on April 6, 2023 to 4,000 μg/L on June 29, 2023, then rebounded to 19,000 μg/L on September 19, 2023, and has now decreased to 7,800 μg/L on December 13, 2023 (**Table 3**). The TPH-Gx concentration decreased from 7,100 μg/L (September 2023) to 3,900 μg/L (December 2023) in Well MW-7. The fluctuations in COC concentrations appear to be following a trend of seasonal fluctuations where lows are typically seen during the winter months and highs are typically seen during the summer months. This trend is expected to continue with overall slight decreases until active remediation is implemented at the Site, at which time significant and permanent decreases in COC concentrations are expected.

Current LPH thicknesses and TPH-Gx, BTEX and MTBE concentrations are shown in **Figure 4** to illustrate the distribution of dissolved-phase hydrocarbons. As shown in **Figure 4**, LPH is present in Well MW-5, and a hydrocarbon sheen was present in Wells MW-6 and EW-1R, located in the vicinity of the UST cavity; the highest COC concentrations are present in Well EW-2R, located south of the USTs. COC concentrations have remained at non-detectible levels in perimeter Wells MW-3, MW-8, MW-9, MW-10 and MW-11 and serve to delineate the plume to the south, west, northwest, north and southeast.

CONCLUSION AND RECOMMENDATIONS

Based on the fourth quarter 2023 groundwater monitoring event results, LPH is present in onsite Well MW-5 and hydrocarbon sheen is present in Wells MW-6 and EW-1R. Dissolved-phase hydrocarbon concentrations in groundwater samples collected from Wells MW-1, MW-2, MW-4, MW-7, EW-2R and EW-4 exceed applicable DEQ RBCs for the Ingestion and Inhalation from Tapwater for the occupational worker scenario. Results from perimeter Wells MW-3 and MW-8 through MW-11 define the groundwater plume to the south, west, northwest, north and southeast. Continued monitoring of these wells is recommended to monitor possible plume migration offsite.

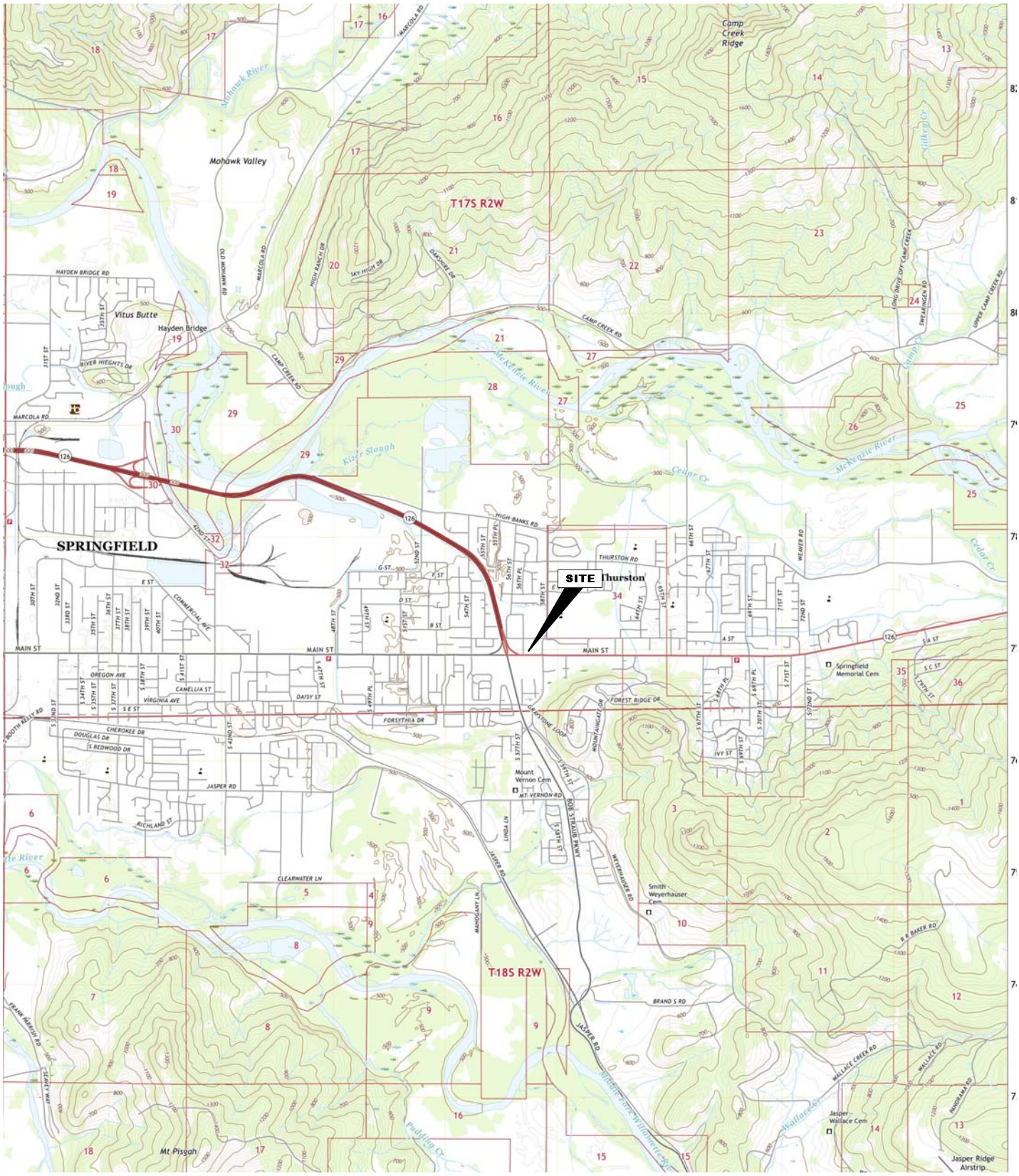
Montrose has sourced remediation equipment and utility providers necessary to implement the TPE pilot test as proposed in the Workplan. The application for gas service installation was approved by NW Natural; construction scheduling for installation of utilities and equipment is pending securing agency air and water discharge permits. Discharge permit applications were submitted to the LRAPA and the City of Springfield and are under review. Montrose will continue to update the DEQ on the procurement progress and will provide a schedule and advance notification prior to commencing field activities. Montrose recommends continuing monthly LPH gauging and removal activities to recover LPH from Site wells and quarterly groundwater monitoring to evaluate groundwater quality beneath the Site. The next groundwater monitoring event is planned for the first quarter of 2024 (March 2024).

Montrose is pleased to be of service to UP and the DEQ. If there are questions regarding this report or if additional site information is required, please do not hesitate to contact Montrose at (714) 919-6500.

ACRONYMS:

amsl:	above mean sea level
bgs:	below ground surface
BTEX:	benzene, toluene, ethylbenzene, and total xylenes
btoc:	below top of casing
°C:	degrees Celsius
DEQ:	Oregon Department of Environmental Quality
DO:	dissolved oxygen
DTW:	depth to water
EW:	extraction well
GW Δ:	change (difference) in water elevation since last measurement
Fe^{2+}:	ferrous iron
ft:	feet
ft/ft:	feet per foot
GW:	groundwater
µg/L:	micrograms per Liter
µs/cm:	microsiemens per centimeter
LPH:	liquid phase hydrocarbons
mg/L	milligrams per Liter
MTBE:	methyl tert-butyl ether
mV:	millivolts
MW:	monitoring well
na:	not applicable/not analyzed
nm:	not measured
ns:	not sampled
NTU:	Nephelometric Turbidity Unit
ORP:	oxidation reduction potential
pH:	potential hydrogen
ppm:	parts per million
PQL:	practical quantitation limit
RBC:	Risk based concentration
RL:	reporting limit
TPH-Dx:	total diesel-range petroleum hydrocarbons
TPH-Gx:	total gasoline-range petroleum hydrocarbons
TPH-Ox:	total lube oil-range petroleum hydrocarbons
UST:	underground storage tank
VOCs:	volatile organic compounds

FIGURES



Map Information:
U.S. GEOLOGICAL SURVEY
SPRINGFIELD QUADRANGLE
44°02'46.0"N 122°55'43.0"W

MONTROSE ENVIRONMENTAL
1631 E. Saint Andrew Place, Santa Ana, CA 92705 | t 714.919.6500

N

0 4000

APPROX. SCALE: 1" = 4000'

FIGURE 1

SITE LOCATION MAP

United Pacific #5468
5720 Main Street,
Springfield, OR 97478

DATE DRAWN
11/10/2022

PROJECT NO.
006811

FILE NO.
006811F1-SLM

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LEGEND

- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- EXTRACTION WELL LOCATION
- DESTROYED EXTRACTION WELL LOCATION
- APPROXIMATE PROPERTY BOUNDARY
- STORM DRAIN

BI-MART

MW-8
57TH STREET
MW-10
PARKING LOT
PARKING LOT
PLANTER
BUILDING
ENCLOSURE
MW-5
MW-7
PROPANE TANK
SB-6
CONVENIENCE STORE
SB-1
MW-6
12" WATER
NATURAL GAS
18" STORM SEWER
12" SANITARY SEWER
PLANTER
MW-9
PARKING LOT
SB-5
MW-1
SB-2
EW-1
EXISTING USTs
EW-1R
CANOPY
EW-3/ SB-4
MW-4
EW-2/ SB-3
EW-2R
EW-4
PLANTER
MW-2
MW-11
MW-3
PLANTER
SIDEWALK
DRIVEWAY
DRIVEWAY
DRIVEWAY
PLANTER
MAIN STREET

N

40 0 40

APPROXIMATE SCALE: 1" = 40'

SOURCE: GOOGLE EARTH 2020

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FIGURE 2

AREA PLAN

United Pacific #5468
5720 Main Street,
Springfield, OR 97478

DATE DRAWN 03/02/2023

PROJECT NO. 006811

FILE NO. 006811F2-AP

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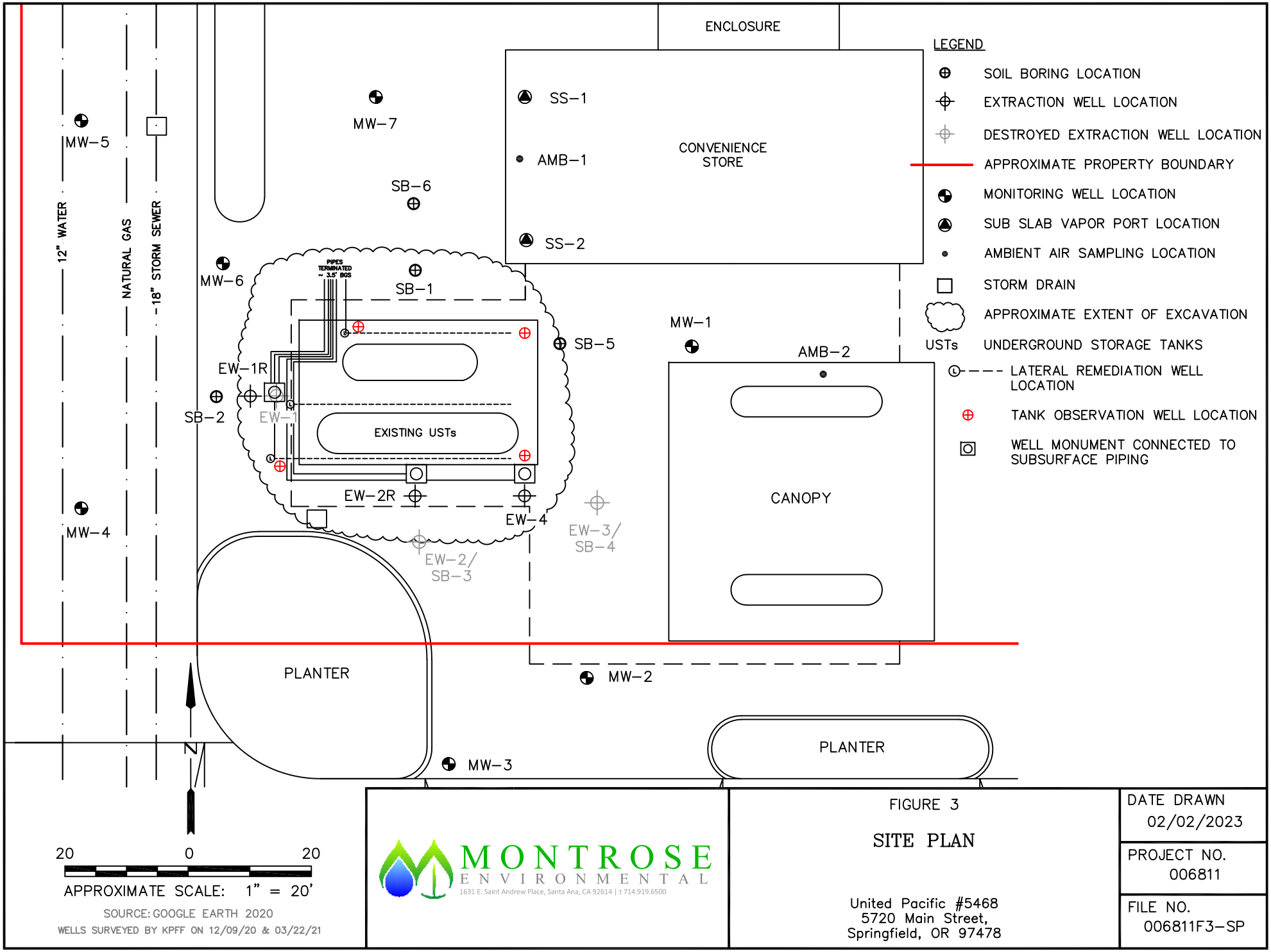

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1631 E. Saint Andrew Place, Santa Ana, CA 92614 | t 714.919.6500

FIGURE 3

SITE PLAN

United Pacific #5468
5720 Main Street,
Springfield, OR 97478

DATE DRAWN
02/02/2023

PROJECT NO.
006811

FILE NO.
006811F3-SP

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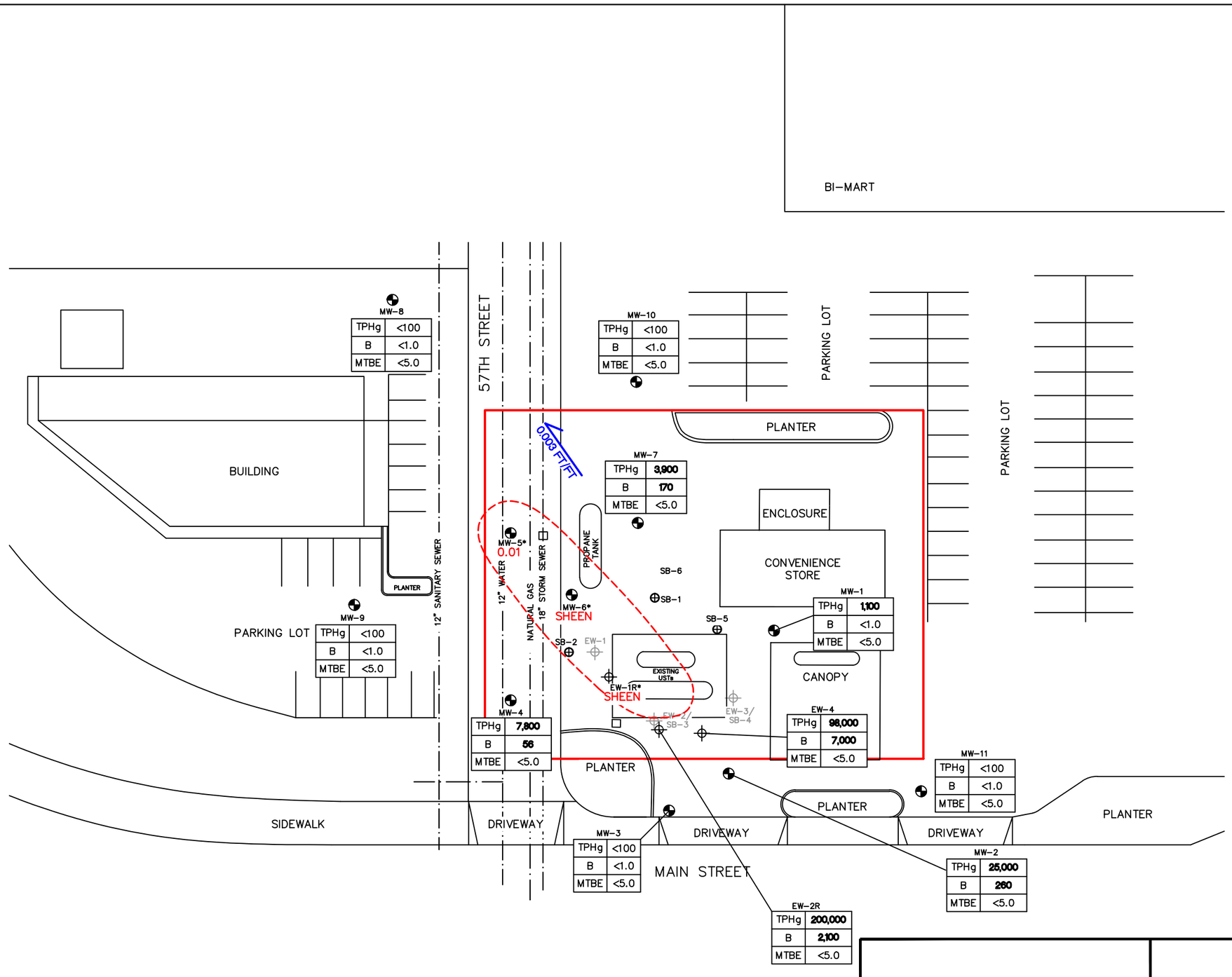

LEGEND

- ⊕ SOIL BORING LOCATION
- ◒ MONITORING WELL LOCATION
- ⊕ EXTRACTION WELL LOCATION
- ⊕ DESTROYED EXTRACTION WELL LOCATION
- APPROXIMATE PROPERTY BOUNDARY
- □ STORM DRAIN
- 0.005 FT/FT — APPROXIMATE GROUNDWATER DIRECTION AND MAGNITUDE IN FEET PER FOOT
- USTs — UNDERGROUND STORAGE TANKS
- LPH — LIQUID PHASE HYDROCARBONS
- APPROXIMATE CURRENT EXTENT OF LPH
- 0.01 — FEET OF LPH IN WELL
- <5.0 — COMPOUND NOT DETECTED AT OR ABOVE LABORATORY METHOD REPORTING LIMIT
- TPHg — TOTAL GASOLINE-RANGE PETROLEUM HYDROCARBONS
- B — BENZENE
- MTBE — METHYL TERT-BUTYL ETHER
- ug/L — MICROGRAMS PER LITER
- * — NOT SAMPLED DUE TO LPH PRESENCE
- SHEEN — SHEEN WAS OBSERVED
- **BOLD** — DETECTION EXCEEDS RISK BASED CONCENTRATION (RBC)

N

40 0 40

APPROXIMATE SCALE: 1" = 40'

SOURCE: GOOGLE EARTH 2020

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FIGURE 4

GROUNDWATER ANALYTICAL MAP
December 12 & 13, 2023

United Pacific #5468
5720 Main Street,
Springfield, OR 97478

DATE DRAWN
1/05/2023

PROJECT NO.
006811

FILE NO.
006811F4-GAR

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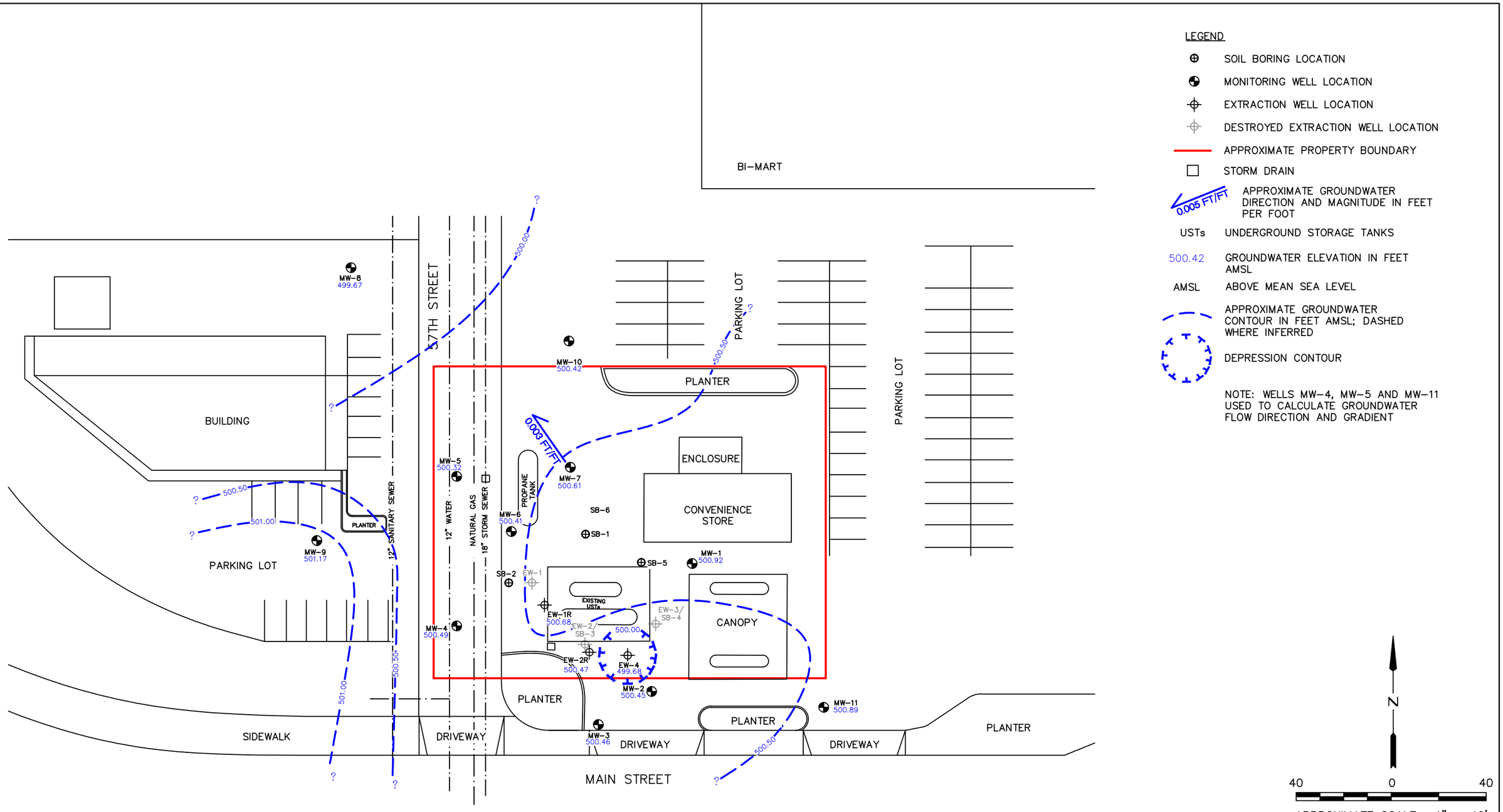

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FIGURE 5

GROUNDWATER CONTOUR MAP
DECEMBER 12 & 13, 2023

United Pacific #5468
5720 Main Street,
Springfield, OR 97478

DATE DRAWN
1/05/2023

PROJECT NO.
006811

FILE NO.
006811F5-GCM

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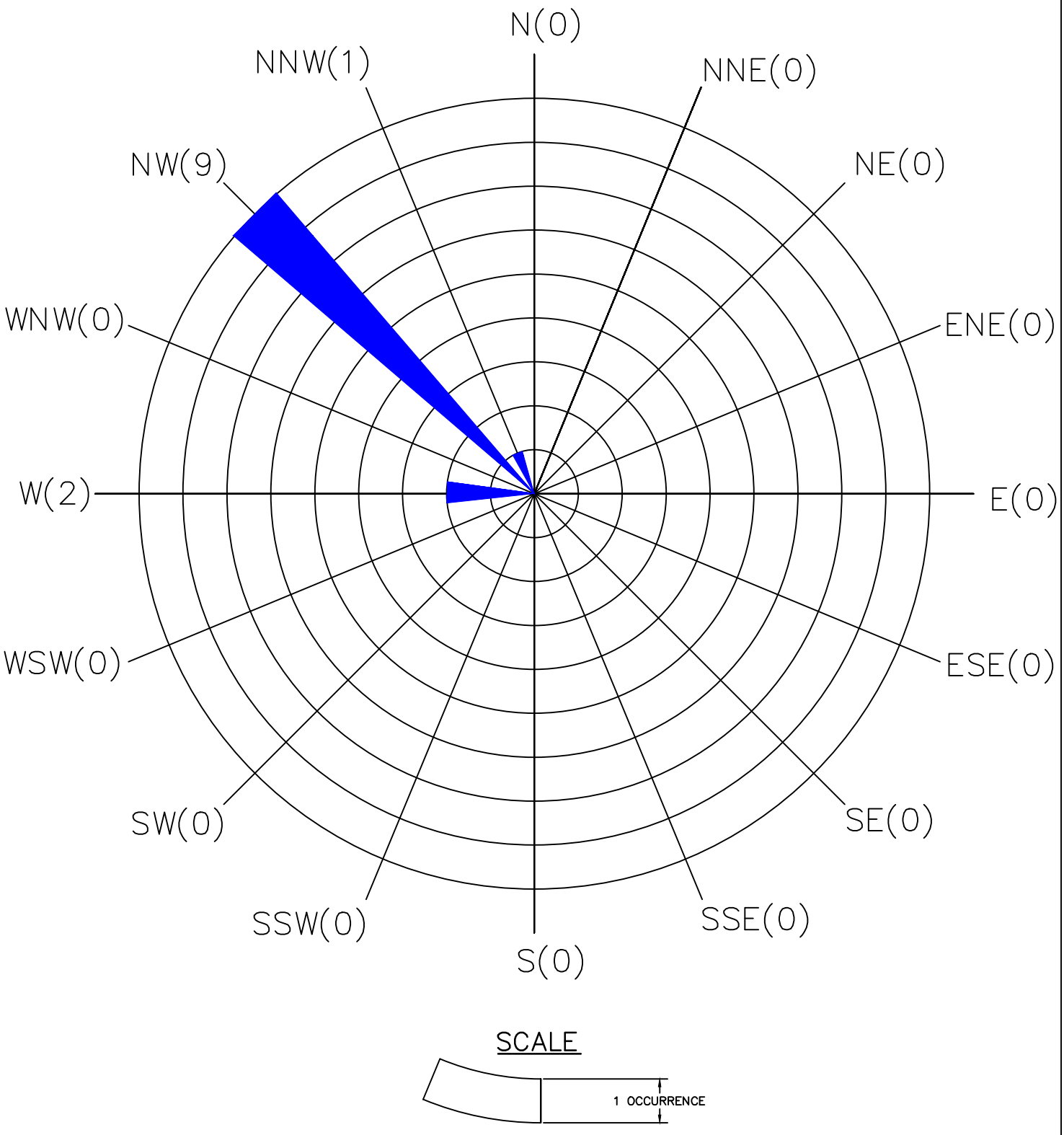

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FIGURE 6

GROUNDWATER FLOW DIRECTION
ROSE DIAGRAM

United Pacific #5468
5720 Main Street,
Springfield, OR 97478

DATE DRAWN
1/07/2023

PROJECT NO.
006811

FILE NO.
006811F6-RD

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TABLES

Table 1
United Pacific #5468
Summary of LPH Removal
Springfield, Oregon
Page 1 of 5

Well ID	Date Measured	TOC Elevation (ft amsl)	Depth to LPH (ft btoc)	Depth to Water (ft btoc)	LPH Thickness (ft)	Thickness Change (ft)	Groundwater Elevation [1] (ft amsl)	Elevation Change (ft)	Estimated LPH Removed (gal)	Cumulative LPH Removed (gal)	Estimated Water Removed (gal)	Cumulative Water Removed (gal)
EW-1	11/19/20[3]	510.97	--	11.05	--	--	499.92	--	--	--	700.0	700.0
	01/13/21[3]		--	10.48	--	--	500.49	0.57	--	--	--	700.0
	01/27/21[4]		10.70	10.92	0.22	0.22	500.22	-0.27	0.35	0.35	1.4	701.4
	02/03/21[3]		10.55	10.57	0.02	-0.20	500.42	0.20	5.00	5.35	50.0	751.4
	02/25/21[5]		10.55	10.59	0.04	0.02	500.41	0.00	0.25	5.60	3.0	754.4
	03/30/21		11.05	11.14	0.09	0.05	499.90	-0.51	0.00	5.60	0.0	754.4
	04/20/21		11.55	11.73	0.18	0.09	499.38	-0.52	0.00	5.60	0.0	754.4
	05/20/21[7]		11.80	11.94	0.14	-0.04	499.14	-0.24	15.00	20.60	135.0	889.4
	06/08/21		--	11.73	0.00	-0.14	499.24	0.10	0.00	20.60	0.0	889.4
	06/23/21[8]		--	11.74	0.00	0.00	499.23	-0.01	0.00	20.60	1.7	891.1
	07/08/21		--	11.96	0.00	0.00	499.01	-0.22	0.00	20.60	0.0	891.1
	07/22/21		12.11	12.12	0.01	0.01	498.86	-0.15	0.25	20.85	1.0	892.1
	08/05/21		--	12.18	0.00	-0.01	498.79	-0.07	0.00	20.85	0.0	892.1
	08/18/21		--	12.29	0.00	0.00	498.68	-0.11	0.00	20.85	0.0	892.1
	09/01/21		--	12.26	0.00	0.00	498.71	0.03	0.00	20.85	0.0	892.1
	09/22/21		--	11.72	0.00	0.00	499.25	0.54	0.00	20.85	1.4	893.5
	10/06/21		--	11.40	0.00	0.00	499.57	0.32	0.00	20.85	0.0	893.5
	10/20/21		--	11.37	0.00	0.00	499.60	0.03	0.00	20.85	0.0	893.5
	11/03/21		--	11.02	0.00	0.00	499.95	0.35	0.00	20.85	0.0	893.5
	11/17/21		--	10.81	0.00	0.00	500.16	0.21	0.00	20.85	0.0	893.5
	12/08/21		--	10.68	0.00	0.00	500.29	0.13	0.00	20.85	0.0	893.5
	12/22/21		--	9.90	0.00	0.00	501.07	0.78	0.00	20.85	0.0	893.5
	01/11/22		--	10.20	0.00	0.00	500.77	-0.30	0.00	20.85	0.0	893.5
	01/26/22		--	10.37	0.00	0.00	500.60	-0.17	0.00	20.85	0.0	893.5
	02/07/22		--	10.26	0.00	0.00	500.71	0.11	0.00	20.85	0.0	893.5
	Well Decommissioned on 02/08/22											
EW-1R	10/12/22[4]	510.86	12.17	12.19	0.02	--	498.69	--	0.10	0.10	2.0	2.0
	11/14/22		--	10.90	0.00	-0.02	499.96	1.27	0.00	0.10	0.0	2.0
	12/19/22		--	11.32	0.00	0.00	499.54	-0.42	0.00	0.10	3.0	5.0
	01/18/23		--	10.91	0.00	0.00	499.95	0.41	0.00	0.10	0.0	5.0
	02/28/23		--	10.69	0.00	0.00	500.17	0.22	0.00	0.10	0.0	5.0
	03/27/23		--	10.35	0.00	0.00	500.51	0.34	1.00	1.10	5.5	10.5
	01/18/23		--	10.91	0.00	0.00	499.95	-0.56	0.00	0.00	0.0	10.5
	02/23/23[5]		--	10.69	0.00	0.00	500.17	0.22	0.00	0.00	0.0	10.5
	03/27/23[5]		--	10.35	0.00	0.00	500.51	0.34	0.00	0.00	0.0	10.5
	04/06/23[5]		10.10	10.11	0.01	0.01	500.76	0.25	0.20	1.30	1.3	11.8
	05/09/23		--	10.53	0.00	0.00	500.33	-0.43	0.00	1.30	3.0	14.8
	06/29/23		--	11.82	0.00	0.00	499.04	-1.29	0.00	1.30	0.0	14.8
	07/27/23		--	12.11	0.00	0.00	498.75	-0.29	0.00	1.30	0.25	15.1
	08/10/23		12.32	12.33	0.01	0.01	498.54	-0.21	0.10	1.40	2.4	17.5
	09/19/23		12.30	12.45	0.15	0.14	498.52	-0.01	0.15	1.55	3.3	20.7
	10/25/23		11.38	11.45	0.07	-0.08	499.46	0.94	0.10	1.65	3.0	23.7
	11/21/23		11.23	11.25	0.02	-0.05	499.63	0.16	0.05	1.70	1.05	24.8
	12/13/23		--	10.18	Sheen	-0.02	500.68	1.05	0.01	1.71	1.75	26.5
EW-2	11/19/20 [3]	510.90	11.20	11.68	0.48	--	499.59	--	32.5	32.50	617.5[2]	617.5
	01/13/21[3]		10.22	12.05	1.83	1.35	500.25	0.66	5.00	37.50	45.0	662.5
	01/27/21[4]		10.50	12.35	1.85	0.02	499.97	-0.28	2.60	40.10	2.4	664.9
	02/03/21[3]		10.77	11.37	0.60	-1.25	499.99	0.02	23.00	63.10	209.0	873.9
	02/25/21[5]		10.74	11.10	0.36	-0.24	500.08	0.09	0.50	63.60	0.0	873.9
	03/30/21		11.20	11.28	0.08	-0.28	499.68	-0.39	0.03	63.63	0.0	873.9
	04/20/21		11.74	11.93	0.19	0.11	499.12	-0.57	0.00	63.63	0.0	873.9
	05/20/21[7]		11.95	12.20	0.25	0.06	498.89	-0.22	15.00	78.63	135.0	1,008.9
	06/08/21[4]		11.90	12.00	0.10	-0.15	498.98	0.09	0.25	78.88	4.0	1,012.9
	06/23/21[4]		11.88	12.07	0.19	0.09	498.98	0.00	0.40	79.28	4.2	1,017.1
	07/08/21[9]		12.12	12.17	0.05	-0.14	498.77	-0.21	0.26	79.54	3.2	1,020.3
	07/22/21		--	12.28	0.00	-0.05	498.62	-0.15	0.00	79.54	0.0	1,020.3
	08/05/21[4]		12.32	12.33	0.01	0.01	498.58	-0.04	0.10	79.64	0.4	1,020.7
	08/18/21[4]		12.48	12.50	0.02	0.01	498.42	-0.16	0.10	79.74	1.0	1,021.7
	09/01/21[4]		12.40	12.42	0.02	0.00	498.50	0.08	0.10	79.84	1.0	1,022.7
	09/22/21[4]		11.84	11.87	0.03	0.01	499.05	0.56	0.20	80.04	3.0	1,025.7
	10/06/21		11.55	11.59	0.04	0.01	499.34	0.29	0.25	80.29	2.0	1,027.7
	10/20/21[4,5]		11.52	11.63	0.11	0.07	499.35	0.01	0.25	80.54	3.0	1,030.7
	11/03/21		--	11.19	0.00	-0.11	499.71	0.36	0.00	80.54	0.0	1,030.7
	11/17/21		--	11.02	0.00	0.00	499.88	0.17	0.00	80.54	0.0	1,030.7
	12/08/21[7]		10.95	10.97	0.02	0.02	499.95	0.07	1.30	81.84	128.7	1,159.4
	12/22/21		10.20	10.22	0.02	0.00	500.70	0.75	0.13	81.97	0.0	1,159.4
	01/11/22		10.00	11.96	1.96	1.94	500.44	-0.26	6.60	88.57	2.4	1,161.8
	01/26/22[7]		10.95	12.00	1.05	-0.91	499.70	-0.74	11.60	100.17	20.0	1,181.8
	02/07/22		9.98	11.99	2.01	0.96	500.45	0.74	1.59	101.76	0.0	1,181.8
	Well Decommissioned on 02/08/22											

Table 1
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Well ID	Date Measured	TOC Elevation (ft amsl)	Depth to LPH (ft btoc)	Depth to Water (ft btoc)	LPH Thickness (ft)	Thickness Change (ft)	Groundwater Elevation [1] (ft amsl)	Elevation Change (ft)	Estimated LPH Removed (gal)	Cumulative LPH Removed (gal)	Estimated Water Removed (gal)	Cumulative Water Removed (gal)
EW-2R	10/12/22[4]	510.91	12.32	12.34	0.02	--	498.59	--	0.20	0.20	3.0	3.0
	11/14/22		--	10.94	0.00	-0.02	499.97	1.38	0.00	0.20	0.0	3.0
	12/19/22		11.53	11.54	0.01	0.01	499.38	-0.59	0.50	0.70	6.0	9.0
	0'1/18/23[4]		11.11	11.12	0.01	0.00	499.80	0.42	0.13	0.83	4.0	13.0
	02/28/23		--	10.93	0.00	0.00	499.98	0.18	0.00	0.83	0.0	13.0
	03/27/23		--	10.53	0.00	0.00	500.38	0.40	0.00	0.83	0.0	13.0
	04/06/23		--	10.32	0.00	0.00	500.59	0.21	0.00	0.83	0.0	13.0
	05/09/23		--	10.59	0.00	0.00	500.32	-0.27	0.00	0.83	0.0	13.0
	06/29/23		--	12.17	0.00	0.00	498.74	-1.58	0.00	0.83	0.0	13.0
	07/27/23		--	12.74	0.00	0.00	498.17	-0.57	0.00	0.83	0.0	13.0
	08/10/23		--	12.44	0.00	0.00	498.47	0.30	0.00	0.83	0.0	13.0
	09/19/23		--	12.46	0.00	0.00	498.45	-0.02	0.00	0.83	0.0	13.0
	10/25/23		--	11.60	0.00	0.00	499.31	0.86	0.00	0.83	0.1	13.1
	11/21/23		--	11.37	0.00	0.00	499.54	0.23	0.00	0.83	0.2	13.3
	12/13/23		--	10.44	0.00	0.00	500.47	0.93	0.00	0.83	0.0	13.3
EW-3	11/19/20[3]	511.63	12.02	12.45	0.43	--	499.51	--	32.5	32.50	617.5[2]	617.5
	01/13/21[3]		11.13	11.29	0.16	-0.27	500.46	0.95	5.00	37.50	45.0	662.5
	01/27/21[4]		11.36	11.68	0.32	0.16	500.19	-0.27	0.60	38.10	3.9	666.4
	02/03/21[3]		12.79	12.89	0.10	-0.22	498.82	-1.38	16.00	54.10	149.0	815.4
	02/25/21[5]		ND	11.39	0.00	-0.10	500.24	1.42	0.00	54.10	0.0	815.4
	03/30/21		11.68	11.90	0.22	0.22	499.90	-0.34	0.07	54.17	1.5	816.9
	04/20/21[4]		12.25	12.64	0.39	0.17	499.29	-0.61	0.00	54.17	0.0	816.9
	05/20/21[7]		12.42	12.84	0.42	0.03	499.11	-0.18	15.00	69.17	135.0	951.9
	06/08/21		--	12.44	0.00	-0.42	499.19	0.08	0.00	69.17	0.0	951.9
	06/23/21[4]		12.40	12.41	0.01	0.01	499.23	0.04	0.07	69.24	0.5	952.4
	07/8/21[4]		12.62	12.71	0.09	0.08	498.99	-0.24	0.40	69.64	0.8	953.2
	07/22/21[4]		12.80	12.94	0.14	0.05	498.80	-0.19	1.00	70.64	4.0	957.2
	08/05/21[4]		12.86	13.07	0.21	0.07	498.72	-0.08	0.50	71.14	2.0	959.2
	08/18/21[4]		13.01	13.20	0.19	-0.02	498.58	-0.15	1.50	72.64	2.0	961.2
	09/01/21[4]		13.00	13.14	0.14	-0.05	498.60	0.02	0.25	72.89	1.5	962.7
	09/22/21[4]		12.36	12.45	0.09	-0.05	499.25	0.65	0.40	73.29	4.0	966.7
	10/06/21		--	12.16	0.00	-0.09	499.47	0.22	0.00	73.29	0.0	966.7
	10/20/21[4,5]		12.08	12.12	0.00	0.00	499.51	0.04	0.10	73.39	3.0	969.7
	11/03/21		--	11.75	0.00	0.00	499.88	0.37	0.00	73.39	0.0	969.7
	11/17/21		--	11.55	0.00	0.00	500.08	0.20	0.00	73.39	0.0	969.7
	12/08/21		--	11.44	0.00	0.00	500.19	0.11	0.00	73.39	0.0	969.7
	12/22/21		10.76	10.77	0.01	0.01	500.87	0.68	0.13	73.52	0.3	970.0
	01/11/22		11.43	11.44	0.01	0.00	500.20	-0.67	0.16	73.68	2.9	972.9
	01/26/22		--	11.73	0.00	-0.01	499.90	-0.30	0.00	73.68	0.0	972.9
	02/07/22		11.39	11.51	0.12	0.12	500.21	0.31	0.80	74.48	0.8	973.7
	Well Decommissioned on 02/07/22											
EW-4	10/12/22[4]	511.52	12.89	12.90	0.01	--	498.63	--	0.10	0.10	2.0	2.0
	11/14/22		--	10.97	0.00	-0.01	500.55	1.92	0.00	0.10	0.0	2.0
	12/19/22[4,5]		12.08	12.30	0.22	0.22	499.39	-1.16	1.00	1.10	8.0	10.0
	01/18/23[4]		11.67	11.68	0.01	-0.21	499.85	0.46	0.50	1.60	4.5	14.5
	02/28/23[5]		--	11.60	0.00	-0.01	499.92	0.07	0.00	1.60	1.5	16.0
	03/27/23		--	11.20	0.00	0.00	500.32	0.40	1.60	3.20	4.9	20.9
	04/06/23		--	11.00	0.00	0.00	500.52	0.20	0.10	3.30	1.4	22.3
	05/09/23		10.60	10.62	0.02	0.02	500.92	0.40	0.30	3.60	3.0	25.3
	06/29/23		--	12.72	0.00	-0.02	498.80	-2.12	0.00	3.60	0.0	25.3
	07/27/23		--	12.81	0.00	0.00	498.71	-0.09	0.00	3.60	0.0	25.3
	08/10/23		--	13.04	0.00	0.00	498.48	-0.23	0.00	3.60	0.0	25.3
	09/19/23		--	13.07	0.00	0.00	498.45	-0.03	0.00	3.60	0.0	25.3
	10/25/23		--	12.19	0.00	0.00	499.33	0.88	0.00	3.60	0.0	25.3
	11/21/23		--	12.01	0.00	0.00	499.51	0.18	0.00	3.60	0.0	25.3
	12/13/23		--	9.29	0.00	0.00	502.23	2.72	0.00	3.60	0.0	25.3
MW-1	03/30/21	512.70	12.78	12.79	0.01	--	499.92	--	0.00	0.00	0.0	0.0
	04/20/21		13.40	13.59	0.19	0.18	499.26	-0.66	0.00	0.00	0.0	0.0
	05/20/21[7]		13.61	13.95	0.34	0.15	499.01	-0.25	15.00	15.00	135.0	135.0
	06/08/21[4]		13.59	13.86	0.27	-0.07	499.05	0.04	2.00	17.00	2.0	137.0
	06/23/21[4]		13.55	13.83	0.28	0.01	499.08	0.04	0.40	17.40	2.1	139.1
	07/8/21[4,5]		13.76	14.15	0.39	0.11	498.85	-0.24	2.10	19.50	0.8	139.9
	07/22/21		13.95	14.22	0.27	-0.12	498.69	-0.16	2.50	22.00	3.0	142.9
	08/05/21		14.02	14.27	0.25	-0.02	498.62	-0.07	2.00	24.00	2.0	144.9
	08/18/21		14.17	14.25	0.08	-0.17	498.51	-0.11	2.00	26.00	1.5	146.4
	09/01/21[9]		14.15	14.16	0.01	-0.07	498.55	0.04	0.10	26.10	1.0	147.4
	09/22/21[4]		13.56	13.57	0.01	0.00	499.14	0.59	0.10	26.20	1.0	148.4
	10/06/21		--	13.18	0.00	-0.01	499.52	0.38	0.00	26.20	0.0	148.4
	10/20/21		--	13.23	0.00	0.00	499.47	-0.05	0.00	26.20	0.0	148.4
	11/03/21		--	12.80	0.00	0.00	499.90	0.43	0.00	26.20	0.0	148.4
	11/17/21		--	12.39	0.00	0.00	500.31	0.41	0.00	26.20	0.0	148.4
	12/08/21		--	12.47	0.00	0.00	500.23	-0.08	0.00	26.20	0.0	148.4
	12/22/21		--	11.61	0.00	0.00	501.09	0.86	0.00	26.20	0.0	148.4
	01/11/22		--	11.82	0.00	0.00	500.88	-0.21	0.00	26.20	0.0	148.4

Table 1
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Well ID	Date Measured	TOC Elevation (ft amsl)	Depth to LPH (ft btoc)	Depth to Water (ft btoc)	LPH Thickness (ft)	Thickness Change (ft)	Groundwater Elevation [1] (ft amsl)	Elevation Change (ft)	Estimated LPH Removed (gal)	Cumulative LPH Removed (gal)	Estimated Water Removed (gal)	Cumulative Water Removed (gal)
MW-1 Cont.	01/26/22	512.70	--	12.56	0.00	0.00	500.14	-0.74	0.00	26.20	0.0	148.4
	02/07/22		--	11.88	0.00	0.00	500.82	0.68	0.00	26.20	0.0	148.4
	03/23/22		12.97	13.00	0.03	0.03	499.72	-1.10	0.00	26.20	0.0	148.4
	06/28/22[4,5]		13.14	13.16	0.02	-0.01	499.56	-0.17	0.10	26.30	2.0	150.4
	08/11/22		--	13.75	0.00†	-0.02	498.95	-0.61	0.11	26.41	0.5	150.9
	08/25/22[4]		13.97	14.00	0.03	0.03	498.72	-0.23	0.30	26.71	2.0	152.9
	09/08/22[4]		13.88	13.90	0.02	-0.01	498.82	0.09	0.50	27.21	3.25	156.2
	10/12/22[4]		13.07	13.11	0.04	0.02	499.62	0.81	0.50	27.71	3.0	159.2
	11/14/22		12.37	12.39	0.02	-0.02	500.33	0.70	0.50	28.21	3.0	162.2
	12/19/22[9]		--	13.17	0.00	-0.02	499.53	-0.80	0.00	28.21	1.0	163.2
	01/18/23		--	12.68	0.00	0.00	500.02	0.49	0.00	28.21	0.0	163.2
	02/28/23		--	11.90	0.00	0.00	500.80	0.78	0.00	28.21	0.0	163.2
	03/27/23		--	11.59	0.00	0.00	501.11	0.31	0.00	28.21	0.0	163.2
	04/06/23		--	11.64	0.00	0.00	501.06	-0.05	0.00	28.21	0.0	163.2
	05/09/23		--	12.69	0.00	0.00	500.01	-1.05	0.00	28.21	0.0	163.2
	06/29/23		--	12.75	0.00	0.00	499.95	-0.06	0.00	28.21	0.0	163.2
	07/27/23		--	14.04	Sheen	0.00	498.66	-1.29	0.00	28.21	0.25	163.4
	08/10/23		14.18	14.25	0.07	0.00	498.50	-0.16	0.10	28.31	0.90	164.3
	09/19/23		14.23	14.25	0.02	0.00	498.47	-0.04	0.05	28.36	0.60	164.9
	10/25/23		--	13.10	0.00	-0.02	499.60	1.13	0.00	28.36	0.10	165.0
	11/21/23		--	13.01	0.00	0.00	499.69	0.09	0.00	28.36	0.20	165.2
	12/13/23		--	11.78	0.00	0.00	500.92	1.23	0.00	28.36	0.00	165.2
MW-2	03/30/21	511.29	11.42	11.93	0.51	--	499.75	--	0.00	0.00	0.0	0.0
	04/20/21[4,5]		11.88	12.60	0.72	0.21	499.24	-0.51	3.25	3.25	5.0	5.0
	05/20/21[7]		--	12.30	0.00	-0.72	498.99	-0.25	15.53	18.78	135.0	140.0
	06/08/21		--	12.27	0.00	0.00	499.02	0.03	0.00	18.78	0.0	140.0
	06/23/21[4]		12.15	12.16	0.01	0.01	499.14	0.12	0.07	18.85	0.5	140.5
	07/08/21[4]		12.36	12.49	0.13	0.12	498.90	-0.24	0.80	19.65	1.6	142.1
	07/22/21[4]		12.50	12.67	0.17	0.04	498.75	-0.15	1.50	21.15	3.0	145.1
	08/05/21		12.54	12.76	0.22	0.05	498.70	-0.05	1.00	22.15	3.0	148.1
	08/18/21		12.70	12.95	0.25	0.03	498.53	-0.17	0.75	22.90	2.0	150.1
	09/01/21[4,5]		12.64	12.85	0.21	-0.04	498.60	0.07	0.50	23.40	2.0	152.1
	09/22/21		12.09	12.16	0.07	-0.14	499.18	0.58	0.75	24.15	3.0	155.1
	10/06/21		--	11.84	0.00	-0.07	499.45	0.27	0.00	24.15	0.0	155.1
	10/20/21		--	11.80	0.00	0.00	499.49	0.04	0.00	24.15	0.0	155.1
	11/03/21		--	11.51	0.00	0.00	499.78	0.29	0.00	24.15	0.0	155.1
	11/17/21		--	11.17	0.00	0.00	500.12	0.34	0.00	24.15	0.0	155.1
	12/08/21		--	11.12	0.00	0.00	500.17	0.05	0.00	24.15	0.0	155.1
	12/22/21		10.50	10.51	0.01	0.01	500.79	0.62	0.07	24.22	0.0	155.1
	01/11/22		--	11.40	0.00	-0.01	499.89	-0.90	0.00	24.22	0.3	155.4
	01/26/22		--	11.49	0.00	0.00	499.80	-0.09	0.00	24.22	0.0	155.4
	02/07/22		--	11.47	0.00	0.00	499.82	0.02	0.13	24.35	0.3	155.7
	03/23/22		11.75	11.76	0.01	0.01	499.54	-0.28	0.00	24.35	0.0	155.7
	06/28/22		12.12	12.14	0.02	0.01	499.17	-0.37	0.10	24.45	2.0	157.7
	08/11/22[4]		12.40	12.42	0.02	0.00	498.89	-0.28	0.23	24.68	3.2	160.9
	08/25/22[9]		--	12.70	0.00	-0.02	498.59	-0.30	0.20	24.88	0.5	161.4
	09/08/22[4,5]		12.55	12.56	0.01	0.01	498.74	0.15	0.10	24.98	3.0	164.4
	10/12/22[4]		12.77	12.84	0.07	0.06	498.50	-0.23	0.25	25.23	3.0	167.4
	11/14/22		10.93	10.95	0.02	-0.05	500.36	1.85	0.25	25.48	2.5	169.9
	12/19/22		--	11.95	0.00	-0.02	499.34	-1.02	0.13	25.61	0.5	170.4
	01/18/23		--	11.55	0.00	0.00	499.74	0.40	0.00	25.61	0.5	170.9
	02/28/23		11.33	11.34	0.01	0.01	499.96	0.22	0.10	25.71	1.3	172.1
	03/27/23		--	11.02	0.00	-0.01	500.27	0.31	0.10	25.81	1.4	173.5
	04/06/23		--	10.81	0.00	0.00	500.48	0.21	0.00	25.81	0.5	174.0
	05/09/23		--	11.75	0.00	0.00	499.54	-0.94	0.00	25.81	0.5	174.5
	06/29/23		--	12.33	0.00	0.00	498.96	-0.58	0.00	25.81	0.5	175.0
	07/27/23		--	12.71	0.00	0.00	498.58	-0.38	0.00	25.81	0.5	175.5
	08/10/23		12.86	12.91	0.05	0.00	498.42	-0.16	0.05	25.86	0.45	176.0
	09/19/23		12.98	13.04	0.06	0.00	498.30	-0.12	0.05	25.91	1.20	177.2
	10/25/23		--	12.07	0.00	-0.06	499.22	0.92	0.00	25.91	0.00	177.2
	11/21/23		--	11.85	0.00	0.00	499.44	0.22	0.00	25.91	0.00	177.2
	12/13/23		--	10.84	0.00	0.00	500.45	1.01	0.00	25.91	0.00	177.2
MW-5	03/30/21	509.10	--	9.56	0.00	--	499.54	--	0.00	0.00	0.0	0.0
	04/20/21		--	10.13	0.00	0.00	498.97	-0.57	0.00	0.00	0.0	0.0
	05/20/21		--	10.32	0.00	0.00	498.78	-0.19	0.00	0.00	0.0	0.0
	06/08/21		--	10.31	0.00	0.00	498.79	0.01	0.00	0.00	0.0	0.0
	06/23/21		--	10.29	0.00	0.00	498.81	0.02	0.00	0.00	0.0	0.0
	07/08/21		--	10.53	0.00	0.00	498.57	-0.24	0.00	0.00	0.0	0.0
	07/22/21		--	10.69	0.00	0.00	498.41	-0.16	0.00	0.00	0.0	0.0
	08/05/21[4]		10.74	10.76	0.02	0.02	498.36	-0.05	0.10	0.10	0.5	0.5
	08/18/21[4]		10.87	11.10	0.23	0.21	498.18	-0.18	0.75	0.85	2.5	3.0
	09/01/21[4]		10.76	10.77	0.01	-0.22	498.34	0.16	0.10	0.95	1.0	4.0
	09/22/21		--	10.27	0.00	-0.01	498.83	0.49	0.00	0.95	0.9	4.9
	10/06/21		--	9.93	0.00	0.00	499.17	0.34	0.00	0.95	0.0	4.9

Table 1
United Pacific #5468
Summary of LPH Removal
Springfield, Oregon
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Well ID	Date Measured	TOC Elevation (ft amsl)	Depth to LPH (ft btoc)	Depth to Water (ft btoc)	LPH Thickness (ft)	Thickness Change (ft)	Groundwater Elevation [1] (ft amsl)	Elevation Change (ft)	Estimated LPH Removed (gal)	Cumulative LPH Removed (gal)	Estimated Water Removed (gal)	Cumulative Water Removed (gal)
MW-5 Cont.	10/20/21	509.10	--	9.95	0.00	0.00	499.15	-0.02	0.00	0.95	0.0	4.9
	11/03/21		--	9.56	0.00	0.00	499.54	0.39	0.00	0.95	0.0	4.9
	11/17/21		--	9.37	0.00	0.00	499.73	0.19	0.00	0.95	0.0	4.9
	12/08/21		--	9.25	0.00	0.00	499.85	0.12	0.00	0.95	0.0	4.9
	12/22/21		--	8.45	0.00	0.00	500.65	0.80	0.00	0.95	0.0	4.9
	01/11/22		--	8.81	0.00	0.00	500.29	-0.36	0.00	0.95	0.0	4.9
	01/26/22		--	9.14	0.00	0.00	499.96	-0.33	0.00	0.95	0.0	4.9
	02/07/22		--	8.84	0.00	0.00	500.26	0.30	0.00	0.95	0.0	4.9
	03/23/22		--	9.50	0.00	0.00	499.60	-0.66	0.00	0.95	0.0	4.9
	06/29/22		--	10.02	0.00	0.00	499.08	-0.52	0.00	0.95	2.9	7.8
	08/11/22[4,5]		10.41	10.50	0.09	0.09	498.67	-0.41	0.10	1.05	2.0	9.8
	08/25/22		10.63	10.73	0.10	0.01	498.45	-0.22	0.75	1.80	0.75	10.6
	09/08/22[4]		10.57	10.58	0.01	-0.09	498.53	0.08	0.30	2.10	3.5	14.1
	10/12/22[4]		11.68	11.75	0.07	0.06	497.40	-1.12	1.00	3.10	5.0	19.1
	11/14/22		--	9.34	0.00	-0.07	499.76	2.36	0.50	3.60	0.0	19.1
	12/19/22[4]		--	9.82	0.00	0.00	499.28	-0.48	0.10	3.70	2.0	21.1
	01/18/23		--	9.44	0.00	0.00	499.66	0.38	0.25	3.95	1.0	22.1
	02/28/23[4]		9.22	9.23	0.01	0.01	499.88	0.22	5.90	9.85	0.6	22.7
	03/27/23		--	9.12	0.00	-0.01	499.98	0.10	0.00	9.85	1.0	23.7
	04/06/23		--	8.66	0.00	0.00	500.44	0.46	0.13	9.98	1.5	25.2
	05/09/23		--	9.55	0.00	0.00	499.55	-0.89	0.10	10.08	1.0	26.2
	06/29/23		10.50	10.56	0.06	0.06	498.59	-0.96	0.79	10.87	0.3	26.4
	07/27/23		--	11.89	0.00	-0.06	497.21	-1.38	0.00	10.87	0.0	26.4
	08/10/23		10.90	10.97	0.07	0.07	498.18	0.97	0.05	10.92	0.95	27.4
	09/19/23		--	11.98	Sheen	-0.07	497.12	-1.06	0.00	10.92	0.35	27.7
	10/25/23		9.93	9.94	0.01	0.01	499.16	2.04	0.10	11.02	1.65	29.4
	11/21/23		--	11.13	0.00	-0.01	497.97	-1.19	0.65	11.67	0.10	29.5
	12/13/23		8.78	8.79	0.01	0.01	500.31	2.34	0.05	11.72	1.70	31.2
MW-6	03/30/21[6,5]	510.51	10.50	12.15	1.65	--	499.62	--	6.00	6.00	1.0	1.0
	04/20/21[4]		11.31	12.04	0.73	-0.92	499.03	-0.59	4.00	10.00	6.0	7.0
	05/20/21[7]		11.60	12.22	0.62	-0.11	498.76	-0.26	17.24	27.24	135.0	142.0
	06/08/21[4]		11.70	11.72	0.02	-0.60	498.81	0.04	2.08	29.32	4.0	146.0
	06/23/21[4]		11.60	11.62	0.02	0.00	498.91	0.10	1.65	30.97	0.5	146.5
	07/08/21		--	11.91	0.00	-0.02	498.60	-0.31	2.10	33.07	2.1	148.6
	07/22/21[4]		11.92	12.18	0.26	0.26	498.53	-0.07	3.00	36.07	3.5	152.1
	08/05/21[4]		11.88	12.56	0.68	0.42	498.47	-0.06	3.50	39.57	3.5	155.6
	08/18/21[4]		11.95	12.75	0.80	0.12	498.37	-0.10	3.50	43.07	2.0	157.6
	09/1/21[4]		11.98	12.58	0.60	-0.20	498.39	0.02	3.25	46.32	1.0	158.6
	09/22/21[4]		11.47	11.88	0.41	-0.19	498.94	0.55	5.20	51.52	6.0	164.6
	10/06/21		--	11.04	0.00	-0.41	499.47	0.53	0.00	51.52	0.0	164.6
	10/20/21[4]		11.05	11.85	0.00	0.00	498.66	-0.81	3.50	55.02	4.0	168.6
	11/3/21[4]		10.88	10.90	0.02	0.02	499.63	0.97	1.45	56.47	0.7	169.3
	11/17/21		--	10.61	0.00	-0.02	499.90	0.27	0.13	56.60	0.0	169.3
	12/08/21		--	10.53	0.00	0.00	499.98	0.08	0.26	56.86	0.0	169.3
	12/22/21		9.91	9.92	0.01	0.01	500.60	0.62	0.13	56.99	0.5	169.8
	01/11/22[4]		10.08	10.13	0.05	0.04	500.42	-0.18	1.98	58.97	4.0	173.8
	01/26/22[4]		10.88	10.92	0.04	-0.01	499.62	-0.80	0.81	59.78	2.1	175.9
	02/07/22[4]		10.12	10.26	0.14	0.10	500.36	0.74	2.50	62.28	3.5	179.4
	03/23/22[4]		10.74	11.15	0.41	0.27	499.67	-0.68	1.84	64.12	2.1	181.5
	06/28/22[4]		11.17	11.86	0.69	0.28	499.18	-0.50	3.00	67.12	6.0	187.5
	08/11/22[4]		11.68	11.95	0.27	-0.42	498.77	-0.41	2.50	69.62	3.5	191.0
	08/25/22		--	12.12	0.00	-0.27	498.39	-0.38	1.00	70.62	0.0	191.0
	09/08/22[4]		11.85	11.92	0.07	0.07	498.64	0.25	2.50	73.12	3.5	194.5
	10/12/22[4]		11.99	12.12	0.13	0.06	498.49	-0.15	2.50	75.62	6.0	200.5
	11/24/22		10.55	10.71	0.16	0.03	499.92	1.43	1.25	76.87	3.0	203.5
	12/19/22		11.09	11.64	0.55	0.39	499.29	-0.63	3.00	79.87	3.5	207.0
	01/18/23[4]		10.73	10.75	0.02	-0.53	499.78	0.48	2.00	81.87	5.0	212.0
	02/28/23[4]		10.52	10.58	0.06	0.04	499.98	0.20	3.00	84.87	0.3	212.3
	03/27/23		10.27	10.34	0.07	0.01	500.22	0.25	1.20	86.07	6.0	218.3
	04/06/23		9.95	10.00	0.05	-0.02	500.55	0.32	1.00	87.07	7.5	225.8
	05/09/23[4]		11.18	11.29	0.11	0.06	499.30	-1.24	0.50	87.57	5.0	230.8
	06/29/23		11.78	11.89	0.11	0.00	498.70	-0.60	0.79	88.36	0.3	231.1
	07/27/23		--	12.11	Sheen	-0.11	498.40	-0.30	1.00	89.36	0.0	231.1
	08/10/23		12.28	12.45	0.17	0.17	498.19	-0.21	0.50	89.86	0.0	231.1
	09/19/23		12.26	12.30	0.04	-0.13	498.24	0.05	1.00	90.86	0.25	231.3
	10/25/23		--	11.38	Sheen	-0.04	499.13	0.89	0.01	90.87	0.50	231.8
	11/21/23		--	9.82	0.00	0.00	500.69	1.56	0.00	90.87	0.00	231.8
	12/13/23		--	10.10	Sheen	0.00	500.41	-0.28	0.00	90.87	1.75	233.6

Table 1
United Pacific #5468
Summary of LPH Removal
Springfield, Oregon
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Well ID	Date Measured	TOC Elevation (ft amsl)	Depth to LPH (ft btoc)	Depth to Water (ft btoc)	LPH Thickness (ft)	Thickness Change (ft)	Groundwater Elevation [1] (ft amsl)	Elevation Change (ft)	Estimated LPH Removed (gal)	Cumulative LPH Removed (gal)	Estimated Water Removed (gal)	Cumulative Water Removed (gal)
									EW-1 Cumulative	20.85		893.5
									EW-2 Cumulative	101.76		1,181.8
									EW-3 Cumulative	74.48		973.7
									EW-4 Cumulative	3.60		25.3
									EW-1R Cumulative	1.71		26.5
									EW-2R Cumulative	0.83		13.3
									MW-1 Cumulative	28.36		165.2
									MW-2 Cumulative	25.91		177.2
									MW-5 Cumulative	11.72		31.2
									MW-6 Cumulative	90.87		233.6
									Cumulative Removed From Site Wells	360.08		3,721.3

Notes:

(1): groundwater elevation corrected for the presence of free-product using the following calculation: casing elevation minus depth to water plus the product thickness times its density (0.765).

(2): recorded value is gallons of LPH and water removed

(3): overpurging conducted using a vacuum truck

(4): LPH removal by manual bailing

(5): LPH removal using downhole skimmer initiated

(6): LPH removal using peristaltic pump

(7): LPH removal using vacuum truck

(8): well sampled using low-flow purge methods

(9): downhole skimmer removed

--: not detected / not applicable / not surveyed

*: thickness measurements made in reference to total depth of premium UST = 12.20 btofp

**: water volume estimates based on Containment Solutions® 12,000 gallon fiberglass double wall UST volume chart

†: LPH accumulation in skimmer

amsl: above mean sea level

btoc: below top of casing

btofp: below top of fill port

ft: feet

gal: gallons

LPH: liquid phase hydrocarbons

Sheen: LPH sheen observed

TOC: top of casing

TOFP: top of fill port

Table 2
Summary of Groundwater Monitoring Data
United Pacific #5468
Springfield, Oregon

WELL ID	WELL STATUS	SAMPLE DATE	ANALYTICAL PARAMETERS											WATER QUALITY PARAMETERS							MONITORING PARAMETERS				WELL ELEVATION			WELL	
			TPH-Ox (µg/L)	TPH-Dx (µg/L)	TPH-Gx (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Naph (µg/L)	EDB* (µg/L)	EDC (µg/L)	Lead (µg/L)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	pH	Temp (°C)	Turbidity (NTU)	Fe^{2+} (mg/L)	DTP (ft btoc)	DTW (ft btoc)	DTB (ft btoc)	PT (ft)	CASING (ft amsl)	GW (ft amsl)	GW Δ (ft amsl)	DIA (inches)	SCREEN (ft bgs)
			NWTPH-Dx		NWTPH-Gx	EPA Method 8260D								EPA 7010															
MW-1	Active	12/13/23	--	--	**1,100**	<1.0	<2.0	1.4	11	<5.0	<5.0	<0.010	<1.0	<5.0	4.27	156.9	333.9	6.12	16.5	12.2	0.0	--	11.78	24.22	0.00	512.70	500.92	2.45	4	5-25
MW-2	Active	12/13/23	--	--	**25,000**	**260**	2,200	**620**	**4,700**	<5.0	**120**	<0.010	<1.0	<5.0	0.46	-134.7	435.0	7.01	16.9	5.2	1.5	--	10.84	25.05	0.00	511.29	500.45	2.15	4	5-25
MW-3	Active	12/13/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	<5.0	0.71	27.9	349.7	6.77	16.1	9	0.0	--	10.66	26.30	0.00	511.12	500.46	1.82	4	5-25
MW-4	Active	12/13/23	--	--	**7,800**	**56**	420	**290**	**1,500**	<5.0	**92**	<0.010	<1.0	<5.0	0.23	-136.0	478.5	7.20	15.0	3	0.5	--	9.29	24.01	0.00	509.78	500.49	2.00	4	5-25
MW-5[1]	Active	12/13/23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.78	8.79	22.61	0.01	509.10	500.32	3.20	4	3.5-23.5
MW-6[1]	Active	12/13/23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Sheen	10.10	23.90	0.00	510.51	500.41	2.17	4	5-25
MW-7	Active	12/12/23	--	--	**3,900**	**170**	43	**130**	630	<5.0	**110**	<0.010	<1.0	<5.0	0.14	-124.1	953.0	6.74	17.0	49	4.0	--	11.04	24.96	0.00	511.65	500.61	2.30	4	5-25
MW-8	Active	12/12/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	<5.0	9.66	172.7	173.8	6.34	17.3	12	0.0	--	10.08	18.02	0.00	509.75	499.67	2.43	4	8-18
MW-9	Active	12/12/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	<5.0	7.80	353.0	188.3	5.88	15.8	6	0.0	--	8.72	17.29	0.00	509.89	501.17	2.82	4	7-17
MW-10	Active	12/12/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	<5.0	2.96	365.5	485.0	6.28	17.0	6	0.0	--	10.71	17.98	0.00	511.13	500.42	2.37	4	7-17
MW-11	Active	12/13/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	<5.0	7.21	113.8	348.6	6.31	16.6	3	1.0	--	10.80	19.98	0.00	511.69	500.89	1.89	2	10-20
EW-1R[1]	Active	12/13/23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Sheen	10.18	15.58	0.00	510.86	500.68	2.16	4	13-23
EW-2R	Active	12/13/23	--	--	**200,000**	**2,100**	**35,000**	**3,900**	**17,000**	<5.0	**610**	<0.010	<1.0	<5.0	0.24	-99.7	689.0	6.56	16.0	6	6.0	--	10.44	22.86	0.00	510.91	500.47	2.02	4	13-23
EW-4	Active	12/13/23	--	--	**98,000**	**7,000**	**17,000**	**2,700**	**7,100**	<5.0	**590**	<0.010	<1.0	<5.0	0.27	-113.7	765.0	6.75	16.8	54	10.0	--	10.99	22.86	0.00	510.67	499.68	2.08	4	13-23
NW Obs.	Observation	12/13/23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.73	16.81	0.00	--	--	--	4	5-15
NE Obs.	Observation	12/13/23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.88	14.83	0.00	--	--	--	4	5-15
SE Obs.	Observation	12/13/23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.46	14.91	0.00	--	--	--	4	5-15
SW Obs.	Observation	12/13/23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.62	13.51	0.00	--	--	--	4	5-15
RBC: Ingestion/Inhalation from Tapwater[2]			430	430	450	2.1	6,300	6.4	830	68	0.72	0.034	0.78	15	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
RBC: Volatilization to Outdoor Air[3]			>S	>S	>S	14,000	>S	43,000	>S	1,500,000	16,000	790	9,000	nv	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
RBC: Volatilization to Indoor Air[4]			1,700	1,700	520	12/650	150,000/160,000	31/420,000	3,300/200,000	3,200/1,600,000	50/83,000	1.5/--	18/--	--	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
RBC: Groundwater in Excavations[5]			>S	>S	14,000	1,800	220,000	4,500	23,000	63,000	500	27	630	<S	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Results in **BOLD** indicate detections that exceed the ODEQ Risk-Based Concetrations (RBCs) for groundwater

(1): sample not collected due to liquid-phase hydrocarbons (LPH; free-product) present in well; groundwater elevation corrected for the presence of LPH using the following calculation: TOC elevation minus DTW plus the product thickness times its density (0.765)

(2): RBC for Groundwater - Injestion and Inhalation from Tapwater, occupational receptor scenario (see ODEQ Table of RBCs - revised May 2018 amended June 2023)

(3): RBC for Groundwater - Volatilization to Outdoor Air, occupational receptor scenario (see ODEQ Table of RBCs - revised May 2018 amended June 2023)

(4): RBC for Groundwater - Volatilization to Indoor Air, Commercial scenario; Chronic/Acute screening values (see OQED Vapor Intrusion Risk-Based Concentration Table 1 - June 2023)

(5): RBC for Groundwater in Excavation, Contact to Construction and Excavation Workers

--: not analyzed / not measured / unknown

<: less than the laboratory method detection limit

>S: RBC exceeds the solubility limit

°C: degrees celsius

*: analyzed using SIM (selected ion monitoring)

µg/L: micrograms per Liter

µs/cm: microsiemens per centimeter

Active: groundwater well currently used for monitoring

amsl: above mean sea level

bgs: below ground surface

BTEX: benzene, toluene, ethylbenzene, and total xylenes

btoc: below top of casing

DIA: casing diameter

DO: dissolved oxygen

DTB: depth to bottom

DTP: depth to product

DTW: depth to water

DTW Δ : Change in depth to water since last monitoring event

EDB: 1,2-dibromoethane

EDC: 1,2-dichloroethane

EPA: Environmental Protection Agency

Fe^{2+}: ferrous iron

ft: feet

GW: groundwater

mg/L: milligrams per Liter

mV: millivolts

na: not applicable

Naph: naphthalene

ND: not detected

NM: not measured

NTU: nephelometric turbidity units

nv: chemical is considered "non volatile" for purposes of the exposure calculations in this document

Observation: Observation well located within tank cavity used for periodic gauging

ODEQ: Oregon Dpeatrment of Environmental Quality

ORP: oxidation reduction potential

pH: potential hydrogen

PT: free-product thickness

RBC: Risked Based Concentration established by the Oregon Department of Environmental Quality (ODEQ)

Sheen: sheen observed in well

Temp: temperature

TPH-Dx: total diesel-range petroleum hydrocarbons, analyzed by Northwest Method NWTPH-Dx

TPH-Gx: total gasoline-range petroleum hydrocarbons, analyzed by Northwest Method NWTPH-Gx

TPH-Ox: total oil-range petroleum hydrocarbons, analyzed by Northwest Method NWTPH-Ox

Table 3
Summary of Historical Groundwater Monitoring Data
United Pacific #5468
Springfield, Oregon
Page 1 of 3

WELL ID	WELL STATUS	SAMPLE DATE	ANALYTICAL PARAMETERS												MONITORING PARAMETERS			WELL ELEVATION		
			TPH-Ox (µg/L)	TPH-Dx (µg/L)	TPH-Gx (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Naph (µg/L)	EDB (µg/L)	EDC (µg/L)	Other VOCs	DTP [1] (ft btoc)	DTW (ft btoc)	PT (ft)	CASING [2] (ft amsl)	GW [3] (ft amsl)	GW Δ (ft amsl)
			NWTPH-Dx		NWTPH-Gx	EPA Method 8260D														
MW-1	Active	03/30/21	--	--	--	--	--	--	--	--	--	--	--	--	12.78	12.79	0.01	512.70	499.92	--
		06/23/21	--	--	--	--	--	--	--	--	--	--	--	--	13.55	13.83	0.28		499.08	-0.83
		09/23/21	--	--	--	--	--	--	--	--	--	--	--	--	13.56	13.57	0.01		499.14	0.05
		12/22/21	--	--	**3,900**	**260 E**	67	<1.0	230	<5.0	<5.0	<0.01	<1.0	(9)	ND	11.61	0.00		501.09	1.95
		01/11/22[10]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
		03/23/22	--	--	--	--	--	--	--	--	--	--	--	--	12.97	13.00	0.03		499.72	-1.37
		06/28/22	--	--	--	--	--	--	--	--	--	--	--	--	13.14	13.16	0.02		499.56	-0.17
		10/12/22	--	--	--	--	--	--	--	--	--	--	--	--	13.07	13.11	0.04		499.62	0.06
		12/20/22	--	--	**2,100**	1.1	2.6	<1.0	250	<5.0	<5.0	<0.01	<1.0	(9)	ND	13.17	0.00		499.53	-0.09
		04/06/23	--	--	--	--	--	--	--	--	--	--	--	--	ND	11.64	0.00		501.06	1.53
		06/29/23	--	--	**3,200**	**62**	510	**65**	440	<5.0	**19**	0.014	<1.0	(9)	ND	12.75	0.00		499.95	-1.11
		09/18/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	14.23	14.25	0.02		498.47	-1.48
		12/13/23	--	--	**1,100**	<1.0	<2.0	1.4	11	<5.0	<5.0	<0.010	<1.0	(8)	ND	11.78	0.00		500.92	2.45
MW-2	Active	03/30/21	--	--	--	--	--	--	--	--	--	--	--	--	11.42	11.93	0.51	511.29	499.75	--
		06/23/21	--	--	--	--	--	--	--	--	--	--	--	--	12.15	12.16	0.01		499.14	-0.61
		09/23/21	--	--	--	--	--	--	--	--	--	--	--	--	12.09	12.16	0.07		499.18	0.05
		12/22/21	--	--	--	--	--	--	--	--	--	--	--	--	10.50	10.51	0.01		500.79	1.60
		01/11/22[10]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
		03/23/22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		499.54	-1.25
		06/28/22	--	--	--	--	--	--	--	--	--	--	--	--	12.12	12.14	0.02		499.17	-0.37
		10/12/22	--	--	--	--	--	--	--	--	--	--	--	--	12.77	12.84	0.07		498.50	-0.67
		12/20/22	--	--	**26,000**	**1,000**	2,600	**510**	**2,300**	<5.0	**89**	<0.01	<1.0	(9)	ND	11.95	0.00		499.34	0.84
		04/06/23	--	--	--	--	--	--	--	--	--	--	--	--	ND	10.81	0.00		500.48	1.14
		06/29/23	--	--	**31,000**	**780**	5,400	**760**	**4,400**	<5.0	**70**	0.016	<1.0	(9)	ND	12.33	0.00		498.96	-1.52
		09/18/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	12.98	13.04	0.06		498.30	-0.66
		12/13/23	--	--	**25,000**	**260**	2,200	**620**	**4,700**	<5.0	**120**	<0.01	<1.0	(9)	ND	10.84	0.00		500.45	2.15
MW-3	Active	03/30/21	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	ND	11.32	0.00	511.12	499.80	--
		06/23/21	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	ND	11.89	0.00		499.23	-0.57
DUP-1		06/23/21	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--		--	--
		09/23/21	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	ND	11.86	0.00		499.26	0.03
		12/22/21	--	--	110	20	<1.0	<1.0	2.3	<5.0	<5.0	<0.01	<1.0	(8)	ND	10.33	0.00		500.79	1.53
		01/11/22[10]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
		03/23/22	--	--	260	**36**	32	1.9	26	<5.0	<5.0	<0.01	<1.0	(9)	ND	11.31	0.00		499.81	-0.98
		06/28/22	--	--	220	<1.0	<1.0	<1.0	32	<5.0	<5.0	<0.01	<1.0	(9)	ND	11.77	0.00		499.35	-0.46
		10/12/22	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	ND	12.33	0.00		498.79	-0.56
DUP-1		10/12/22	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--		--	--
		12/20/22	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	ND	11.55	0.00		499.57	0.78
		04/06/23	--	--	<100	**56**	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(9)	ND	10.50	0.00		500.62	1.05
		06/29/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	12.01	0.00		499.11	-1.51
		09/19/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	12.48	0.00		498.64	-0.47
		12/13/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	10.66	0.00		500.46	1.82
MW-4	Active	03/30/21	--	--	**180,000**	**3,000**	**25,000 E**	**3,100**	**18,000**	<5.0	**180**	<0.01	<1.0	(9)	ND	10.17	0.00	509.78	499.61	--
DUP-1		03/30/21	--	--	**190,000**	**3,000**	**25,000 E**	**3,000**	**17,000**	<5.0	**250**	<0.01	<1.0	(9)	--	--	--		--	--
		06/23/21	--	--	**52,000**	**1,600**	**17,000**	**2,200**	**21,000**	<5.0	**500**	<0.01	<1.0	(9)	ND	10.83	0.00		498.95	-0.66
		09/23/21	--	--	**40,000**	**1,300**	**6,600**	**1,400**	**8,600**	<5.0	**530**	<0.01	<1.0	(9)	ND	10.78	0.00		499.00	0.05
DUP-1		09/23/21	--	--	**39,000**	**1,200**	5,500	**1,400**	**6,900**	<5.0	**620**	<0.01	<1.0	(9)	--	--	--		--	--
		12/22/21	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	ND	9.11	0.00		500.67	1.67
		01/11/22[10]	--	--	**2,400**	**250**	53	<1.0	160	--	--	--	--	--	--	--	--		--	--
		03/23/22	--	--	**62,000**	**1,100**	5,900	**1,600**	**10,000**	<250	**250**	<0.5	<50	(9)	ND	10.11	0.00		499.67	-1.00
		06/29/22	--	--	**37,000**	**560**	1,400	<1.0	**10,000**	<5.0	**130**	<0.01	<1.0	(9)	ND	10.53	0.00		499.25	-0.42
		10/12/22	--	--	**24,000**	**600**	380	**510**	**5,500**	<5.0	**78**	<0.01	<1.0	(9)	ND	11.26	0.00		498.52	-0.73
		12/20/22	--	--	**33,000**	**330**	2,000	**480**	**3,800**	50	**380**	<0.1	<10	(9)	ND	10.37	0.00		499.41	0.89
		04/06/23	--	--	**4,400**	**82**	<10	<10	**1,500**	50	<50	<0.10	<10	(9)	ND	10.29	0.00		499.49	0.08
		06/29/23	--	--	**4,000**	**67**	190	33	**890**	<5.0	**48**	<0.010	<1.0	(9)	ND	10.93	0.00		498.85	-0.64
		09/19/20	--	--	**19,000**	**300**	140	3.9	**5,100**	<5.0	**130**	<0.010	<1.0	(9)	ND	11.29	0.00		498.49	-0.36
		12/13/23	--	--	**7,800**	**56**	420	**290**	**1,500**	<5.0	**92**	<0.010	<1.0	(9)	ND	9.29	0.00		500.49	2.00
DUP-1		12/13/23	--	--	**6,800**	**53**	500	**170**	**1,400**	<5.0	**19**	<0.010	<1.0	(9)	--	--	--		--	--
MW-5	Active	03/30/21	--	--	**250,000 E**	**3,900**	**34,000 E**	**3,500**	**23,000**	<5.0	**230**	<0.01	<1.0	(9)	ND	9.56	0.00	509.10	499.54	--
		06/23/21	--	--	**58,000**	**4,400**	**24,000 E**	**2,500**	**17,000**	<5.0	**350**	<0.01	<1.0	(9)	ND	10.29	0.00		498.81	-0.73
		09/23/21	--	--	**65,000**	**3,900**	**18,000 E**	**1,600**	**11,000**	<5.0	**450**	<0.01	<1.0	(9)	ND	10.27	0.00		498.83	0.02
		12/22/21	--	--	**230,000**	**4,900**	**29,000 E**	**210**	**18,000**	<5.0	**310**	<0.01	<1.0	(9)	ND	8.45	0.00		500.65	1.82
		01/11/22[10]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
		03/23/22	--	--	**110,000**	**4,000**	**14,000 E**	**1,800**	**15,000**	<250	**360**	<0.5	<50	(9)	ND	9.50	0.00		499.60	-1.05
		06/29/22	--	--	**260,000 E**	**5,800**	**45,000 E**	**2,900**	**34,000 E**	<5.0	**320**	<0.01	<1.0	(9)	ND	10.02	0.00		499.08	-0.52
		10/12/22	--	--	--	--	--	--	--	--	--	--	--	--	11.68	11.75	0.07		497.40	-1.68
		12/20/22	--	--	**80,000**	**3,700**	**10,000**	**1,800**	**11,000**	50	**270**	<0.1	<10	(9)	ND	9.90	0.00		499.20	1.80
		04/06/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	Sheen	8.66	0.00		500.44	1.24
		06/29/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	10.50	10.56	0.06		498.59	-1.85
		09/19/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	Sheen	11.98	0.00		497.12	-1.47
		12/13/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	8.78	8.79	0.01		500.32	3.20
MW-6	Active	03/30/21	--	--	--	--	--	--	--	--	--	--	--	--	10.50	12.15	1.65	510.51	499.62	--
		06/23/21	--	--	--	--	--	--	--	--	--	--	--	--	11.60	11.62	0.02		498.91	-0.72
		09/23/21	--	--	--	--	--	--	--	--	--	--	--	--	11.47	11.88	0.41		498.94	0.04
		12/22/21	--	--	--	--	--	--	--	--	--	--	--	--	9.91	9.92	0.01		500.60	1.65
		01/11/22[10]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
		03/23/22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
		06/28/22	--	--	--	--	--	--	--	--	--	--	--	--	11.17	11.86	0.69		499.18	-1.42
		10/12/22	--	--	--	--	--	--	--	--	--	--	--	--	11.99	12.12	0.13		498.49	-0.69
		12/20/22	--	--	--	--	--	--	--	--	--	--	--	--	11.09	11.64	0.55		499.29	0.80
		04/06/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	9.95	10.00	0.05		500.55	1.26
		06/29/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	11.78	11.89	0.11		498.70	-1.84
		09/19/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	12.26	12.30	0.04		498.24	-0.46
		12/13/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	Sheen	10.10	0.00		500.41	2.17
MW-7	Active	03/30/21	--	--	260	**33**	1.7	<1.0	3.6	<5.0	<5.0	<0.01	<1.0	(8)	ND	12.12	0.00	511.65	499.53	--
		06/23/21	--	--	170	**11**	39	6.3	46	<5.0	<5.0	<0.01	<1.0	(9)	ND	12.85	0.00		498.80	-0.73
DUP-1		06/23/21	--	--	<100	**9.0**	17	2.0	15	<5.0	<5.0	<0.01	<1.0	(9)	--	--	--		--	--
		09/23/21	--	--	**850**	**170**	84	**7.5**	67	<5.0	<5.0	<0.01	<1.0	(9)	ND	12.82	0.00		498.83	0.03
		12/22/21	--	--	**15,000**	**980**	2,300 E	**140**	850	<5.0	**23**	<0.01	<1.0	(9)	ND	10.89	0.00		500.76	1.93
MW-7 Dup		12/22/21	--	--	**21,000 E**	**790 E**	1,400 E	**159**	890 E	<5.0	**24**	<0.01	<1.0	(9)	--	--	--		--	--
		01/11/22[10]	--	--	**4,600**	**490**	730	**58**	300	--	--	--	--	--	--	--	--		--	--
		03/23/22	--	--	**14,000**	**1,000**	2,900	**200**	**1,300**	<5.0	**28**	<0.01	<1.0	(9)	ND	12.00	0.00		499.65	-1.11
DUP-2		03/23/22	--	--	**22,000**	**1,200**	3,300	**230**	**1,400**	<250	<250	<0.5	<50	(9)	--	--	--		--	--

Table 3
Summary of Historical Groundwater Monitoring Data
United Pacific #5468
Springfield, Oregon
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WELL ID	WELL STATUS	SAMPLE DATE	ANALYTICAL PARAMETERS												MONITORING PARAMETERS			WELL ELEVATION		
			TPH-Ox (µg/L)	TPH-Dx (µg/L)	TPH-Gx (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Naph (µg/L)	EDB (µg/L)	EDC (µg/L)	Other VOCs	DTP [1] (ft btoc)	DTW (ft btoc)	PT (ft)	CASING [2] (ft amsl)	GW [3] (ft amsl)	GW Δ (ft amsl)
			NWTPH-Dx		NWTPH-Gx	EPA Method 8260D														
MW-7		06/28/22	--	--	**17,000**	**1,100**	3,900	**320**	**1,100**	<5.0	**31**	<0.01	<1.0	(9)	ND	12.56	0.00		499.09	-0.56
con't		10/12/22	--	--	**24,000**	**1,300**	3,500	**240**	**1,600**	<5.0	**9.7**	<0.01	<1.0	(9)	ND	13.18	0.00		498.47	-0.62
		12/20/22	--	--	**5,000**	**710**	890	**120**	490	<5.0	**34**	<0.01	<1.0	(9)	ND	12.33	0.00		499.32	0.85
		04/06/23	--	--	--	--	--	--	--	--	--	--	--	--	ND	11.07	0.00		500.58	1.26
		06/29/23	--	--	**9,200**	**670**	530	**320**	**1,600**	<5.0	**33**	<0.010	<1.0	(9)	ND	12.98	0.00		498.67	-1.91
DUP-1		06/29/23	--	--	**8,000**	**710**	570	**350**	**1,800**	<5.0	**23**	<0.010	<1.0	(9)	--	--	--		--	--
		09/19/23	--	--	**7,100**	**510**	210	**180**	**1,200**	<5.0	**37**	<0.010	<1.0	(9)	ND	13.34	0.00		498.31	-0.36
DUP-1		09/19/23	--	--	**3,300**	**250**	76	**57**	**580**	<5.0	**21**	<0.010	<1.0	(9)	--	--	--		--	--
		12/12/23	--	--	**3,900**	**170**	43	**130**	**630**	<5.0	**110**	<0.010	<1.0	(9)	ND	11.04	0.00		500.61	2.30
MW-8	Active	12/19/22	--	--	<100	<1.0	2.7	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	ND	11.55	0.00	509.75	498.20	--
		04/06/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	9.96	0.00		499.79	1.59
DUP-1		04/06/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	--	--	--		--	--
		06/29/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	11.94	0.00		497.81	-1.98
		09/18/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	12.51	0.00		497.24	-0.57
		12/12/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	10.08	0.00		499.67	2.43
MW-9	Active	12/19/22	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	ND	10.52	0.00	509.89	499.37	--
		04/06/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	9.30	0.00		500.59	1.22
		06/29/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	11.03	0.00		498.86	-1.73
		09/18/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	11.54	0.00		498.35	-0.51
		12/12/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	8.72	0.00		501.17	2.82
MW-10	Active	12/20/22	--	--	120	1.9	11	2.6	13	<5.0	<5.0	<0.01	<1.0	(9)	ND	9.59	0.00	511.13	501.54	--
DUP-1		12/20/22	--	--	100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(9)	--	--	--		--	--
		04/06/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	10.50	0.00		500.63	-0.91
		06/29/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	12.62	0.00		498.51	-2.12
		09/18/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	13.08	0.00		498.05	-0.46
		12/12/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	10.71	0.00		500.42	2.37
MW-11	Active	12/20/22	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	ND	11.70	0.00	511.69	499.99	--
		04/06/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	10.59	0.00		501.10	1.11
		06/29/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	12.37	0.00		499.32	-1.78
		09/19/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	12.69	0.00		499.00	-0.32
		12/13/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	ND	10.80	0.00		500.89	1.89
EW-1	Active	03/30/21	--	--	--	--	--	--	--	--	--	--	--	--	11.05	11.14	0.09	510.97	499.90	--
		06/23/21	--	--	**156,000**	**11,000**	**66,000 E**	**5,600**	**36,000**	<5.0	**650**	<0.01	<1.0	(9)	ND	11.74	0.00		499.23	-0.67
		09/23/21	--	--	**21,000**	**490**	4,200	**550**	**3,200**	<5.0	**110**	<0.01	<1.0	(9)	ND	11.72	0.00		499.25	0.02
		12/22/21	--	--	**40,000**	**560**	2,700 E	**580**	<20	<50	**87**	<0.10	<10	(9)	ND	9.90	0.00		501.07	1.82
DUP-1		12/22/21	--	--	**40,000**	**600**	2,900 E	**620**	<20	<50	**22**	<0.10	<10	(9)	--	--	--		--	--
		01/11/22[10]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
	Abandoned[11]	03/23/22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
EW-1R[12]	Active	10/12/22	--	--	--	--	--	--	--	--	--	--	--	--	12.17	12.19	0.02	510.86	498.69	--
		12/20/22	--	--	--	--	--	--	--	--	--	--	--	--	ND	11.32	0.00		499.54	0.85
		04/06/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	10.10	10.11	0.01		500.75	1.21
		06/29/23	--	--	**25,000**	**1,600**	3,500	**900**	**4,800**	<5.0	**17**	<0.010	<1.0	(9)	ND	11.82	0.00		499.04	-1.71
		9/18/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	12.30	12.45	0.15		498.52	-0.52
		12/13/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	Sheen	10.18	0.00		500.68	2.16
EW-2	Active	03/30/21	--	--	--	--	--	--	--	--	--	--	--	--	11.20	11.28	0.08	510.90	499.68	--
		06/23/21	--	--	--	--	--	--	--	--	--	--	--	--	11.88	12.07	0.19		498.98	-0.71
		09/23/21	--	--	--	--	--	--	--	--	--	--	--	--	11.84	11.87	0.03		499.05	0.08
		12/22/21	--	--	--	--	--	--	--	--	--	--	--	--	10.20	10.22	0.02		500.70	1.64
		01/11/22[10]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
	Abandoned[11]	03/23/22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
EW-2R[12]	Active	10/12/22	--	--	--	--	--	--	--	--	--	--	--	--	12.32	12.34	0.02	510.91	498.59	--
		12/20/22	--	--	--	--	--	--	--	--	--	--	--	--	11.53	11.54	0.01		499.38	0.79
		04/06/23	--	--	--	--	--	--	--	--	--	--	--	--	ND	10.32	0.00		500.59	1.21
		06/29/23	--	--	**5,200**	**340**	1,200	**180**	**710**	<5.0	**27**	<0.010	<1.0	(9)	ND	12.17	0.00		498.74	-1.85
		09/19/23	--	--	**840**	**6.5**	3.4	<1.0	**140**	<5.0	**6.2**	<0.010	<1.0	(8)	ND	12.46	0.00		498.45	-0.29
		12/13/23	--	--	**200,000**	**2,100**	**35,000**	**3,900**	**17,000**	<5.0	**610**	<0.010	<1.0	(9)	ND	10.44	0.00		500.47	2.02
EW-3	Active	03/30/21	--	--	--	--	--	--	--	--	--	--	--	--	11.68	11.90	0.22	511.63	499.90	--
		06/23/21	--	--	--	--	--	--	--	--	--	--	--	--	12.40	12.41	0.01		499.23	-0.67
		09/23/21	--	--	--	--	--	--	--	--	--	--	--	--	12.36	12.45	0.09		499.25	0.02
		12/22/21	--	--	--	--	--	--	--	--	--	--	--	--	10.76	10.77	0.01		500.87	1.62
		01/11/22[10]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
	Abandoned[11]	03/23/22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
EW-4[12]	Active	10/12/22	--	--	--	--	--	--	--	--	--	--	--	--	12.89	12.90	0.01	510.67	497.78	--
		12/20/22	--	--	--	--	--	--	--	--	--	--	--	--	12.08	12.30	0.22		498.54	0.76
		4/06/23[1]	--	--	--	--	--	--	--	--	--	--	--	--	Sheen	11.00	0.00		499.67	1.13
		06/29/23	--	--	**40,000**	**2,700**	**8,900**	**910**	**5,900**	<5.0	**89**	<0.010	<1.0	(9)	ND	12.72	0.00		497.95	-1.72
		09/19/23	--	--	**17,000**	**1,200**	2,000	**110**	**2,000**	<5.0	**48**	0.023	<1.0	(8)	ND	13.07	0.00		497.60	-0.35
		12/13/23	--	--	**98,000**	**7,000**	**17,000**	**2,700**	**7,100**	<5.0	**590**	<0.010	<1.0	(8)	ND	10.99	0.00		499.68	2.08
QA/QC Samples																				
EB-1		03/30/21	--	--	<100	<1.0	1.1	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		06/23/21	--	--	<100	<1.0	10	1.3	8.1	<5.0	<5.0	<0.01	<1.0	(9)	--	--	--	--	--	--
		09/23/21	--	--	100	<1.0	2.2	<1.0	2.3	<5.0	<5.0	<0.01	<1.0	(9)	--	--	--	--	--	--
		12/22/21	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(9)	--	--	--	--	--	--
		03/23/22	--	--	<100	<1.1	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		06/28/22	--	--	<100	<1.1	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		10/12/22	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		12/19/22	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		04/06/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	--	--	--	--	--	--
		06/29/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	--	--	--	--	--	--
		09/19/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		12/12/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	--	--	--	--	--	--
EB-2		06/29/22	--	--	<100	<1.1	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		12/20/22	--	--	<100	<1.1	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
EB-2 Dup		12/20/22	--	--	<100	<1.1	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		06/29/23	--	--	<100	<1.1	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		09/19/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		12/13/23	--	--	770	3.8	140	20	160	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
Trip Blank		06/23/21	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		12/22/21	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		03/23/22	--	--	<100	<1.1	<1.0	<1.0	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		10/12/22	--	--	<100	<1.0	<1.0	1.2	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		12/20/22	--	--	<100	<1.0	<1.0	1.2	<2.0	<5.0	<5.0	<0.01	<1.0	(8)	--	--	--	--	--	--
		04/06/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	--	--	--	--	--	--
		06/29/23	--	--	<100	<1.0	<1.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	--	--	--	--	--	--

Table 3
Summary of Historical Groundwater Monitoring Data
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WELL ID	WELL STATUS	SAMPLE DATE	ANALYTICAL PARAMETERS											MONITORING PARAMETERS			WELL ELEVATION		
			TPH-Ox (µg/L)	TPH-Dx (µg/L)	TPH-Gx (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Naph (µg/L)	EDB (µg/L)	EDC (µg/L)	Other VOCs	DTP [1] (ft btoc)	DTW (ft btoc)	PT (ft)	CASING [2] (ft amsl)	GW [3] (ft amsl)	GW Δ (ft amsl)
			NWTPH-Dx		NWTPH-Gx	EPA Method 8260D													
Trip Blank		09/19/23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
con't		12/13/23	--	--	<100	<1.0	<2.0	<1.0	<2.0	<5.0	<5.0	<0.010	<1.0	(8)	--	--	--	--	--	--
RBC: Injestion/Inhalation from Tapwater[4]			430	430	450	2.1	6,300	6.4	830	68	0.72	0.034	0.78	--	na	na	na	na	na	na
RBC: Volatilization to Outdoor Air[5]			>S	>S	>S	14,000	>S	43,000	>S	1,500,000	16,000	790	9,000	--	na	na	na	na	na	na
RBC: Volatilization to Indoor Air[6]			1,700	1,700	520	12/650	150,000/160,000	31/420,000	3,300/200,000	3,200/1,600,000	50/83,000	1.5/--	55/--	--	na	na	na	na	na	na
RBC: Groundwater in Excavations[7]			>S	>S	14,000	1,800	220,000	4,500	23,000	63,000	500	27	630	--	na	na	na	na	na	na

Notes:

Results in **BOLD** indicate detections that exceed ODEQ Risk-Based Concentrations (RBCs) for groundwater
(1): wells containing free-product were not sampled
(2): top of casing elevations surveyed on 12/09/20 and 03/22/21.
(3): groundwater elevation corrected for the presence of free-product using the following calculation: casing elevation minus depth to water plus the product thickness times its density (0.765). An average density of 0.765 (based on published literature) is used in the calculation.
(4): RBC for Groundwater - Injestion and Inhalation from Tapwater, occupational receptor scenario (see ODEQ Table of RBCs - revised May 2018 amended June 2023)
(5): RBC for Groundwater - Volatilization to Outdoor Air, occupational receptor scenario (see ODEQ Table of RBCs - revised May 2018 amended June 2023)
(6): RBC for Groundwater - Volatilization to Indoor Air, Commercial scenario; Chronic/Acute screening values (see OQED Vapor Intrusion Risk-Based Concentration Table 1 - June 2023)
(7): RBC for Groundwater in Excavation, Contact to Construction and Excavation Workers
(8): No other VOCs detected in sample
(9): Other VOCs detected in sample; refer to Table 4 for other VOCs detected
(10): Confirmation samples collected from Wells MW-4 and MW-7 on 1/11/2022
(11): Wells EW-1, EW-2, and EW-3 abandoned on March 7 and 8, 2022
(12): Wells EW-1R, EW-2R, and EW-4 installed on September 20 and 21, 2022
--: not analyzed / not measured / unknown
<: less than the laboratory method reporting limit
>S: RBC exceeds the solubility limit
µg/L: micrograms per Liter

Active: groundwater well currently used for monitoring
amsl: above mean sea level
BTEX: benzene, toluene, ethylbenzene, and total xylenes
btoc: below top of casing
DTP: depth to product
DTW: depth to water
DTW Δ : Change in depth to water since last monitoring event
DUP: duplicate sample
E: reported result is an estimate because it exceeds the calibration range
EB-1: equipment blank
EDB: 1,2-dibromoethane
EDC: 1,2-dichlorethane
ft: feet
GW: groundwater
MTBE: Methyl tert-butyl ether
na: not applicable
ND: not detected
PT: free-product thickness
RBC: Risked Based Concentration established bythe Oregon Department of Environmental Quality (ODEQ)
TPH-Dx: total diesel-range petroleum hydrocarbons, analyzed by Northwest Method NWTPH-Dx
TPH-Gx: total gasoline-range petroleum hydrocarbons, analyzed by Northwest Method NWTPH-Gx
TPH-Ox: total oil-range petroleum hydrocarbons, analyzed by Northwest Method NWTPH-Ox

TABLE 4
Additional VOCs detected in Groundwater
United Pacific #5468
Springfiled, Oregon

Boring ID	Well Status	Date Sampled	CM (µg/L)	IPB (µg/L)	NPB (µg/L)	1,3,5-TMB (µg/L)	1,2,4-TMB (µg/L)	SBB (µg/L)	IPT (µg/L)	TBB (µg/L)	NBB (µg/L)	2-methyl (µg/L)	1-methyl (µg/L)
			Method 8260D										
MW-1	Active	03/30/21[1]	--	--	--	--	--	--	--	--	--	--	--
		06/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		09/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		12/22/21	33	<4.0	<1.0	41	36	<1.0	2.3	<1.0	<1.0	--	--
		03/23/22[1]	--	--	--	--	--	--	--	--	--	--	--
		06/28/22[1]	--	--	--	--	--	--	--	--	--	--	--
		10/12/22[1]	--	--	--	--	--	--	--	--	--	--	--
		12/20/22	2.4	<4.0	<1.0	140	83	<1.0	9.7	<1.0	3.6	--	--
		04/06/23	--	--	--	--	--	--	--	--	--	--	--
		06/29/23	<2.0	<4.0	8.8	24	94	<1.0	1.3	<1.0	<1.0	--	--
		09/18/23[1]	--	--	--	--	--	--	--	--	--	--	--
		12/13/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
MW-2	Active	03/30/21[1]	--	--	--	--	--	--	--	--	--	--	--
		06/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		09/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		12/22/21[1]	--	--	--	--	--	--	--	--	--	--	--
		03/23/22[1]	--	--	--	--	--	--	--	--	--	--	--
		6/28/22[1]	--	--	--	--	--	--	--	--	--	--	--
		10/12/22[1]	--	--	--	--	--	--	--	--	--	--	--
		12/20/22	24	31	99	150	**560**	<1.0	<1.0	<1.0	6.8	--	--
		04/06/23	--	--	--	--	--	--	--	--	--	--	--
		06/29/23	<2.0	36	130	230	**880**	7.0	15	<1.0	7.0	--	--
		09/18/23[1]	--	--	--	--	--	--	--	--	--	--	--
		12/13/23	--	--	--	--	--	--	--	--	--	83	49
MW-3	Active	03/30/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/23/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		09/23/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		12/22/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		03/23/22	<2.0	<4.0	<1.0	<1.0	2.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/28/22	<2.0	<4.0	<1.0	5.8	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		10/12/22	<2.0	<4.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	--	--
DUP-1		10/12/22	<2.0	<4.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	--	--
		12/20/22	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		04/06/23	2.2	<4.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/29/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		09/19/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
		12/13/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
MW-4	Active	03/30/21	<2.0	74	190	**430**	**1,700**	<1.0	11	280	6.8	--	--
DUP-1		03/30/21	<2.0	73	220	**460**	**1,800**	<1.0	12	270	6.6	--	--
		06/23/21	24	52	94	**750**	**2,800**	<1.0	15	1.0	6.2	--	--
		09/22/21	18	59	120	250	**1,200**	<1.0	12	1.0	4.6	--	--
DUP-1		09/23/21	15	52	110	**340**	**1,200**	<1.0	11	<1.0	4.1	--	--
		12/22/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		03/23/22	<100	<200	140	**500**	**1,700**	<50	50	250	50	--	--
		06/29/22	18	<4.0	<1.0	**310**	**1,300**	<1.0	<1.0	<1.0	<1.0	--	--
		10/12/22	14	12	10	**430**	**1,300**	2.4	15	86	11	--	--
		12/20/22	20	40	11	**320**	**990**	<10	11	<10	41	--	--
		04/06/23	<20	<40	<10	46	14	<10	<10	<10	<10	--	--
		06/29/23	<2.0	4.2	4.5	27	120	<1.0	2.5	<1.0	<1.0	--	--
		09/18/23	--	--	--	--	--	--	--	--	--	27	40
		12/13/23	--	--	--	--	--	--	--	--	--	21	16
DUP-1		12/13/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
MW-5	Active	03/30/21	<2.0	94	300	**600**	**2,600**	<1.0	19	410	10	--	--
		06/23/21	38	66	310	**860**	**2,900**	<1.0	25	<1.0	13	--	--
		09/23/21	48	57	140	**560**	**1,800**	<1.0	20	<1.0	9	--	--
		12/22/21	<2.0	71	1,700	**590**	**2,100**	<1.0	26	<1.0	<1.0	--	--
		03/23/22	<100	<200	170	**840**	**2,600**	<50	<50	<50	<50	--	--
		06/29/22	87	83	154	**1,200**	**4,100**	<1.0	31	570	107	--	--
		10/12/22[1]	--	--	--	--	--	--	--	--	--	--	--
		12/20/22	20	80	300	**630**	**1,900**	<10	24	<10	14	--	--
		04/06/23[1]	--	--	--	--	--	--	--	--	--	--	--
		06/29/23[1]	--	--	--	--	--	--	--	--	--	--	--
		09/18/23[1]	--	--	--	--	--	--	--	--	--	--	--
		12/13/23[1]	--	--	--	--	--	--	--	--	--	--	--
MW-6	Active	03/30/21[1]	--	--	--	--	--	--	--	--	--	--	--
		06/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		09/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		12/22/21[1]	--	--	--	--	--	--	--	--	--	--	--
		03/23/22[1]	--	--	--	--	--	--	--	--	--	--	--
		06/28/22[1]	--	--	--	--	--	--	--	--	--	--	--
		10/12/22[1]	--	--	--	--	--	--	--	--	--	--	--
		12/20/22[1]	--	--	--	--	--	--	--	--	--	--	--

TABLE 4
Additional VOCs detected in Groundwater
United Pacific #5468
Springfiled, Oregon
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Boring ID	Well Status	Date Sampled	CM (µg/L)	IPB (µg/L)	NPB (µg/L)	1,3,5-TMB (µg/L)	1,2,4-TMB (µg/L)	SBB (µg/L)	IPT (µg/L)	TBB (µg/L)	NBB (µg/L)	2-methyl (µg/L)	1-methyl (µg/L)
			Method 8260D										
MW-6 cont.	Active	04/06/23[1]	--	--	--	--	--	--	--	--	--	--	--
		06/29/23[1]	--	--	--	--	--	--	--	--	--	--	--
		09/18/23[1]	--	--	--	--	--	--	--	--	--	--	--
		12/13/23[1]	--	--	--	--	--	--	--	--	--	--	--
MW-7	Active	03/30/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/23/21	<2.0	<4.0	<1.0	3.7	12	<1.0	<1.0	<1.0	<1.0	--	--
DUP-1		06/23/21	<2.0	<4.0	<1.0	1.1	3.5	<1.0	<1.0	<1.0	<1.0	--	--
		09/23/21	8.4	<4.0	<1.0	1.8	6.9	<1.0	<1.0	<1.0	<1.0	--	--
		12/22/21	18	3.9	8.9	19	71	<1.0	<1.0	<1.0	<1.0	--	--
MW-7 Dup		12/22/21	21	4.7	11	24	89	<1.0	<1.0	<1.0	<1.0	--	--
		03/23/22	4.1	7.9	20	41	130	<1.0	1.8	<1.0	<1.0	--	--
DUP-2		03/23/22	<100	<200	<50	<50	140	<50	<50	<50	<50	--	--
		06/28/22	<2.0	5.2	14	35	162	<1.0	<1.0	23	5.8	--	--
		10/12/22	<2.0	5.7	17	38	150	<1.0	<1.0	24	<1.0	--	--
		12/20/22	<2.0	4.5	13	32	120	<1.0	1.4	<1.0	<1.0	--	--
		04/06/23	--	--	--	--	--	--	--	--	--	--	--
		06/29/23	<2.0	9.5	<1.0	55	**300**	1.6	2.3	<1.0	<1.0	--	--
DUP-1		06/29/23	<2.0	9.6	29	62	**330**	1.6	2.4	<1.0	<1.0	--	--
		09/19/23	--	--	--	--	--	--	--	--	--	15	10
DUP-1		09/19/23	--	--	--	--	--	--	--	--	--	12	7.6
		12/12/23	--	--	--	--	--	--	--	--	--	32	22
MW-8	Active	12/19/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		04/06/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
DUP-1		04/06/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/29/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		09/18/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
		12/12/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
MW-9	Active	12/19/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		04/06/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/29/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		09/18/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
		12/12/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
MW-10	Active	12/20/22	<2.0	<4.0	<1.0	<1.0	3.6	<1.0	<1.0	<1.0	<1.0	--	--
DUP-1		12/20/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		04/06/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/29/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		09/18/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
		12/12/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
MW-11	Active	12/20/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		04/06/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/29/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		09/19/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
		12/13/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
EW-1	Active	03/30/21[1]	--	--	--	--	--	--	--	--	--	--	--
		06/23/21	46	100	490	**930**	**3,900**	<1.0	19	<1.0	9.3	--	--
		09/22/21	13	22	63	130	**520**	<1.0	7.0	<1.0	3.6	--	--
		12/22/21	29	29	91	220	**742**	<10	12	<10	<10	--	--
DUP-1		12/22/21	30	31	97	230	**770**	<10	11	<10	<10	--	--
	Abandoned[6]	03/23/22	--	--	--	--	--	--	--	--	--	--	--
EW-1R[7]	Active	10/12/22[1]	--	--	--	--	--	--	--	--	--	--	--
		12/20/22[1]	--	--	--	--	--	--	--	--	--	--	--
		04/06/23[1]	--	--	--	--	--	--	--	--	--	--	--
		06/29/23	<2.0	11	35	61	**1,000**	2.8	4.4	<1.0	2.8	--	--
		09/19/23[1]	--	--	--	--	--	--	--	--	--	--	--
		12/13/23[1]	--	--	--	--	--	--	--	--	--	--	--
EW-2	Active	03/30/21[1]	--	--	--	--	--	--	--	--	--	--	--
		06/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		09/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		12/22/21[1]	--	--	--	--	--	--	--	--	--	--	--
	Abandoned[6]	03/23/22	--	--	--	--	--	--	--	--	--	--	--
EW-2R[7]	Active	10/12/22[1]	--	--	--	--	--	--	--	--	--	--	--
		12/20/22[1]	--	--	--	--	--	--	--	--	--	--	--
		04/06/23	--	--	--	--	--	--	--	--	--	--	--
		06/29/23	<2.0	16	1.3	36	160	1.2	1.2	<1.0	1.3	--	--
		09/19/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
		12/13/23	--	--	--	--	--	--	--	--	--	220	260
EW-3	Active	03/30/21[1]	--	--	--	--	--	--	--	--	--	--	--
		06/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		09/23/21[1]	--	--	--	--	--	--	--	--	--	--	--
		12/22/21[1]	--	--	--	--	--	--	--	--	--	--	--
	Abandoned[6]	03/23/22	--	--	--	--	--	--	--	--	--	--	--

TABLE 4
Additional VOCs detected in Groundwater
United Pacific #5468
Springfiled, Oregon
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Boring ID	Well Status	Date Sampled	CM (µg/L)	IPB (µg/L)	NPB (µg/L)	1,3,5-TMB (µg/L)	1,2,4-TMB (µg/L)	SBB (µg/L)	IPT (µg/L)	TBB (µg/L)	NBB (µg/L)	2-methyl (µg/L)	1-methyl (µg/L)
			Method 8260D										
EW-4[7]	Active	10/12/22[1]	--	--	--	--	--	--	--	--	--	--	--
		12/20/22[1]	--	--	--	--	--	--	--	--	--	--	--
		04/06/23[1]	--	--	--	--	--	--	--	--	--	--	--
		06/29/23	<2.0	37	110	220	**900**	7.3	10	<1.0	8.1	--	--
		09/19/23	--	--	--	--	--	--	--	--	--	43	25
		12/13/23	--	--	--	--	--	--	--	--	--	170	190
			QA/QC Samples										
EB-1		03/30/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/23/21	<2.0	<4.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	--	--
		09/23/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		12/22/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		03/23/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/28/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		10/12/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		12/19/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		04/06/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/29/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		09/19/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
		12/12/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
EB-2		06/29/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		12/20/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
EB-2 Dup		12/20/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/29/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		09/19/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
		12/13/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
Trip Blank		06/23/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		12/22/21	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		03/23/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		10/12/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		12/20/22	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		04/06/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		06/29/23	<2.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--
		09/19/23	--	--	--	--	--	--	--	--	--	--	--
		12/12/23	--	--	--	--	--	--	--	--	--	<5.0	<5.0
RBC: Injestion/Inhalation from Tapwater[2]			79	2,000	ne	280	250	ne	ne	ne	ne	ne	ne
RBC: Volatilization to Outdoor Air[3]			1,800,000	>S	ne	>S	>S	ne	ne	ne	ne	ne	ne
RBC: Volatilization to Indoor Air[4]			1,500/12,000	9,100/--	22,000/--	1,700/--	2,400/--	ne	ne	NITI	NITI	ne	ne
RBC: Groundwater in Excavations[5]			22,000	51,000	ne	7,500	6,300	ne	ne	ne	ne	ne	ne

Notes:

Results in **BOLD** indicate detections that exceed the ODEQ Risk-Based Concetrations (RBCs) for groundwater
samples analyzed for gasoline-range organics using NWTPH-Gx and BTEX using Method 8260D;
select samples further analyzed for diesel- and oil-range organics using NWTPH-Dx/Ox, for full scan VOCs using Method 8260
(1): sample not collected due to liquid-phase hydrocarbons (LPH; free-product) in well
(2): RBC for Groundwater - Injestion and Inhalation from Tapwater, occupational receptor scenario (see ODEQ Table of RBCs -revised May 2018 amended June 2023)
(3): RBC for Groundwater - Volatilization to Outdoor Air, occupational receptor scenario (see ODEQ Table of RBCs - revised May 2018 amended June 2023)
(4): RBC for Groundwater - Volatilization to Indoor Air, Commercial scenario; Chronic/Acute screening values (see OQED Vapor Intrusion Risk-Based Concentration Table 1 - June 2023)
(5): RBC for Groundwater in Excavation, Contact to Construction and Excavation Workers
(6): Wells EW-1, EW-2, and EW-3 abandoned on March 7 and 8, 2022
(7): Wells EW-1R, EW-2R, and EW-4 installed on September 20 and 21, 2022
1,2,4-TMB: 1,2,4-trimethylbenzene
1,3,5-TMB: 1,3,5-trimethylbenzene
1-methyl: 1-methylnaphthalene
2-methyl: 2-methylnaphthalene
--: not analyzed
<: not detected at or above stated laboratory reporting limit (RL)
>S: groundwater RBC exceeds the solubility limit. Refer to RBC Table Appendix D for value of S. Groundwater concentration in excess of S indicate free product may be present
BB: butylbenzene
CM: chloromethane
DUP: duplicate sample
EB-1: Equipment blank
ft bgs: feet below ground surface
IPB: iso-propylbenzene (cumene)
IPT: p-isopropyltoluene
na: not applicable
NBB: n-butylbenzene
ne: not established on RBC Table
NITI: listed as no inhalation toxicity information
NPB: n-propylbenzene
ODEQ RBCs: State of Oregon Department of Environmental Qulity Risked-Based Concentrations
ppmv: parts per million per volume
SSB: sec-butylbenzene
TBB: tert-butylbenzene
VOCs: volatile organic compounds

Table 5
Summary of Groundwater Flow Direction and Gradient Data
United Pacific #5468
Springfield, Oregon

Date	Groundwater Gradient (ft/ft)	Groundwater Flow Direction														
		North	North-northeast	Northeast	East-northeast	East	East-southeast	Southeast	South-southeast	South	South-southwest	Southwest	West-southwest	West	West-northwest	Northwest	North-northwest
03/30/21	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
06/23/21	0.004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
09/22/21	0.004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
12/22/21	0.002	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	0
03/23/22	0.0014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
06/28/22	0.005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
10/12/22	0.024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
12/20/22	0.004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
04/06/23	0.0077	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
06/29/23	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
09/19/23	0.013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
12/13/23	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0
TOTAL		0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**10**	**1**

Notes:
ft/ft: feet per foot

CHARTS

CHART 1
Groundwater Elevation Trends
United Pacific #5468
Springfield, Oregon

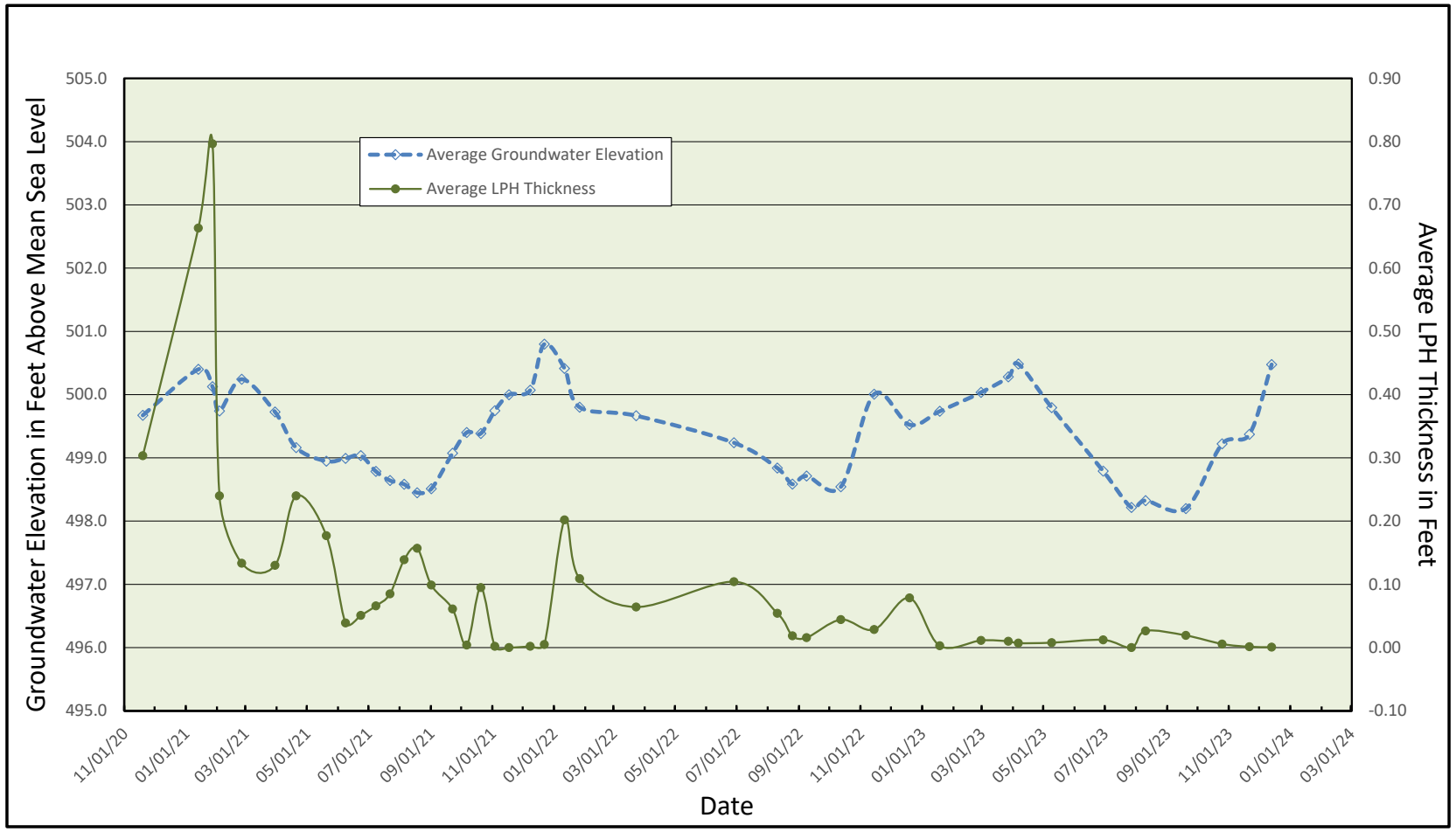


Chart 2
TPH-Gx Concentration Trends
United Pacific #5468
Springfield, Oregon

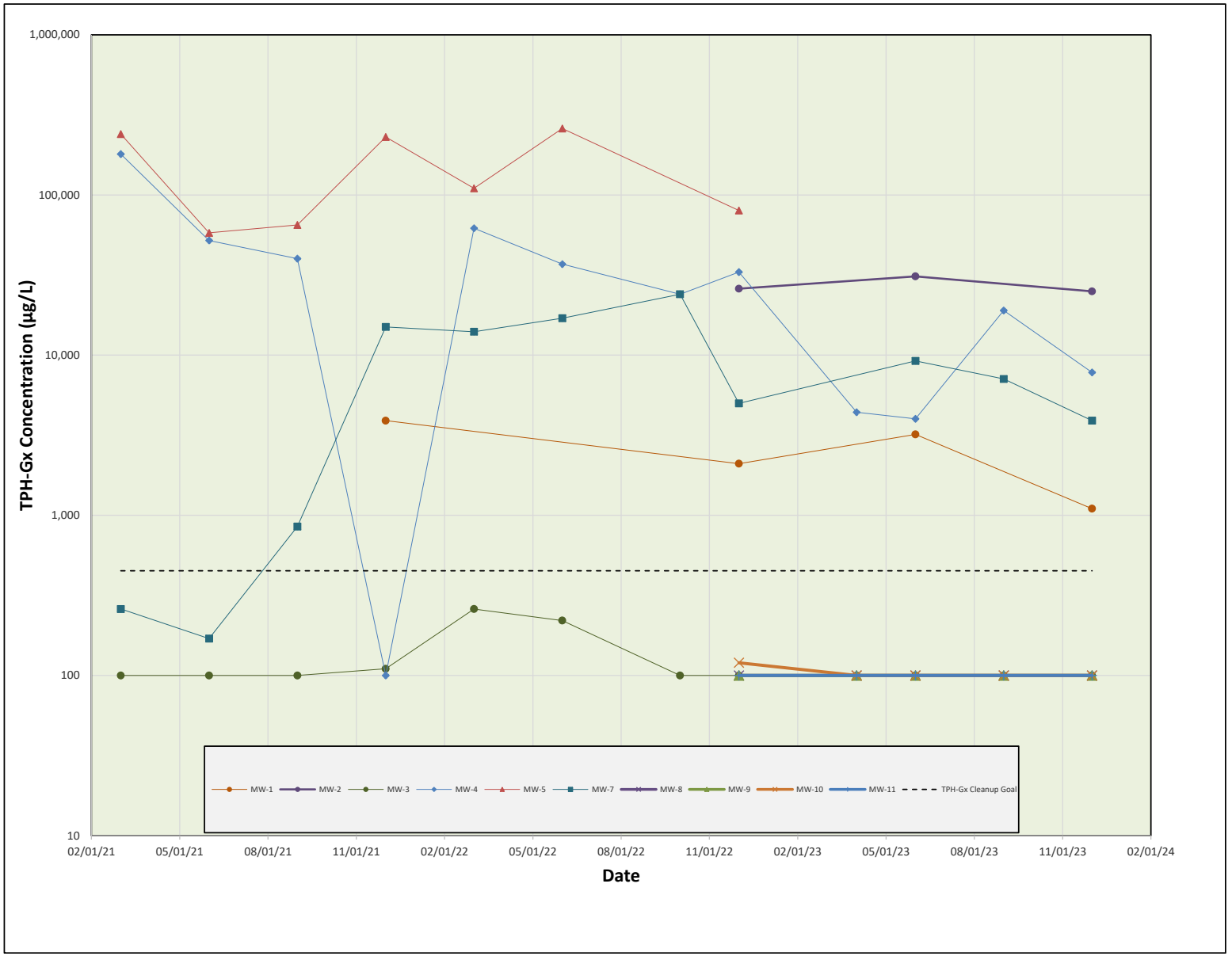
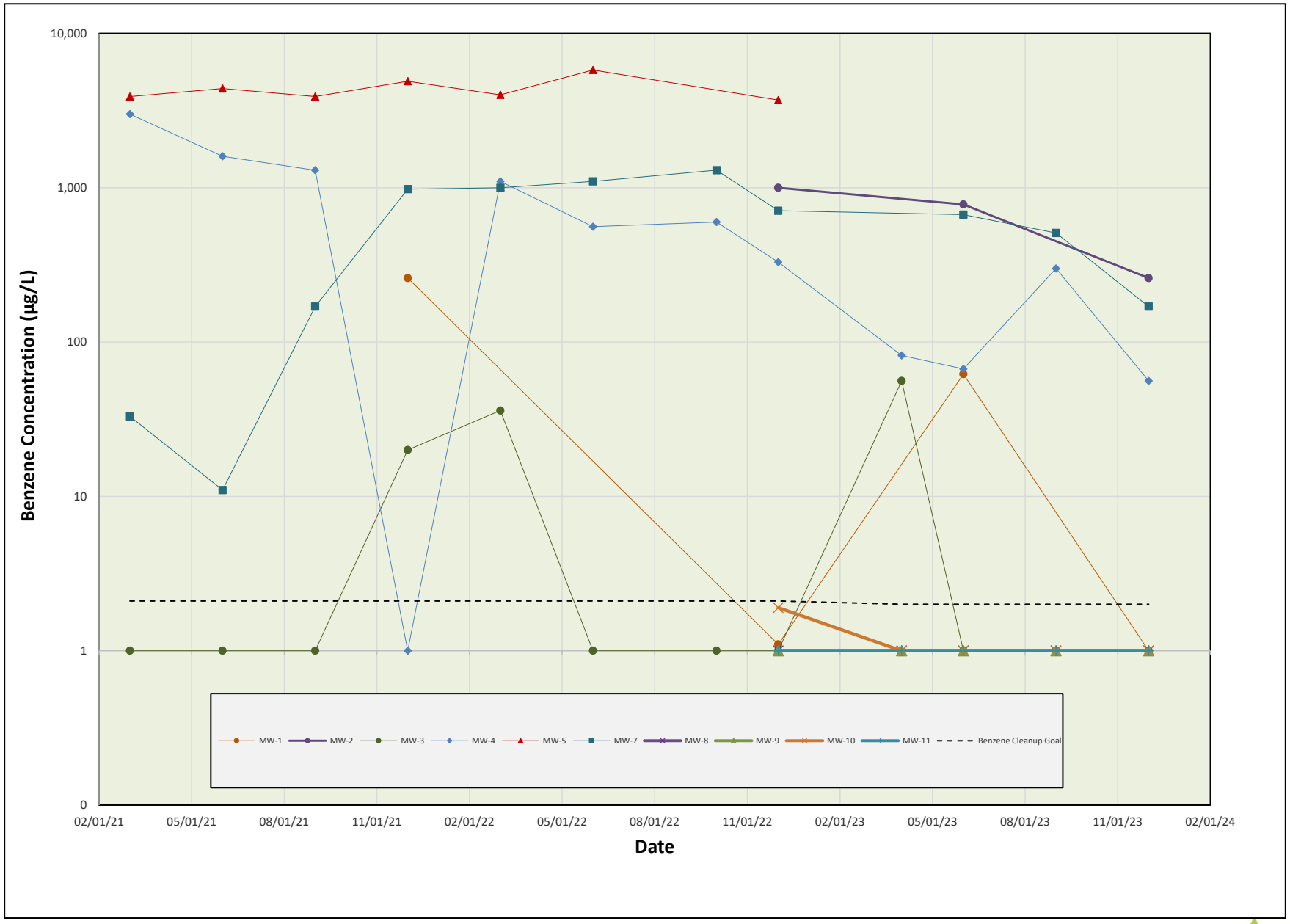


Chart 3
Benzene Concentration Trends
United Pacific #5468
Springfield, Oregon



APPENDIX A

LPH Removal Field Forms

WELL GAUGING DATA FORM

Site Name: United Pacific
Project No: 5468
↳ 796340

Location: Springfield, OR
Date: 25/Oct/23
Technician: Matt Engel

Well ID	Time	Well Dia (inch)	Sheen / Odor	Depth to Product (feet)	Thickness of Product (feet)	Depth to Water (feet)	Total Well Depth (feet below TOC)	Survey Point (TOC)	Dissolved Oxygen (mg/L)
MW-10	0916	4"	N/A	—	—	12.03	17.89	✓	—
MW-8	0930	4"	N/A	—	—	11.43	17.96	✓	—
MW-9	0937	4"	N/A	—	—	10.59	17.36	✓	—
MW-11	0945	2"	N/A	—	—	11.79	19.81	✓	—
MW-2	1000	4"	N/A	—	—	12.07	25.03	✓	—
MW-3	1007	4"	N/A	—	—	11.70	26.21	✓	—
MW-4	1024	4"	N/A	—	—	10.29	23.86	✓	—
MW-7	1031	4"	N/A	—	—	12.45	24.97	✓	—
MW-1	1046	4"	~~N/A~~ ME Odor	—	—	13.10	24.38	✓	—
EW-4	1125	4"	N/A	—	—	12.19	22.87	✓	—
EW-2R	1136	4"	N/A	—	—	11.60	22.74	✓	—
EW-1R	1150	4"	Both	11.38	0.07	11.45	14.08	✓	—
MW-6	1230	4"	Both	N/A	N/A	14.38	23.96	✓	—
MW-5	1250	4"	Both	9.93	0.01	9.94	22.58	✓	—

Notes: Wells EW-1R, MW-6, and MW-5 had skimmers in place. Those wells as well as wells MW-1 and well EW-2R were bailed to check for loose petroleum product.

N - No
Y - Yes
NA - not applicable
NM - not measured
TOC - top of casing
mg/L: milligrams per Liter

LPH Removal Field Sheet

Project No.: PROJ-006811	United Pacific #5468
Sampler: Matt Engel	Gauging Date: 25/Oct/23
Well ID: MW-1	Well Diameter (in): 4"
Total Well Depth (ft): 24.38	Depth to Water (ft): 13.10'
Depth to Free Product:	Thickness of Free Product (ft): N/A
to: N/A	Equipment: Solinist

Purge Method: Disposable bailer	
Sampling Method: —	Other: —

Purge Start Time: 1050 Flow Rate: — Pump Depth (ft): —

Time	DTP (feet btoc)	DTW	Water Removed	LPH Removed	
1050	N/A	13.10	0.10 gal	0.00	~5 bails carried out, no product found

Did well dewater?: No	Amount of H20 actually evacuated: 0.10 gal
Sampling Time: —	Sampling Date: —
Sample ID: —	Laboratory: —
Analyzed for: —	
Equipment Blank ID: —	Duplicate ID: —
Other Information:	

LPH Removal Field Sheet

Project No.: PROJ-006811	United Pacific #5468
Sampler: Matt Engel	Gauging Date: 25/Oct/23
Well ID: EW-2R	Well Diameter (in): 4"
Total Well Depth (ft): 22.74'	Depth to Water (ft): 11.60'
Depth to Free Product:	Thickness of Free Product (ft): N/A
to: N/A	Equipment: Solinist

Purge Method: Disposable bailer	
Sampling Method: —	Other: —

Purge Start Time: 1140 Flow Rate: — Pump Depth (ft): —

Time	DTP (feet btoc)	DTW	Water Removed	LPH Removed	
1140	—	11.60'	0.10 gal	0.00	~5 bails carried out, no product found

Did well dewater? : No	Amount of H20 actually evacuated: 0.10 gal
Sampling Time: —	Sampling Date: —
Sample ID: —	Laboratory: —
Analyzed for: —	
Equipment Blank ID: —	Duplicate ID: —
Other Information:	

LPH Removal Field Sheet

Project No.: PROJ-006811	United Pacific #5468
Sampler: Matt Engel	Gauging Date: 25/Oct/23
Well ID: EW-1R	Well Diameter (in): 4"
Total Well Depth (ft): 14.08'	Depth to Water (ft): 11.45'
Depth to Free Product: 11.38'	Thickness of Free Product (ft): 0.07'
to: 11.45'	Equipment: Solinst

Purge Method: In-well skimmer, disposable bailer.	
Sampling Method: —	Other: —

Purge Start Time: 1200 Flow Rate: — Pump Depth (ft): —

Time	DTP (feet btoc)	DTW	Water Removed	LPH Removed	
1200	11.38'	11.45'	3 gal	0.10 gal	In-well skimmer failed to remove product or water, skimmer was too tall for well. Well was bailed until no product was visible.

Did well dewater?: No	Amount of H2O actually evacuated: 3.0 gal
Sampling Time: —	Sampling Date: —
Sample ID: —	Laboratory: —
Analyzed for: —	
Equipment Blank ID: —	Duplicate ID: —
Other Information:	

LPH Removal Field Sheet

Project No.: PROJ-006811	United Pacific #5468
Sampler: Matt Engel	Gauging Date: 25/Oct/23
Well ID: MW-6	Well Diameter (in): 4"
Total Well Depth (ft): 23.96	Depth to Water (ft): 11.38'
Depth to Free Product: N/A	Thickness of Free Product (ft): N/A
to:	Equipment: Solinist

Purge Method: Skimmer, disposable bailer	
Sampling Method: —	Other: —

Purge Start Time: 1235 Flow Rate: — Pump Depth (ft): —

Time	DTP (feet btoc)	DTW	Water Removed	LPH Removed	
1235	N/A	11.38	0.5 gal	0.01	Skimmer removed most of this liquid from the well, then a disposable bailer was used to confirm well had no remaining product.

Did well dewater? : No	Amount of H20 actually evacuated: 0.5 gal
Sampling Time: —	Sampling Date: —
Sample ID: —	Laboratory: —
Analyzed for: —	
Equipment Blank ID: —	Duplicate ID: —
Other Information:	

LPH Removal Field Sheet

Project No.: PROJ-006811	United Pacific #5468
Sampler: Matt Engel	Gauging Date: 25/Oct/23
Well ID: MW-5	Well Diameter (in): 4"
Total Well Depth (ft): 22.58'	Depth to Water (ft): 9.94'
Depth to Free Product: 9.93'	Thickness of Free Product (ft): 0.01'
to: 9.94'	Equipment: Solinst

Purge Method: skimmer, disposable bailer	
Sampling Method: —	Other: —

Purge Start Time: 1256 Flow Rate: — Pump Depth (ft): —

Time	DTP (feet btoc)	DTW	Water Removed	LPH Removed	
1256	9.93	9.94	~~1.74~~ 1.65	~~0.ME~~ 0.10	Most liquid volume was removed by the skimmer in the well, confirmed by disposable bailer.

Did well dewater? : No	Amount of H20 actually evacuated: 1.65 gal
Sampling Time: —	Sampling Date: —
Sample ID: —	Laboratory: —
Analyzed for: —	
Equipment Blank ID: —	Duplicate ID: —
Other Information:	

WELLHEAD INSPECTION FORM

PN: 796340 Date: 25/Oct/23 Page: 1 of 1

Site: Springfield Client: United Pacific

Technician: Matt Engel

Well ID	Well inspected - No corrective action required	Cap non-functional	Lock non-functional	Bolts missing (list quantity)	Tabs stripped (list quantity)	Tabs broken (list quantity)	Annular seal incomplete	Apron damaged	Rim/lid broken	Trip hazard	Below grade	Other (explain in notes)	Well not inspected (explain in notes)	NOTES - please note if cap or lock is replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe is damaged, or any other details not covered by checklist
MW-10	✓	-	-	-	-	-	-	-	-	-	-	-	-	All wells on
MW-8	✓	-	-	-	-	-	-	-	-	-	-	-	-	site use 15mm
MW-9	✓	-	-	-	-	-	-	-	-	-	-	-	-	socket size
MW-11	X	-	-	1	-	1	X	-	-	-	-	-	-	Flooded apron
MW-2	X	-	-	-	-	-	X	-	-	-	-	-	-	Not issue, but bottom of well feels soft on tagline
MW-3	X	-	-	-	-	-	X	-	-	-	-	-	-	Flooded apron
MW-4	✓	-	-	-	-	-	-	-	-	-	-	-	-	
MW-7	✓	-	-	-	-	-	-	-	-	-	-	-	-	
MW-1	X	-	-	2	2	-	-	-	-	-	-	-	-	Also soft bottom.
EW-4	✓	-	-	-	-	-	-	-	-	-	-	-	-	
EW-2R	X	-	-	-	-	-	X	-	-	-	-	-	-	Apron flooded
EW-1R	X	-	-	-	-	-	-	-	-	-	-	X	-	Bailer is 4'1" tall, above water line
MW-6	✓	-	-	-	-	-	-	-	-	-	-	-	-	
MW-5	✓	-	-	-	-	-	-	-	-	-	-	-	-	Bailer had notable organic growth on it, like algae almost.

WELL GAUGING AND FREE PRODUCT BAILING FORM

Site Name: Springfield
Project Number: 5467
Location: Springfield, OR
Date: 21/Nov/23
Technician: Matt Engel

Well ID	Time Sounded	Depth to Top of Product	Depth to Bottom of Product/Top of Water	Total Well Depth (Below TOC)	Well Head Notes	Product Removed (Gallons)	H2O Removed (Gallons)	H2O in Tank (Gallons)
MW-1	0959	—	13.01	24.29	odor 4"	0.0	0.2	0.2
MW-2	0933	—	11.85	24.07	4"	—	—	—
MW-3	0943	—	11.49	25.49	4"	—	—	—
MW-4	0951	—	10.24	24.82	4"	—	—	—
MW-5	ME 1117	—	11.13	23.97	4" odor, bailer	0.65	0.10	0.75
MW-6	1132	—	9.82	22.61	4" odor, bailer			
~~MW-7~~ MW-10 ME	0857	—	11.91	18.02	4"	—	—	—
MW-8	0830	—	11.39	17.98	4"	—	—	—
MW-9	0839	—	10.44	17.32	4"	—	—	—
~~MW-10~~ MW-7 ME	0849	—	12.29	25.04	4"	—	—	—
MW-11	0920	—	11.67	19.94	2"	—	—	—
EW-1R	1049	11.23	11.25	14.06	4" odor, bailer	0.05	1.05	1.10
EW-2R	1036	—	11.37	22.76	4" no odor	0.0	0.2	0.2
EW-4	1010	—	12.01	22.94	4"	—	—	—

DRUM LOG

Site Name/No.: Springfield, OR Project No.: 5466

Site Address.: 5720 Main St.

STATUS OF DRUM(S) UPON ARRIVAL					
Date:	21/Nov/23				
Number of Drums empty:	1				
Number of drums 1/4 full:	1				
Number of drums 1/2 full:	0				
Number of drums 3/4 full:	1				
Total drums onsite:	3				
Are the drums property labeled?	All yes				
Drum ID and contents:	Lph, purge water				
If any drums are partially or totally filled, what is the first used date?	Unknown				

-If free product is added to a drum, the drum must contain at least 20 gallons of water.

-If drum contains free-product, it MUST be steel and appropriately labeled (haz-waste sticker)

STATUS OF DRUM(S) UPON DEPARTURE					
Date:	21/Nov/23				
Number of Drums empty:	1				
Number of drums 1/4 full:	1				
Number of drums 1/2 full:	0				
Number of drums 3/4 full:	1				
Total drums onsite:	3				
Are the drums property labeled?	Yes				
Drum ID and contents:	LPH, purge water				
If any drums are partially or totally filled, what is the first used date?	Unknown				

LOCATION OF DRUMS
Behind gas station, in fenced area with dumpsters.

FINAL STATUS					
Number of new drum(s) left onsite this event:	1				
Date of inspection:	21/Nov/23				
Drums labeled properly?:	Yes				
Technician's initals:	ME				

APPENDIX B

Site Background Information

SITE BACKGROUND
United Pacific #5468
5720 Main Street
Springfield Oregon

Site Assessment and Remediation History

The Site is an active retail fueling station located on the north side of Main Street, approximately 500 feet east of the intersection of Main Street and Bob Straub Parkway. The Site is located at the southern end of a large parking lot for multiple retail stores and restaurants. The property is improved with a convenience store and canopy covering four dispenser islands, each with one fuel dispenser. Gasoline and diesel fuel are both dispensed at the Site.

Three USTs are located on the Site; two contain unleaded gasoline and one contains diesel fuel. The capacities of the USTs are 12,000 gallons each. Note that the UST containing premium grade gasoline, suspected of leaking, was emptied and is not in use; UP plans to replace the entire fuel distribution system at the Site. The regular grade gasoline and diesel USTs are currently active.

A petroleum release at the Site was reported to DEQ in 1989. Various groundwater monitoring wells and remediation wells were installed and a remediation system was operated at the Site. A second fuel release was reported in 1997 and the remediation system operated until 2000. Numerous site assessments and groundwater monitoring events were conducted throughout the years and eventually, in 2012, the Site was granted NFA status by DEQ and the environmental issues at the Site were considered resolved.

On September 21, 2020, UP notified the DEQ of a failure of the UST containing premium gasoline at the Site and that the tank had been emptied and taken offline. On September 22, 2020, UP contacted Montrose to relay concerns regarding one of the USTs at the Site; the continuous statistical leak detection (CSLD) system had indicated a failure of the UST containing premium gasoline. On September 23, 2020, a *UST Petroleum Release Form* was submitted to the DEQ to further document the release. On September 24, 2020, Montrose performed a visit to inspect the Site and review recent fuel inventory records (kept in the convenience store office). Based on conversations with the station manager and a review of fuel inventory documents, problems with the fuel inventory were first observed on or around August 13, 2020. On September 15, 2020, the station stopped dispensing premium gasoline and over the next several days, physical measurements of the fuel level in the premium UST indicated that gasoline was exiting the system.

On September 19, 2020, approximately 3,914 gallons of gasoline was removed from the premium UST and on September 23, 2020, the fuel level was pumped down to the lowest achievable level and the fuel was transported offsite for disposal.

On October 13, 2020, Montrose prepared and submitted an Initial (Twenty Day) Report Form for UST Cleanup Projects to the DEQ and DEQ assigned the following leaking underground storage tank (LUST) number to the Site: 20-20-0844. Note, the Site had previously been identified by the following underground storage tank (UST) number: 791.

In November 2020, Montrose performed an initial site assessment which included advancing six soil borings (SB-1 through SB-6) using direct-push drilling techniques and the installation of three LPH extraction wells (EW-1 through EW-3) using roto-sonic drilling techniques. Visible LPH was observed during the advancement of Borings SB-2 through SB-5 and therefore, soil samples were only collected from Borings SB-1 and SB-6. Wells EW-1 through EW-3 were installed in an effort to access and recover the LPH observed during the initial direct-push drilling. Complete details of the work were reported in the *Initial Site Assessment and Interim Remedial Action Report,* dated December 15, 2021. Three soil samples collected contained COCs at concentrations exceeding the DEQ's RBCs for the leaching to groundwater scenario.

During January and February 2021, Montrose performed four separate LPH removal events, during which LPH and impacted groundwater were removed from Wells EW-1 through EW-3. LPH was recovered using various techniques including manual bailing and the use of a vacuum truck. On February 25, 2021, passive down-hole product skimmers were installed in Wells EW-2 and EW-3 to enhance recovery of LPH.

In February and March 2021, Montrose conducted additional site assessment work at the Site which included a vapor intrusion (VI) assessment, utility corridor assessment, and well installation activities. The VI assessment consisted of the collection of two sub-slab soil gas samples (SVP-1 and SVP-2), one indoor ambient air sample, and one outdoor ambient air sample. Additionally, seven groundwater monitoring wells (MW-1 through MW-7) were installed at the Site. Results of the VI assessment indicated that vapors from the liquid phase and dissolved phase hydrocarbon plumes beneath the Site did not currently pose a threat to either indoor or outdoor air. Soil samples collected from five of the seven wells contained COCs at concentrations exceeding DEQ's RBCs for the leaching to groundwater scenario. Following well installation, quarterly groundwater monitoring was initiated at the Site. Initial groundwater monitoring results indicated the presence of LPH or elevated COC concentrations in a majority of the wells. Complete details were reported in the *Additional Site Assessment, Well Installation, Vapor Intrusion, and Groundwater Monitoring Report*, dated June 7, 2021.

In September 2021, additional sub-slab soil vapor and indoor air and ambient air sampling was conducted. The results were reported in the *Third Quarter 2021 Air Monitoring Report*, dated November 16, 2021. Quarterly groundwater monitoring, continued VI assessment and LPH removal efforts are ongoing.

Montrose submitted the *Workplan for Additional Soil and Groundwater Investigation*, dated October 12, 2021, which proposed the installation of up to five additional groundwater monitoring wells, one soil vapor probe, continued vapor intrusion assessment, the collection of additional vapor and ambient air samples, and the completion of a preliminary site conceptual model. The DEQ concurred with the Workplan in their letter dated December 6, 2021.

In December 2021, additional sub-slab soil vapor and indoor air and ambient air sampling was conducted with the results presented in the *Fourth Quarter 2021 Air Monitoring Report,* dated March 10, 2022. The preliminary site conceptual model was completed by Montrose on February 1, 2022, and was sent to the DEQ and UP.

In February 2022, extraction wells EW-1, EW-2 and EW-3, located adjacent to the UST cavity, were decommissioned in advance of planned replacement of the fuel distribution system at the site. The field activities were summarized in the *Well Decommissioning Report*, dated April 25, 2022.

Beginning in March 2022, the fuel distribution system at the Site was replaced by Anderson Environmental Contracting of Kelso, Washington. Following removal of the old USTs, approximately 660 tons of petroleum contaminated soil (PCS) was over-excavated from the UST pit and exported to Coffin Butte Landfill, in Corvallis, Oregon. In addition to soil removal, approximately 47,000 gallons of UST pit water was pumped and disposed of to facilitate the installation of the two new USTs; one 20,000-gallon tank containing diesel and one 20,000-gallon dual-compartment UST containing 12,000-gallons of unleaded gasoline and 8,000-gallons of premium gasoline. Montrose conducted the decommissioning soil sampling as required by Oregon state law. Several soil samples collected from beneath former product lines contained COCs at concentrations exceeding applicable CULs. Montrose directed the over-excavation of soil from those areas and collected confirmation soil samples to show that all PCS was removed. Installation of the new fuel distribution system and rehabilitation of the Site was complete by June 30, 2022.

In September 2022, Montrose conducted drilling activities at the Site which included the installation of three replacement wells identified as EW-1R, EW-2R, and EW-4. The three wells serve as replacements for Wells EW-1, EW-2, and EW-3 that were formally decommissioned in February 2022, prior to the replacement of the fuel distribution system.

In November 2022, Montrose conducted additional assessment activities at the Site which included the installation of four groundwater monitoring wells at locations which served to further delineate hydrocarbon impacts beneath the site and neighboring properties. The wells were identified as MW-8 through MW-11. A fifth well was planned but was ultimately not installed due to time constraints for the project. Soil samples were collected from each of the borings and analyzed for fuel constituents. COCs were not detected at concentrations exceeding applicable CULs. Complete results were presented in the *Additional Site Assessment and Fourth Quarter 2022 Groundwater Monitoring Report*, dated March 2, 2023.

In March 2023, a limited step pumping test was performed in order to determine certain aquifer parameters and to acquire field data needed to assist in the design of a long-term remedial plan for the Site. Results of the test were presented in the *Aquifer Pumping Test Report*, dated May 31, 2023. The pumping test was performed in general accordance with *Workplan for Remedial Pilot Testing*, dated December 5, 2022.

Quarterly groundwater monitoring and periodic LPH removal efforts are ongoing at the Site while remedial strategies are being evaluated.

APPENDIX C

Laboratory Analytical Report

Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957
Phone (360) 352-2110 • libbyenv@gmail.com

January 22, 2024

Laura Skow
Montrose Environmental Group, Inc.
4150 B Place NW, Suite 106
Auburn, WA 98001

RE: Springfield
Work Order Number: L23L073

Enclosed are the results of analyses for samples received by our laboratory on 12/14/2023.

Applicable detection limits and QA/QC data are included. The sample(s) will be disposed of within 30 days unless we are contacted to arrange long term storage.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please feel free to contact us. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry Chilcutt
Senior Chemist

Libby Environmental, Inc.

Chain of Custody Record

www.LibbyEnvironmental.com

3322 South Bay Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Client: Montrose Environmental
Address: 1631 Saint Andrews Place
City: Santa Ana State: CA Zip: 92705
Phone: 714-743-7855 Fax: —
Client Project # PO-057128

Date: 14/Dec/23 Page: 1 of 7
Project Manager: Laura Skow
Project Name: Springfield
Location: 5720 Main Street City, State: Springfield, OR
Collector: Matt Engel Date of Collection: 12-13/Dec/23
Email: lskow@montrose-env.com

	Sample Number	Date ~~Depth~~	Time	Sample Type	Container Type	VOC 8260 (MTCA)	NWTPH-Gx	BTEX 8021	NWTPH-HCID	NWTPH-Dx	NWTPH-Dx/Dx	c PAH 8270	PAH 8270	Semi Vol 8270	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	Lead	Field Notes
1	MW-1	13/Dec	1357	GW	VOAs, Poly		/											/	
2	MW-2	13/Dec	1114	GW			/											/	
3	MW-3	13/Dec	1147	GW			/											/	
4	MW-4	13/Dec	0945	GW			/											/	
5	MW-7	12/Dec	1916	GW			/											/	
6	MW-8	12/Dec	1710	GW			/											/	
7	MW-9	12/Dec	1755	GW			/											/	
8	MW-10	12/Dec	1835	GW			/											/	
9	MW-11	13/Dec	1037	GW			/											/	
10	EW-2R	13/Dec	1510	GW			/											/	
11	~~EW-4R~~ EW-4	13/Dec	1430	GW			/											/	1-22-24 Sample name change. Per Laura
12	EB-1	12/Dec	1620	GW			/											/	
13	EB-2	13/Dec	1525	GW			/											/	
14	TB-1	—	—	GW			/											/	
15	Dup-1	—	—	GW	↓		/											/	
16																			
17																			

Relinquished by:	Date / Time	Received by:	Date / Time
Matt Engel	14/Dec/23 1441	[signature]	12-14-23 1441
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt

Good Condition?	Y	N
Cooler Temp.		°C
Sample Temp.		°C
Total Number of Containers		

Remarks:

TAT: 24HR 48HR (5-DAY)

Distribution: White - Lab, Yellow - File, Pink - ~~Originator~~

Libby Environmental, Inc.

Montrose Environmental Group, Inc.
4150 B Place NW, Suite 106
Auburn, WA 98001

Project: Springfield

Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Notes and Definitions

Item	Definition
S	Spike recovery indicates a possible matrix effect.
RL	Reporting Limit
ND	Analyte NOT DETECTED at or above the reporting limit
DET	Analyte DETECTED at or above the reporting limit
Qual	Qualifier
	All results reported on an "as received" basis unless indicated by "Dry"
RPD	Relative Percent Difference
%REC	Percent Recovery
Parent	Sample that was matrix spiked or duplicated

Work Order Sample Summary

Lab ID	Sample	Matrix	Date Sampled	Date Received
L23L073-01	MW-1	Water	12/13/2023	12/14/2023
L23L073-02	MW-2	Water	12/13/2023	12/14/2023
L23L073-03	MW-3	Water	12/13/2023	12/14/2023
L23L073-04	MW-4	Water	12/13/2023	12/14/2023
L23L073-05	MW-7	Water	12/12/2023	12/14/2023
L23L073-06	MW-8	Water	12/12/2023	12/14/2023
L23L073-07	MW-9	Water	12/12/2023	12/14/2023
L23L073-08	MW-10	Water	12/12/2023	12/14/2023
L23L073-09	MW-11	Water	12/13/2023	12/14/2023
L23L073-10	EW-2R	Water	12/13/2023	12/14/2023
L23L073-11	EW-4	Water	12/13/2023	12/14/2023
L23L073-12	EB-1	Water	12/12/2023	12/14/2023
L23L073-13	EB-2	Water	12/13/2023	12/14/2023
L23L073-14	TB-1	Water	12/13/2023	12/14/2023
L23L073-15	Dup-1	Water	12/13/2023	12/14/2023

Libby Environmental, Inc.

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Auburn, WA 98001

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Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Libby Environmental Sample Detection Summary

Analyte	Result	Qual	Units	RL	Method
Sample: **MW-1**			Lab#: L23L073-01		
Gasoline	1100		ug/L	100	NWTPH-Gx
Ethylbenzene	1.4		ug/L	1.0	8260D
Total Xylenes	11		ug/L	2.0	8260D
Sample: **MW-2**			Lab#: L23L073-02		
Gasoline	25000		ug/L	5000	NWTPH-Gx
Benzene	260		ug/L	50	8260D
Toluene	2200		ug/L	100	8260D
Ethylbenzene	620		ug/L	50	8260D
Total Xylenes	4700		ug/L	100	8260D
Naphthalene	120		ug/L	120	8260D
2-Methylnaphthalene	83		ug/L	50	8260D
1-Methylnaphthalene	49		ug/L	5.0	8260D
Sample: **MW-4**			Lab#: L23L073-04		
Gasoline	7800		ug/L	5000	NWTPH-Gx
Benzene	56		ug/L	1.0	8260D
Toluene	420		ug/L	100	8260D
Ethylbenzene	290		ug/L	50	8260D
Total Xylenes	1500		ug/L	100	8260D
Naphthalene	92		ug/L	50	8260D
2-Methylnaphthalene	21		ug/L	5.0	8260D
1-Methylnaphthalene	16		ug/L	5.0	8260D
Sample: **MW-7**			Lab#: L23L073-05		
Gasoline	3900		ug/L	2500	NWTPH-Gx
Benzene	170		ug/L	25	8260D
Toluene	43		ug/L	2.0	8260D
Ethylbenzene	130		ug/L	25	8260D
Total Xylenes	630		ug/L	50	8260D
Naphthalene	110		ug/L	50	8260D
2-Methylnaphthalene	32		ug/L	5.0	8260D
1-Methylnaphthalene	22		ug/L	5.0	8260D

Montrose Environmental Group, Inc.
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Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Libby Environmental Sample Detection Summary (Continued)

Analyte	Result	Qual	Units	RL	Method
Sample: **EW-2R**			Lab#: L23L073-10		
Gasoline	200000		ug/L	10000	NWTPH-Gx
Benzene	2100		ug/L	100	8260D
Toluene	35000		ug/L	2000	8260D
Ethylbenzene	3900		ug/L	100	8260D
Total Xylenes	17000		ug/L	2000	8260D
Naphthalene	610		ug/L	500	8260D
2-Methylnaphthalene	220		ug/L	200	8260D
1-Methylnaphthalene	260		ug/L	200	8260D
Sample: **EW-4**			Lab#: L23L073-11		
Gasoline	98000		ug/L	10000	NWTPH-Gx
Benzene	7000		ug/L	100	8260D
Toluene	17000		ug/L	200	8260D
Ethylbenzene	2700		ug/L	100	8260D
Total Xylenes	7100		ug/L	1000	8260D
Naphthalene	590		ug/L	500	8260D
2-Methylnaphthalene	170		ug/L	100	8260D
1-Methylnaphthalene	190		ug/L	100	8260D
Sample: **EB-2**			Lab#: L23L073-13		
Gasoline	770		ug/L	100	NWTPH-Gx
Benzene	3.8		ug/L	1.0	8260D
Toluene	140		ug/L	2.0	8260D
Ethylbenzene	20		ug/L	1.0	8260D
Total Xylenes	160		ug/L	2.0	8260D
Sample: **Dup-1**			Lab#: L23L073-15		
Gasoline	6800		ug/L	500	NWTPH-Gx
Benzene	53		ug/L	1.0	8260D
Toluene	500		ug/L	10	8260D
Ethylbenzene	170		ug/L	1.0	8260D
Total Xylenes	1400		ug/L	10	8260D
Naphthalene	19		ug/L	5.0	8260D

Note: If no entry is made, then no target compounds were detected.

Libby Environmental, Inc.

Montrose Environmental Group, Inc.
4150 B Place NW, Suite 106
Auburn, WA 98001

Project: Springfield

Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Sample Results

Client Sample ID: MW-1

Lab ID: L23L073-01 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/15/2023	AA
Benzene	ND		1.0	ug/L	12/15/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/15/2023	AA
Toluene	ND		2.0	ug/L	12/15/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/15/2023	AA
Ethylbenzene	1.4		1.0	ug/L	12/15/2023	AA
Total Xylenes	11		2.0	ug/L	12/15/2023	AA
Naphthalene	ND		5.0	ug/L	12/15/2023	AA
2-Methylnaphthalene	ND		5.0	ug/L	12/15/2023	AA
1-Methylnaphthalene	ND		5.0	ug/L	12/15/2023	AA
Surrogate: Dibromofluoromethane	*97.0%*		*22.9-220*		*12/15/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*105%*		*32.2-196*		*12/15/2023*	*AA*
Surrogate: Toluene-d8	*103%*		*47.3-146*		*12/15/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*97.4%*		*38.4-136*		*12/15/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	1100		100	ug/L	12/15/2023	AA
Surrogate: Toluene-d8	*103%*		*47.3-146*		*12/15/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

Montrose Environmental Group, Inc.
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Auburn, WA 98001

Project: Springfield

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Work Order: L23L073
Reported: 01/22/2024 17:03

Sample Results (Continued)

Client Sample ID: MW-2

Lab ID: L23L073-02 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/15/2023	AA
Benzene	260		50	ug/L	12/15/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/15/2023	AA
Toluene	2200		100	ug/L	12/15/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/15/2023	AA
Ethylbenzene	620		50	ug/L	12/15/2023	AA
Total Xylenes	4700		100	ug/L	12/15/2023	AA
Naphthalene	120		120	ug/L	12/18/2023	AA
2-Methylnaphthalene	83		50	ug/L	12/15/2023	AA
1-Methylnaphthalene	49		5.0	ug/L	12/15/2023	AA
Surrogate: Dibromofluoromethane	*88.8%*		*22.9-220*		*12/15/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*100%*		*32.2-196*		*12/15/2023*	*AA*
Surrogate: Toluene-d8	*110%*		*47.3-146*		*12/15/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*115%*		*38.4-136*		*12/15/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	25000		5000	ug/L	12/15/2023	AA
Surrogate: Toluene-d8	*103%*		*47.3-146*		*12/15/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

Montrose Environmental Group, Inc.
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Project: Springfield

Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Sample Results (Continued)

Client Sample ID: MW-3

Lab ID: L23L073-03 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/15/2023	AA
Benzene	ND		1.0	ug/L	12/15/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/15/2023	AA
Toluene	ND		2.0	ug/L	12/15/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/15/2023	AA
Ethylbenzene	ND		1.0	ug/L	12/15/2023	AA
Total Xylenes	ND		2.0	ug/L	12/15/2023	AA
Naphthalene	ND		5.0	ug/L	12/15/2023	AA
2-Methylnaphthalene	ND		5.0	ug/L	12/15/2023	AA
1-Methylnaphthalene	ND		5.0	ug/L	12/15/2023	AA
Surrogate: Dibromofluoromethane	*93.6%*		*22.9-220*		*12/15/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*99.6%*		*32.2-196*		*12/15/2023*	*AA*
Surrogate: Toluene-d8	*94.8%*		*47.3-146*		*12/15/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*90.4%*		*38.4-136*		*12/15/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	ND		100	ug/L	12/15/2023	AA
Surrogate: Toluene-d8	*94.8%*		*47.3-146*		*12/15/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

Montrose Environmental Group, Inc.
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Auburn, WA 98001

Project: Springfield

Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Sample Results (Continued)

Client Sample ID: MW-4

Lab ID: L23L073-04 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/15/2023	AA
Benzene	56		1.0	ug/L	12/15/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/15/2023	AA
Toluene	420		100	ug/L	12/15/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/15/2023	AA
Ethylbenzene	290		50	ug/L	12/15/2023	AA
Total Xylenes	1500		100	ug/L	12/15/2023	AA
Naphthalene	92		50	ug/L	12/18/2023	AA
2-Methylnaphthalene	21		5.0	ug/L	12/15/2023	AA
1-Methylnaphthalene	16		5.0	ug/L	12/15/2023	AA
Surrogate: Dibromofluoromethane	*95.4%*		*22.9-220*		*12/15/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*102%*		*32.2-196*		*12/15/2023*	*AA*
Surrogate: Toluene-d8	*103%*		*47.3-146*		*12/15/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*118%*		*38.4-136*		*12/15/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	7800		5000	ug/L	12/15/2023	AA
Surrogate: Toluene-d8	*93.8%*		*47.3-146*		*12/15/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

Montrose Environmental Group, Inc.
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Auburn, WA 98001

Project: Springfield

Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Sample Results (Continued)

Client Sample ID: MW-7

Lab ID: L23L073-05 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/15/2023	AA
Benzene	170		25	ug/L	12/15/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/15/2023	AA
Toluene	43		2.0	ug/L	12/15/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/15/2023	AA
Ethylbenzene	130		25	ug/L	12/15/2023	AA
Total Xylenes	630		50	ug/L	12/15/2023	AA
Naphthalene	110		50	ug/L	12/18/2023	AA
2-Methylnaphthalene	32		5.0	ug/L	12/15/2023	AA
1-Methylnaphthalene	22		5.0	ug/L	12/15/2023	AA
Surrogate: Dibromofluoromethane	*102%*		*22.9-220*		*12/15/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*108%*		*32.2-196*		*12/15/2023*	*AA*
Surrogate: Toluene-d8	*109%*		*47.3-146*		*12/15/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*112%*		*38.4-136*		*12/15/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	3900		2500	ug/L	12/15/2023	AA
Surrogate: Toluene-d8	*94.6%*		*47.3-146*		*12/15/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

Montrose Environmental Group, Inc.
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Auburn, WA 98001

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Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Sample Results (Continued)

Client Sample ID: MW-8

Lab ID: L23L073-06 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/15/2023	AA
Benzene	ND		1.0	ug/L	12/15/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/15/2023	AA
Toluene	ND		2.0	ug/L	12/15/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/15/2023	AA
Ethylbenzene	ND		1.0	ug/L	12/15/2023	AA
Total Xylenes	ND		2.0	ug/L	12/15/2023	AA
Naphthalene	ND		5.0	ug/L	12/15/2023	AA
2-Methylnaphthalene	ND		5.0	ug/L	12/15/2023	AA
1-Methylnaphthalene	ND		5.0	ug/L	12/15/2023	AA
Surrogate: Dibromofluoromethane	*97.8%*		*22.9-220*		*12/15/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*106%*		*32.2-196*		*12/15/2023*	*AA*
Surrogate: Toluene-d8	*95.6%*		*47.3-146*		*12/15/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*86.7%*		*38.4-136*		*12/15/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	ND		100	ug/L	12/15/2023	AA
Surrogate: Toluene-d8	*95.6%*		*47.3-146*		*12/15/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

Montrose Environmental Group, Inc.
4150 B Place NW, Suite 106
Auburn, WA 98001

Project: Springfield

Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Sample Results (Continued)

Client Sample ID: MW-9

Lab ID: L23L073-07 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/18/2023	AA
Benzene	ND		1.0	ug/L	12/18/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/18/2023	AA
Toluene	ND		2.0	ug/L	12/18/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/18/2023	AA
Ethylbenzene	ND		1.0	ug/L	12/18/2023	AA
Total Xylenes	ND		2.0	ug/L	12/18/2023	AA
Naphthalene	ND		5.0	ug/L	12/18/2023	AA
2-Methylnaphthalene	ND		5.0	ug/L	12/18/2023	AA
1-Methylnaphthalene	ND		5.0	ug/L	12/18/2023	AA
Surrogate: Dibromofluoromethane	*96.8%*		*22.9-220*		*12/18/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*106%*		*32.2-196*		*12/18/2023*	*AA*
Surrogate: Toluene-d8	*92.6%*		*47.3-146*		*12/18/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*82.6%*		*38.4-136*		*12/18/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	ND		100	ug/L	12/18/2023	AA
Surrogate: Toluene-d8	*92.6%*		*47.3-146*		*12/18/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

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Sample Results (Continued)

Client Sample ID: MW-10

Lab ID: L23L073-08 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/18/2023	AA
Benzene	ND		1.0	ug/L	12/18/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/18/2023	AA
Toluene	ND		2.0	ug/L	12/18/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/18/2023	AA
Ethylbenzene	ND		1.0	ug/L	12/18/2023	AA
Total Xylenes	ND		2.0	ug/L	12/18/2023	AA
Naphthalene	ND		5.0	ug/L	12/18/2023	AA
2-Methylnaphthalene	ND		5.0	ug/L	12/18/2023	AA
1-Methylnaphthalene	ND		5.0	ug/L	12/18/2023	AA
Surrogate: Dibromofluoromethane	*100%*		*22.9-220*		*12/18/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*107%*		*32.2-196*		*12/18/2023*	*AA*
Surrogate: Toluene-d8	*94.4%*		*47.3-146*		*12/18/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*83.6%*		*38.4-136*		*12/18/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	ND		100	ug/L	12/18/2023	AA
Surrogate: Toluene-d8	*94.4%*		*47.3-146*		*12/18/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

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Sample Results (Continued)

Client Sample ID: MW-11

Lab ID: L23L073-09 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/18/2023	AA
Benzene	ND		1.0	ug/L	12/18/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/18/2023	AA
Toluene	ND		2.0	ug/L	12/18/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/18/2023	AA
Ethylbenzene	ND		1.0	ug/L	12/18/2023	AA
Total Xylenes	ND		2.0	ug/L	12/18/2023	AA
Naphthalene	ND		5.0	ug/L	12/18/2023	AA
2-Methylnaphthalene	ND		5.0	ug/L	12/18/2023	AA
1-Methylnaphthalene	ND		5.0	ug/L	12/18/2023	AA
Surrogate: Dibromofluoromethane	*99.2%*		*22.9-220*		*12/18/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*105%*		*32.2-196*		*12/18/2023*	*AA*
Surrogate: Toluene-d8	*94.2%*		*47.3-146*		*12/18/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*83.7%*		*38.4-136*		*12/18/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	ND		100	ug/L	12/18/2023	AA
Surrogate: Toluene-d8	*94.2%*		*47.3-146*		*12/18/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

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Sample Results (Continued)

Client Sample ID: EW-2R

Lab ID: L23L073-10 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/18/2023	AA
Benzene	2100		100	ug/L	12/18/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/18/2023	AA
Toluene	35000		2000	ug/L	12/19/2023	PB
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/18/2023	AA
Ethylbenzene	3900		100	ug/L	12/18/2023	AA
Total Xylenes	17000		2000	ug/L	12/19/2023	PB
Naphthalene	610		500	ug/L	12/18/2023	AA
2-Methylnaphthalene	220		200	ug/L	12/18/2023	AA
1-Methylnaphthalene	260		200	ug/L	12/18/2023	AA
Surrogate: Dibromofluoromethane	*101%*		*22.9-220*		*12/18/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*106%*		*32.2-196*		*12/18/2023*	*AA*
Surrogate: Toluene-d8	*98.6%*		*47.3-146*		*12/18/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*100%*		*38.4-136*		*12/18/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	200000		10000	ug/L	12/18/2023	AA
Surrogate: Toluene-d8	*98.6%*		*47.3-146*		*12/18/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

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Sample Results (Continued)

Client Sample ID: EW-4

Lab ID: L23L073-11 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/18/2023	AA
Benzene	7000		100	ug/L	12/18/2023	AA
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/18/2023	AA
Toluene	17000		200	ug/L	12/18/2023	AA
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/18/2023	AA
Ethylbenzene	2700		100	ug/L	12/18/2023	AA
Total Xylenes	7100		1000	ug/L	12/19/2023	PB
Naphthalene	590		500	ug/L	12/18/2023	AA
2-Methylnaphthalene	170		100	ug/L	12/18/2023	AA
1-Methylnaphthalene	190		100	ug/L	12/18/2023	AA
Surrogate: Dibromofluoromethane	*73.2%*		*22.9-220*		*12/18/2023*	*AA*
Surrogate: 1,2-Dichloroethane-d4	*83.8%*		*32.2-196*		*12/18/2023*	*AA*
Surrogate: Toluene-d8	*113%*		*47.3-146*		*12/18/2023*	*AA*
Surrogate: 4-Bromofluorobenzene	*111%*		*38.4-136*		*12/18/2023*	*AA*
Gasoline by Method NWTPH-Gx						
Gasoline	98000		10000	ug/L	12/18/2023	AA
Surrogate: Toluene-d8	*98.8%*		*47.3-146*		*12/18/2023*	*AA*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

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Sample Results (Continued)

Client Sample ID: EB-1

Lab ID: L23L073-12 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/19/2023	PB
Benzene	ND		1.0	ug/L	12/19/2023	PB
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/19/2023	PB
Toluene	ND		2.0	ug/L	12/19/2023	PB
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/19/2023	PB
Ethylbenzene	ND		1.0	ug/L	12/19/2023	PB
Total Xylenes	ND		2.0	ug/L	12/19/2023	PB
Naphthalene	ND		5.0	ug/L	12/19/2023	PB
2-Methylnaphthalene	ND		5.0	ug/L	12/19/2023	PB
1-Methylnaphthalene	ND		5.0	ug/L	12/19/2023	PB
Surrogate: Dibromofluoromethane	*130%*		*22.9-220*		*12/19/2023*	*PB*
Surrogate: 1,2-Dichloroethane-d4	*146%*		*32.2-196*		*12/19/2023*	*PB*
Surrogate: Toluene-d8	*73.8%*		*47.3-146*		*12/19/2023*	*PB*
Surrogate: 4-Bromofluorobenzene	*67.4%*		*38.4-136*		*12/19/2023*	*PB*
Gasoline by Method NWTPH-Gx						
Gasoline	ND		100	ug/L	12/19/2023	PB
Surrogate: Toluene-d8	*73.8%*		*47.3-146*		*12/19/2023*	*PB*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

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Sample Results (Continued)

Client Sample ID: EB-2

Lab ID: L23L073-13 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/19/2023	PB
Benzene	3.8		1.0	ug/L	12/19/2023	PB
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/19/2023	PB
Toluene	140		2.0	ug/L	12/19/2023	PB
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/19/2023	PB
Ethylbenzene	20		1.0	ug/L	12/19/2023	PB
Total Xylenes	160		2.0	ug/L	12/19/2023	PB
Naphthalene	ND		5.0	ug/L	12/19/2023	PB
2-Methylnaphthalene	ND		5.0	ug/L	12/19/2023	PB
1-Methylnaphthalene	ND		5.0	ug/L	12/19/2023	PB
Surrogate: Dibromofluoromethane	*128%*		*22.9-220*		*12/19/2023*	*PB*
Surrogate: 1,2-Dichloroethane-d4	*136%*		*32.2-196*		*12/19/2023*	*PB*
Surrogate: Toluene-d8	*77.6%*		*47.3-146*		*12/19/2023*	*PB*
Surrogate: 4-Bromofluorobenzene	*88.5%*		*38.4-136*		*12/19/2023*	*PB*
Gasoline by Method NWTPH-Gx						
Gasoline	770		100	ug/L	12/19/2023	PB
Surrogate: Toluene-d8	*77.6%*		*47.3-146*		*12/19/2023*	*PB*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

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Sample Results (Continued)

Client Sample ID: TB-1

Lab ID: L23L073-14 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/19/2023	PB
Benzene	ND		1.0	ug/L	12/19/2023	PB
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/19/2023	PB
Toluene	ND		2.0	ug/L	12/19/2023	PB
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/19/2023	PB
Ethylbenzene	ND		1.0	ug/L	12/19/2023	PB
Total Xylenes	ND		2.0	ug/L	12/19/2023	PB
Naphthalene	ND		5.0	ug/L	12/19/2023	PB
2-Methylnaphthalene	ND		5.0	ug/L	12/19/2023	PB
1-Methylnaphthalene	ND		5.0	ug/L	12/19/2023	PB
Surrogate: Dibromofluoromethane	*128%*		*22.9-220*		*12/19/2023*	*PB*
Surrogate: 1,2-Dichloroethane-d4	*142%*		*32.2-196*		*12/19/2023*	*PB*
Surrogate: Toluene-d8	*71.5%*		*47.3-146*		*12/19/2023*	*PB*
Surrogate: 4-Bromofluorobenzene	*63.8%*		*38.4-136*		*12/19/2023*	*PB*
Gasoline by Method NWTPH-Gx						
Gasoline	ND		100	ug/L	12/19/2023	PB
Surrogate: Toluene-d8	*71.5%*		*47.3-146*		*12/19/2023*	*PB*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

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Sample Results (Continued)

Client Sample ID: Dup-1

Lab ID: L23L073-15 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
Volatile Organic Compounds by EPA Method 8260D						
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L	12/19/2023	PB
Benzene	53		1.0	ug/L	12/19/2023	PB
1,2-Dichloroethane (EDC)	ND		1.0	ug/L	12/19/2023	PB
Toluene	500		10	ug/L	12/19/2023	PB
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L	12/19/2023	PB
Ethylbenzene	170		1.0	ug/L	12/19/2023	PB
Total Xylenes	1400		10	ug/L	12/19/2023	PB
Naphthalene	19		5.0	ug/L	12/19/2023	PB
2-Methylnaphthalene	ND		5.0	ug/L	12/19/2023	PB
1-Methylnaphthalene	ND		5.0	ug/L	12/19/2023	PB
Surrogate: Dibromofluoromethane	*129%*		*22.9-220*		*12/19/2023*	*PB*
Surrogate: 1,2-Dichloroethane-d4	*135%*		*32.2-196*		*12/19/2023*	*PB*
Surrogate: Toluene-d8	*91.8%*		*47.3-146*		*12/19/2023*	*PB*
Surrogate: 4-Bromofluorobenzene	*92.8%*		*38.4-136*		*12/19/2023*	*PB*
Gasoline by Method NWTPH-Gx						
Gasoline	6800		500	ug/L	12/19/2023	PB
Surrogate: Toluene-d8	*82.8%*		*47.3-146*		*12/19/2023*	*PB*
Total Metals by EPA Method 7010						
Lead	ND		5.0	ug/L	12/20/2023	KD

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Quality Control

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXL0092 - VOA										
Blank (BXL0092-BLK1)					Prepared & Analyzed: 12/15/2023					
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L						
Benzene	ND		1.0	ug/L						
1,2-Dichloroethane (EDC)	ND		1.0	ug/L						
Toluene	ND		2.0	ug/L						
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L						
Ethylbenzene	ND		1.0	ug/L						
Total Xylenes	ND		2.0	ug/L						
Naphthalene	ND		5.0	ug/L						
2-Methylnaphthalene	ND		5.0	ug/L						
1-Methylnaphthalene	ND		5.0	ug/L						
Surrogate: Dibromofluoromethane			*20.8*	*ug/L*	*20.0*		*104*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*22.0*	*ug/L*	*20.0*		*110*	*32.2-196*		
Surrogate: Toluene-d8			*19.8*	*ug/L*	*20.0*		*98.8*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*17.3*	*ug/L*	*20.0*		*86.3*	*38.4-136*		
LCS (BXL0092-BS1)					Prepared & Analyzed: 12/15/2023					
Methyl tert-Butyl Ether (MTBE)	5.56		5.0	ug/L	5.00		111	17.2-189		
Benzene	5.52		1.0	ug/L	5.00		110	56.1-138		
1,2-Dichloroethane (EDC)	5.96		1.0	ug/L	5.00		119	39.6-177		
Toluene	5.13		2.0	ug/L	5.00		103	54-132		
1,2-Dibromoethane (EDB) (SIM)	5.61		0.010	ug/L	5.00		112	21.9-165		
Ethylbenzene	4.49		1.0	ug/L	5.00		89.8	53.8-127		
Total Xylenes	14.3		2.0	ug/L	15.0		95.6	37.5-127		
Naphthalene	6.95		5.0	ug/L	5.00		139	10-186		
2-Methylnaphthalene	5.76		5.0	ug/L	5.00		115	13.2-160		
1-Methylnaphthalene	3.82		5.0	ug/L	5.00		76.3	10-181		
Surrogate: Dibromofluoromethane			*20.4*	*ug/L*	*20.0*		*102*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*21.1*	*ug/L*	*20.0*		*106*	*32.2-196*		
Surrogate: Toluene-d8			*19.5*	*ug/L*	*20.0*		*97.4*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*21.6*	*ug/L*	*20.0*		*108*	*38.4-136*		
Duplicate (BXL0092-DUP1)		**Parent: L23L073-03**			Prepared & Analyzed: 12/15/2023					
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L		ND				35
Benzene	ND		1.0	ug/L		ND				35
1,2-Dichloroethane (EDC)	ND		1.0	ug/L		ND				35
Toluene	ND		2.0	ug/L		ND				35
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L		ND				35
Ethylbenzene	ND		1.0	ug/L		ND				35
Total Xylenes	ND		2.0	ug/L		ND				35
Naphthalene	ND		5.0	ug/L		ND				35
2-Methylnaphthalene	ND		5.0	ug/L		ND				35
1-Methylnaphthalene	ND		5.0	ug/L		ND				35
Surrogate: Dibromofluoromethane			*19.9*	*ug/L*	*20.0*		*99.6*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*21.4*	*ug/L*	*20.0*		*107*	*32.2-196*		
Surrogate: Toluene-d8			*19.4*	*ug/L*	*20.0*		*96.9*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*18.1*	*ug/L*	*20.0*		*90.4*	*38.4-136*		

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Quality Control
(Continued)

Volatile Organic Compounds by EPA Method 8260D (Continued)

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike (BXL0092-MS1)		**Parent: L23L073-03**			Prepared & Analyzed: 12/15/2023					
Methyl tert-Butyl Ether (MTBE)	6.53		5.0	ug/L	5.00	ND	131	10-240		
Benzene	6.94		1.0	ug/L	5.00	ND	139	10-188		
1,2-Dichloroethane (EDC)	6.52		1.0	ug/L	5.00	ND	130	38.2-189		
Toluene	6.00		2.0	ug/L	5.00	ND	120	10-251		
1,2-Dibromoethane (EDB) (SIM)	7.29		0.010	ug/L	5.00	ND	146	23.7-168		
Ethylbenzene	6.05		1.0	ug/L	5.00	ND	121	10-267		
Total Xylenes	21.6		2.0	ug/L	15.0	ND	144	10-184		
Naphthalene	8.74		5.0	ug/L	5.00	ND	175	10-346		
2-Methylnaphthalene	8.30		5.0	ug/L	5.00	ND	166	10-217		
1-Methylnaphthalene	7.84		5.0	ug/L	5.00	ND	157	10-173		
Surrogate: Dibromofluoromethane			*19.0*	*ug/L*	*20.0*		*95.2*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*21.2*	*ug/L*	*20.0*		*106*	*32.2-196*		
Surrogate: Toluene-d8			*19.5*	*ug/L*	*20.0*		*97.6*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*22.1*	*ug/L*	*20.0*		*111*	*38.4-136*		
Matrix Spike Dup (BXL0092-MSD1)		**Parent: L23L073-03**			Prepared & Analyzed: 12/15/2023					
Methyl tert-Butyl Ether (MTBE)	6.78		5.0	ug/L	5.00	ND	136	10-240	3.73	35
Benzene	6.88		1.0	ug/L	5.00	ND	138	10-188	0.781	35
1,2-Dichloroethane (EDC)	6.35		1.0	ug/L	5.00	ND	127	38.2-189	2.72	35
Toluene	5.76		2.0	ug/L	5.00	ND	115	10-251	4.01	35
1,2-Dibromoethane (EDB) (SIM)	6.90		0.010	ug/L	5.00	ND	138	23.7-168	5.43	35
Ethylbenzene	5.38		1.0	ug/L	5.00	ND	108	10-267	11.6	35
Total Xylenes	19.3		2.0	ug/L	15.0	ND	129	10-184	11.0	35
Naphthalene	9.37		5.0	ug/L	5.00	ND	187	10-346	7.00	35
2-Methylnaphthalene	7.48		5.0	ug/L	5.00	ND	150	10-217	10.5	35
1-Methylnaphthalene	8.53		5.0	ug/L	5.00	ND	171	10-173	8.41	35
Surrogate: Dibromofluoromethane			*19.7*	*ug/L*	*20.0*		*98.4*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*21.0*	*ug/L*	*20.0*		*105*	*32.2-196*		
Surrogate: Toluene-d8			*19.2*	*ug/L*	*20.0*		*95.8*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*21.2*	*ug/L*	*20.0*		*106*	*38.4-136*		
Blank (BXL0101-BLK1)					Prepared & Analyzed: 12/18/2023					
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L						
Benzene	ND		1.0	ug/L						
1,2-Dichloroethane (EDC)	ND		1.0	ug/L						
Toluene	ND		2.0	ug/L						
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L						
Ethylbenzene	ND		1.0	ug/L						
Total Xylenes	ND		2.0	ug/L						
Naphthalene	ND		5.0	ug/L						
2-Methylnaphthalene	ND		5.0	ug/L						
1-Methylnaphthalene	ND		5.0	ug/L						
Surrogate: Dibromofluoromethane			*20.1*	*ug/L*	*20.0*		*101*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*21.3*	*ug/L*	*20.0*		*106*	*32.2-196*		
Surrogate: Toluene-d8			*18.6*	*ug/L*	*20.0*		*93.1*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*16.1*	*ug/L*	*20.0*		*80.7*	*38.4-136*		

Montrose Environmental Group, Inc.
4150 B Place NW, Suite 106
Auburn, WA 98001

Project: Springfield

Project Manager: Laura Skow

City/State: Springfield, OR
Work Order: L23L073
Reported: 01/22/2024 17:03

Quality Control
(Continued)

Volatile Organic Compounds by EPA Method 8260D (Continued)

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (BXL0101-BS1)					Prepared & Analyzed: 12/18/2023					
Methyl tert-Butyl Ether (MTBE)	5.67		5.0	ug/L	5.00		113	17.2-189		
Benzene	5.72		1.0	ug/L	5.00		114	56.1-138		
1,2-Dichloroethane (EDC)	5.78		1.0	ug/L	5.00		116	39.6-177		
Toluene	5.04		2.0	ug/L	5.00		101	54-132		
1,2-Dibromoethane (EDB) (SIM)	6.10		0.010	ug/L	5.00		122	21.9-165		
Ethylbenzene	4.28		1.0	ug/L	5.00		85.5	53.8-127		
Total Xylenes	14.0		2.0	ug/L	15.0		93.0	37.5-127		
Naphthalene	5.84		5.0	ug/L	5.00		117	10-186		
2-Methylnaphthalene	5.49		5.0	ug/L	5.00		110	13.2-160		
1-Methylnaphthalene	5.94		5.0	ug/L	5.00		119	10-181		
Surrogate: Dibromofluoromethane			*19.9*	*ug/L*	*20.0*		*99.6*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*21.3*	*ug/L*	*20.0*		*106*	*32.2-196*		
Surrogate: Toluene-d8			*18.9*	*ug/L*	*20.0*		*94.4*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*20.5*	*ug/L*	*20.0*		*103*	*38.4-136*		
Duplicate (BXL0101-DUP1)		**Parent: L23L073-07**			Prepared & Analyzed: 12/18/2023					
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L		ND				35
Matrix Spike (BXL0101-MS1)		**Parent: L23L073-07**			Prepared & Analyzed: 12/18/2023					
Methyl tert-Butyl Ether (MTBE)	5.65		5.0	ug/L	5.00	ND	113	10-240		
Benzene	7.13		1.0	ug/L	5.00	ND	143	10-188		
1,2-Dichloroethane (EDC)	6.02		1.0	ug/L	5.00	ND	120	38.2-189		
Toluene	10.0		2.0	ug/L	5.00	ND	200	10-251		
1,2-Dibromoethane (EDB) (SIM)	5.78		0.010	ug/L	5.00	ND	116	23.7-168		
Ethylbenzene	4.98		1.0	ug/L	5.00	ND	99.6	10-267		
Total Xylenes	17.7		2.0	ug/L	15.0	ND	118	10-184		
Naphthalene	6.76		5.0	ug/L	5.00	ND	135	10-346		
2-Methylnaphthalene	5.86		5.0	ug/L	5.00	ND	117	10-217		
1-Methylnaphthalene	5.51		5.0	ug/L	5.00	ND	110	10-173		
Surrogate: Dibromofluoromethane			*20.3*	*ug/L*	*20.0*		*102*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*21.3*	*ug/L*	*20.0*		*106*	*32.2-196*		
Surrogate: Toluene-d8			*19.2*	*ug/L*	*20.0*		*95.8*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*21.2*	*ug/L*	*20.0*		*106*	*38.4-136*		

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Quality Control
(Continued)

Volatile Organic Compounds by EPA Method 8260D (Continued)

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike Dup (BXL0101-MSD1)		**Parent: L23L073-07**			Prepared & Analyzed: 12/18/2023					
Methyl tert-Butyl Ether (MTBE)	6.06		5.0	ug/L	5.00	ND	121	10-240	7.00	35
Benzene	7.00		1.0	ug/L	5.00	ND	140	10-188	1.84	35
1,2-Dichloroethane (EDC)	5.99		1.0	ug/L	5.00	ND	120	38.2-189	0.533	35
Toluene	9.05		2.0	ug/L	5.00	ND	181	10-251	10.1	35
1,2-Dibromoethane (EDB) (SIM)	5.86		0.010	ug/L	5.00	ND	117	23.7-168	1.37	35
Ethylbenzene	4.53		1.0	ug/L	5.00	ND	90.6	10-267	9.49	35
Total Xylenes	16.6		2.0	ug/L	15.0	ND	111	10-184	6.35	35
Naphthalene	7.28		5.0	ug/L	5.00	ND	146	10-346	7.36	35
2-Methylnaphthalene	5.73		5.0	ug/L	5.00	ND	115	10-217	2.26	35
1-Methylnaphthalene	5.94		5.0	ug/L	5.00	ND	119	10-173	7.51	35
Surrogate: Dibromofluoromethane			*20.3*	*ug/L*	*20.0*		*102*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*22.2*	*ug/L*	*20.0*		*111*	*32.2-196*		
Surrogate: Toluene-d8			*19.3*	*ug/L*	*20.0*		*96.6*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*20.1*	*ug/L*	*20.0*		*101*	*38.4-136*		
Blank (BXL0110-BLK1)					Prepared & Analyzed: 12/19/2023					
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L						
Benzene	ND		1.0	ug/L						
1,2-Dichloroethane (EDC)	ND		1.0	ug/L						
Toluene	ND		2.0	ug/L						
1,2-Dibromoethane (EDB) (SIM)	0.0110		0.010	ug/L						
Ethylbenzene	ND		1.0	ug/L						
Total Xylenes	ND		2.0	ug/L						
Naphthalene	ND		5.0	ug/L						
2-Methylnaphthalene	ND		5.0	ug/L						
1-Methylnaphthalene	ND		5.0	ug/L						
Surrogate: Dibromofluoromethane			*26.3*	*ug/L*	*20.0*		*131*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*29.6*	*ug/L*	*20.0*		*148*	*32.2-196*		
Surrogate: Toluene-d8			*14.6*	*ug/L*	*20.0*		*72.8*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*13.3*	*ug/L*	*20.0*		*66.4*	*38.4-136*		
LCS (BXL0110-BS1)					Prepared & Analyzed: 12/19/2023					
Methyl tert-Butyl Ether (MTBE)	3.89		5.0	ug/L	5.00		77.9	17.2-189		
Benzene	4.16		1.0	ug/L	5.00		83.1	56.1-138		
1,2-Dichloroethane (EDC)	5.86		1.0	ug/L	5.00		117	39.6-177		
Toluene	4.64		2.0	ug/L	5.00		92.7	54-132		
1,2-Dibromoethane (EDB) (SIM)	3.26		0.010	ug/L	5.00		65.2	21.9-165		
Ethylbenzene	2.72		1.0	ug/L	5.00		54.3	53.8-127		
Total Xylenes	7.30		2.0	ug/L	15.0		48.7	37.5-127		
Naphthalene	2.83		5.0	ug/L	5.00		56.7	10-186		
2-Methylnaphthalene	4.74		5.0	ug/L	5.00		94.7	13.2-160		
1-Methylnaphthalene	5.47		5.0	ug/L	5.00		109	10-181		
Surrogate: Dibromofluoromethane			*25.2*	*ug/L*	*20.0*		*126*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*26.3*	*ug/L*	*20.0*		*132*	*32.2-196*		
Surrogate: Toluene-d8			*14.8*	*ug/L*	*20.0*		*73.8*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*16.5*	*ug/L*	*20.0*		*82.4*	*38.4-136*		

Montrose Environmental Group, Inc.
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City/State: Springfield, OR
Work Order: L23L073
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Quality Control
(Continued)

Volatile Organic Compounds by EPA Method 8260D (Continued)

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Duplicate (BXL0110-DUP1)		**Parent: L23L073-12**			Prepared & Analyzed: 12/19/2023					
Methyl tert-Butyl Ether (MTBE)	ND		5.0	ug/L		ND				35
Benzene	ND		1.0	ug/L		ND				35
1,2-Dichloroethane (EDC)	ND		1.0	ug/L		ND				35
Toluene	ND		2.0	ug/L		ND				35
1,2-Dibromoethane (EDB) (SIM)	ND		0.010	ug/L		ND				35
Ethylbenzene	ND		1.0	ug/L		ND				35
Total Xylenes	ND		2.0	ug/L		ND				35
Naphthalene	ND		5.0	ug/L		ND				35
2-Methylnaphthalene	ND		5.0	ug/L		ND				35
1-Methylnaphthalene	ND		5.0	ug/L		ND				35
Surrogate: Dibromofluoromethane			*27.4*	*ug/L*	*20.0*		*137*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*30.8*	*ug/L*	*20.0*		*154*	*32.2-196*		
Surrogate: Toluene-d8			*16.8*	*ug/L*	*20.0*		*83.9*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*14.4*	*ug/L*	*20.0*		*71.8*	*38.4-136*		
Matrix Spike (BXL0110-MS1)		**Parent: L23L073-12**			Prepared & Analyzed: 12/19/2023					
Methyl tert-Butyl Ether (MTBE)	7.22		5.0	ug/L	5.00	ND	144	10-240		
Benzene	6.22		1.0	ug/L	5.00	ND	124	10-188		
1,2-Dichloroethane (EDC)	9.49	S	1.0	ug/L	5.00	ND	190	38.2-189		
Toluene	5.82		2.0	ug/L	5.00	ND	116	10-251		
1,2-Dibromoethane (EDB) (SIM)	4.76		0.010	ug/L	5.00	ND	95.2	23.7-168		
Ethylbenzene	4.64		1.0	ug/L	5.00	ND	92.9	10-267		
Total Xylenes	12.6		2.0	ug/L	15.0	ND	84.0	10-184		
Naphthalene	4.44		5.0	ug/L	5.00	ND	88.8	10-346		
2-Methylnaphthalene	3.12		5.0	ug/L	5.00	ND	62.4	10-217		
1-Methylnaphthalene	3.95		5.0	ug/L	5.00	ND	79.0	10-173		
Surrogate: Dibromofluoromethane			*26.3*	*ug/L*	*20.0*		*131*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*28.7*	*ug/L*	*20.0*		*144*	*32.2-196*		
Surrogate: Toluene-d8			*17.5*	*ug/L*	*20.0*		*87.6*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*17.8*	*ug/L*	*20.0*		*89.2*	*38.4-136*		
Matrix Spike Dup (BXL0110-MSD1)		**Parent: L23L073-12**			Prepared & Analyzed: 12/19/2023					
Methyl tert-Butyl Ether (MTBE)	5.68		5.0	ug/L	5.00	ND	114	10-240	23.8	35
Benzene	5.22		1.0	ug/L	5.00	ND	104	10-188	17.6	35
1,2-Dichloroethane (EDC)	7.73		1.0	ug/L	5.00	ND	155	38.2-189	20.5	35
Toluene	4.52		2.0	ug/L	5.00	ND	90.4	10-251	25.2	35
1,2-Dibromoethane (EDB) (SIM)	4.29		0.010	ug/L	5.00	ND	85.9	23.7-168	10.4	35
Ethylbenzene	4.04		1.0	ug/L	5.00	ND	80.9	10-267	13.8	35
Total Xylenes	10.9		2.0	ug/L	15.0	ND	72.9	10-184	14.2	35
Naphthalene	3.40		5.0	ug/L	5.00	ND	68.0	10-346	26.5	35
2-Methylnaphthalene	4.31		5.0	ug/L	5.00	ND	86.2	10-217	32.1	35
1-Methylnaphthalene	5.46		5.0	ug/L	5.00	ND	109	10-173	32.2	35
Surrogate: Dibromofluoromethane			*25.3*	*ug/L*	*20.0*		*127*	*22.9-220*		
Surrogate: 1,2-Dichloroethane-d4			*27.1*	*ug/L*	*20.0*		*136*	*32.2-196*		
Surrogate: Toluene-d8			*15.6*	*ug/L*	*20.0*		*78.0*	*47.3-146*		
Surrogate: 4-Bromofluorobenzene			*18.2*	*ug/L*	*20.0*		*91.0*	*38.4-136*		

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Quality Control
(Continued)

Gasoline by Method NWTPH-Gx

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXL0092 - VOA										
Blank (BXL0092-BLK1)					Prepared & Analyzed: 12/15/2023					
Gasoline	ND		100	ug/L						
Surrogate: Toluene-d8			*19.8*	*ug/L*	*20.0*		*98.8*	*47.3-146*		
Duplicate (BXL0092-DUP1)		**Parent: L23L073-03**			Prepared & Analyzed: 12/15/2023					
Gasoline	ND		100	ug/L		ND				35
Surrogate: Toluene-d8			*19.4*	*ug/L*	*20.0*		*96.9*	*47.3-146*		
Blank (BXL0101-BLK1)					Prepared & Analyzed: 12/18/2023					
Gasoline	ND		100	ug/L						
Surrogate: Toluene-d8			*18.6*	*ug/L*	*20.0*		*93.1*	*47.3-146*		
Duplicate (BXL0101-DUP1)		**Parent: L23L073-07**			Prepared & Analyzed: 12/18/2023					
Gasoline	ND		100	ug/L		ND				35
Surrogate: Toluene-d8			*18.8*	*ug/L*	*20.0*		*94.0*	*47.3-146*		
Blank (BXL0110-BLK1)					Prepared & Analyzed: 12/19/2023					
Gasoline	ND		100	ug/L						
Surrogate: Toluene-d8			*14.6*	*ug/L*	*20.0*		*72.8*	*47.3-146*		
Duplicate (BXL0110-DUP1)		**Parent: L23L073-12**			Prepared & Analyzed: 12/19/2023					
Gasoline	ND		100	ug/L		ND				35
Surrogate: Toluene-d8			*16.8*	*ug/L*	*20.0*		*83.9*	*47.3-146*		

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Quality Control
(Continued)

Total Metals by EPA Method 7010

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXL0107 - Metals Digest										
Blank (BXL0107-BLK1)					Prepared: 12/19/2023 Analyzed: 12/20/2023					
Lead	ND		5.0	ug/L						
LCS (BXL0107-BS1)					Prepared: 12/19/2023 Analyzed: 12/20/2023					
Lead	52.4		5.0	ug/L	50.0		105	80-120		
LCS Dup (BXL0107-BSD1)					Prepared: 12/19/2023 Analyzed: 12/20/2023					
Lead	52.4		5.0	ug/L	50.0		105	80-120	0.118	20
Duplicate (BXL0107-DUP1)		**Parent: L23L073-01**			Prepared: 12/19/2023 Analyzed: 12/20/2023					
Lead	ND		5.0	ug/L		ND				20
Duplicate (BXL0107-DUP2)		**Parent: L23L073-11**			Prepared: 12/19/2023 Analyzed: 12/20/2023					
Lead	ND		5.0	ug/L		ND				20
Matrix Spike (BXL0107-MS1)		**Parent: L23L073-01**			Prepared: 12/19/2023 Analyzed: 12/20/2023					
Lead	52.6		5.0	ug/L	50.0	ND	105	75-125		
Matrix Spike Dup (BXL0107-MSD1)		**Parent: L23L073-01**			Prepared: 12/19/2023 Analyzed: 12/20/2023					
Lead	52.3		5.0	ug/L	50.0	ND	105	75-125	0.648	20

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
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Email: libbyenv@gmail.com

Springfield Project
Montrose Environmental Group, Inc.
Libby Work Order # L23L073
Date Received 12/24/2023
Time Received 2:41 PM

Received By KLI

Sample Receipt Checklist

Chain of Custody

1. Is the Chain of Custody is complete?	☑ Yes	☐ No	
2. How was the sample delivered?	☑ Hand Delivered	☐ Picked Up	☐ Shipped

Log In

3. Cooler or Shipping Container is present.	☑ Yes	☐ No	☐ N/A
4. Cooler or Shipping Container is in good condition.	☑ Yes	☐ No	☐ N/A
5. Cooler or Shipping Container has Custody Seals present.	☐ Yes	☑ No	☐ N/A
6. Was an attempt made to cool the samples?	☑ Yes	☐ No	☐ N/A
7. Temperature of cooler (0°C to 8°C recommended)	2.0 °C		
8. Temperature of sample(s) (0°C to 8°C recommended)	6.1 °C		
9. Did all containers arrive in good condition (unbroken)?	☑ Yes	☐ No	
10. Is it clear what analyses were requested?	☑ Yes	☐ No	
11. Did container labels match Chain of Custody?	☑ Yes	☐ No	
12. Are matrices correctly identified on Chain of Custody?	☑ Yes	☐ No	
13. Are correct containers used for the analysis indicated?	☑ Yes	☐ No	
14. Is there sufficient sample volume for indicated analysis?	☑ Yes	☐ No	
15. Were all containers properly preserved per each analysis?	☑ Yes	☐ No	
16. Were VOA vials collected correctly (no headspace)?	☑ Yes	☐ No	☐ N/A
17. Were all holding times able to be met?	☑ Yes	☐ No	

Discrepancies/ Notes

18. Was client notified of all discrepancies?	☐ Yes	☐ No	☑ N/A

Person Notified: _____ Date: _____

By Whom: _____ Via: _____

Regarding: _____

19. Comments. _____

APPENDIX D

Groundwater Monitoring Field Forms

WELL GAUGING DATA FORM

Site Name: Springfield
Project No: ~~6911~~ ME 796340

Location: 5720 Main St, Springfield, OR
Date: 12-13/Dec/23
Technician: Matt Engel

Well ID	Time	Well Dia (inch)	Sheen / Odor	Depth to Product (feet)	Thickness of Product (feet)	Depth to Water (feet)	Total Well Depth (feet below TOC)	Survey Point (TOC)	Dissolved Oxygen (mg/L) ME Sample Time
MW-1	1300	4"	~~Sheen~~ Odor	~~11.77~~ ME	~~0.01~~ ME —	11.78	—	✓	~~N/A~~ ME 1357
MW-2	1056	4"	—	—	—	10.84	25.05	✓	1114
MW-3	1130	4"	—	—	—	10.66	26.30	✓	1147
MW-4	0920	4"	—	—	—	9.29	24.01	✓	0945
MW-5	1645	4"	Odor	8.76	0.01	8.79	22.61	✓	N/A
MW-6	1620	4"	Both	N/A	—	10.10	23.90	✓	N/A
MW-7	1855	4"	—	—	—	11.04	24.96	✓	1916
MW-~~8~~	1617	4"	—	—	—	10.71	14.02	✓	1835
MW-9	ME 1735	4"	—	—	—	8.72	17.29	✓	1755
MW-~~10~~	1640	4"	—	—	—	10.06	17.98	✓	1710
MW-11	1015	2"	—	—	—	10.80	19.98	✓	1037
EW-1R	1559	4"	Both	N/A	—	10.16	15.58	✓	N/A
EW-2R	1448	4"	—	—	—	10.44	22.86	✓	1510
EW-4	1411	4"	Light Sheen	—	—	10.99	22.86	✓	1430
NW-Obs	1717	4"	—	—	—	10.73 ME ~~10.88~~	16.81	✓	—
NE-Obs	1704	4"	—	—	—	~~14.83~~	14.83	✓	—
SE-Obs	1725	4"	—	—	—	10.46	14.91	✓	—
SW-Obs	1732	4"	—	—	—	9.62	13.51	✓	—

12/Dec/23

13/Dec/23

Notes: Dup-1 @ MW-4, 0955, 13/Dec. EB-1 @ 1620 12/Dec, EB-2 @ 1525, 13/Dec.
All MW/EW use 15 mm bolts, all Obs 13 mm

N - No
Y - Yes
NA - not applicable
NM - not measured
TOC - top of casing
mg/L: milligrams per Liter

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: SPR
Project Number: ~~Shell~~ me 796340
Date: 12/Dec/23
ES Personnel: Engel

Well Number: MW-8
Equipment: Solinist, YSI ProQuatro
Sample ID/Time: 1710
Contractor: ES Engineering Services, LLC

Well Diameter: 4" Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	10.08	10.19
Depth of Well (ft)	17.98	NA
Water Column Height (ft)	7.90	7.79
Calculated Drawdown (ft)	NA	0.11
Depth to Top of Screen	8'	
Screen Length (ft)	10'	
Pump depth (ft)	13'	

System Volume[(a)] (ml) =bladder + discharge tubing

Volume of bladder pump (ml):	100
Volume of flow through cell (ml):	500
Radius of dishcarge tubing (ft):	0.25-in or 0.01 ft.
Length of discharge tubing (ft):	–
System Volume (ml):	–
Total Volume Purged (ml):	2900
Total No. of SV Purged:	–

Notes/Calcs. (a): flow cell disconnected before sample collection

1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	Turbidity (NTU)	pH	Temp (°C)	Turbidity (NTU)
1649	–	10.19	–	7.77	151.3	176.8	19.0	6.41	17.3	–
1652	750	10.27	250	8.07	165.7	176.3	15.5	6.37	16.8	–
1655	–	10.26	–	9.10	170.9	174.4	19.7	6.36	17.3	–
1658	750	10.32	250	9.45	172.1	175.6	19.4	6.34	17.1	–
1701	750	10.36	250	9.50	174.0	173.6	15.5	6.35	17.2	–
1704	650	10.30	217	9.66	172.7	173.4	11.9	6.34	17.3	–
			Stability:	± 0.2 mg/L	± 20 mv	± 3-5%	± 0.2 units	± 0.2 units	± 20 mv	± 10%

Notes: (weather, well and well box conditions, etc...) Pump failed @ 1653
Unless otherwise noted, all wells' samples were collected using dedicated tubing
Dissolved Iron (Fe^{+2}) = 0.0

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: ~~641~~ 796340
Date: 12/Dec/23
ES Personnel: Matt Engel

Well Number: MW-9
Equipment: YSI ProQuatro, Solinist
Sample ID/Time: 1755
Contractor: ES Engineering Services, LLC

Well Diameter: 4"
Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	8.72	6.84
Depth of Well (ft)	17.29	NA
Water Column Height (ft)	8.57	8.45
Calculated Drawdown (ft)	NA	0.12
Depth to Top of Screen	7'	
Screen Length (ft)	10'	
Pump depth (ft)	10'	

System Volume[(a)] (ml) =bladder + discharge tubing

Volume of bladder pump (ml):	100
Volume of flow through cell (ml):	500
Radius of dishcarge tubing (ft):	0.25-in or 0.01 ft.
Length of discharge tubing (ft):	—
System Volume (ml):	—
Total Volume Purged (ml):	2250
Total No. of SV Purged:	—

Notes/Calcs: (a): flow cell disconnected before sample collection

1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	Turbidity (NTU)	pH	Temp (°C)	Turbidity (NTU)
1739	—	8.78	—	7.61	414.2	189.7	10.26	5.97	15.4	—
1742	750	8.81	250	6.41	376.8	190.1	7.08	5.93	15.7	—
1745	750	8.82	250	6.40	360.1	189.0	7.20	5.90	16.0	—
1746	750	8.82	250	7.80	353.0	188.3	5.66	5.88	15.8	—
Stability:				± 0.2 mg/L	± 20 mv	± 3-5%	± 0.2 units	± 0.2 units	± 20 mv	± 10%

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 0.0

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: 296340
Date: 12/Dec/23
ES Personnel: Matt Engel

Well Number: MW-10
Equipment: YSI ProQuatro, Solinist
Sample ID/Time: 1835
Contractor: ES Engineering Services, LLC

Well Diameter: 4"
Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	10.71	10.84
Depth of Well (ft)	18.02	NA
Water Column Height (ft)	7.31	7.18
Calculated Drawdown (ft)	NA	0.13
Depth to Top of Screen	7'	
Screen Length (ft)	10'	
Pump depth (ft)	13'	

System Volume[(a)] (ml) =bladder + discharge tubing

Volume of bladder pump (ml):	100
Volume of flow through cell (ml):	500
Radius of dishcarge tubing (ft):	0.25-in or 0.01 ft.
Length of discharge tubing (ft):	—
System Volume (ml):	2—
Total Volume Purged (ml):	2200
Total No. of SV Purged:	—

Notes/Calcs: (a): flow cell disconnected before sample collection

1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	Turbidity (NTU)	pH	Temp (°C)	Turbidity (NTU)
1819	—	10.78	—	5.80	480.7	491.9	8.86	5.26	17.1	—
1822	750	10.84	250	3.04	391.3	494	6.61	6.35	17.1	—
1825	750	10.85	250	2.85	377.8	487	6.16	6.29	17.0	—
1828	700	10.85	233	2.96	~~MLE~~ 365.5	485	6.04	6.28	17.0	—
			Stability:	± 0.2 mg/L	± 20 mv	± 3-5%	± 0.2 units	± 0.2 units	± 20 mv	± 10%

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 0.0

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: 796340
Date: 12/Dec/23
ES Personnel: Matt Engel

Well Number: MW-7
Equipment: YSI ProQuatro, Solinst
Sample ID/Time: 1916
Contractor: ES Engineering Services, LLC

Well Diameter: 4" Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	11.04	11.42
Depth of Well (ft)	24.96	NA
Water Column Height (ft)	13.92	13.54
Calculated Drawdown (ft)	NA	0.38
Depth to Top of Screen	5'	
Screen Length (ft)	20'	
Pump depth (ft)	12'	

System Volume[(a)] (ml) =bladder + discharge tubing
Volume of bladder pump (ml): 100
Volume of flow through cell (ml): 500
Radius of dishcarge tubing (ft): 0.25-in or 0.01 ft.
Length of discharge tubing (ft): —
System Volume (ml): —
Total Volume Purged (ml): 2200
Total No. of SV Purged: —

Notes/Calcs: (a): flow cell disconnected before sample collection
1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	Turbidity (NTU)	pH	Temp (°C)	Turbidity (NTU)
1901	—	11.09	—	3.42	-74.5	886	37.1	6.74	16.7	—
1904	750	11.23	250	0.17	-107.1	933	32.9	6.75	17.0	—
1907	700	11.31	233	0.16	-116.0	934	31.8	6.74	17.0	—
1910	750	11.38	250	0.14	-124.1	953	29.1	6.74	17.0	—
Stability:				± 0.2 mg/L	± 20 mv	± 3-5%	± 0.2 units	± 0.2 units	± 20 mv	± 10%

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 4.0

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: 796340
Date: 13/Dec/23
ES Personnel: Matt Engel

Well Number: MW-4
Equipment: YSI ProQuatro, Solinst
Sample ID/Time: 0945
Contractor: ES Engineering Services, LLC

Well Diameter: 4 Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	9.29	9.43
Depth of Well (ft)	24.01	NA
Water Column Height (ft)	14.72	14.58
Calculated Drawdown (ft)	NA	0.14
Depth to Top of Screen	5'	
Screen Length (ft)	20'	
Pump depth (ft)	12'	

System Volume[(a)] (ml) =bladder + discharge tubing

Volume of bladder pump (ml):	100
Volume of flow through cell (ml):	500
Radius of dishcarge tubing (ft):	0.25-in or 0.01 ft.
Length of discharge tubing (ft):	–
System Volume (ml):	–
Total Volume Purged (ml):	2250
Total No. of SV Purged:	–

Notes/Calcs: (a): flow cell disconnected before sample collection

1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	Turbidity (NTU)	pH	Temp (°C)	Turbidity (NTU)
0931	–	09.36	–	3.14	-31.6	450.0	3.10	7.26	15.1	–
0934	750	9.48	250	0.32	-114.8	479.0	3.61	7.22	15.2	–
0937	750	9.49	250	0.25	-126.2	477.3	3.23	7.19	15.0	–
0940	750	9.50	250	0.23	-136.0	478.5	2.82	7.20	15.0	–
			Stability:	± 0.2 mg/L	± 20 mv	± 3-5%	± 0.2 units	± 0.2 units	± 20 mv	± 10%

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 0.5

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: 296340
Date: 13/Dec/23
ES Personnel: Matt Engel

Well Number: MW-11
Equipment: YSI ProQuatro, Solinst
Sample ID/Time: 1037
Contractor: ES Engineering Services, LLC

Well Diameter: 2" Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	10.80	11.07
Depth of Well (ft)	19.98	NA
Water Column Height (ft)	9.18	8.91
Calculated Drawdown (ft)	NA	0.27
Depth to Top of Screen	7'	
Screen Length (ft)	10'	
Pump depth (ft)	12'	

System Volume[(a)] (ml) =bladder + discharge tubing

Volume of bladder pump (ml):	100
Volume of flow through cell (ml):	500
Radius of discharge tubing (ft):	0.25-in or 0.01 ft.
Length of discharge tubing (ft):	—
System Volume (ml):	—
Total Volume Purged (ml):	3000
Total No. of SV Purged:	—

Notes/Calcs: (a): flow cell disconnected before sample collection

1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	Turbidity (NTU)	pH	Temp (°C)	Turbidity (NTU)
1020	—	10.91	—	5.65	-22.8	407.6	19.6	6.79	15.5	—
1023	750	11.04	250	6.97	27.9	369.9	9.59	6.42	16.2	—
1026	750	11.09	250	7.10	77.0	366.5	5.58	6.36	16.8	—
1029	750	11.12	250	7.20	103.6	348.3	3.48	6.32	16.8	—
1032	750	11.15	250	7.21	113.8	348.6	3.43	6.31	16.6	—
			Stability:	± 0.2 mg/L	± 20 mv	± 3-5%	± 0.2 units	± 0.2 units	± 20 mv	± 10%

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 1.0

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: 796340
Date: 13/Dec/23
ES Personnel: Matt Engel

Well Number: MW-2
Equipment: YSI ProQuatro, Solinst
Sample ID/Time: 1114
Contractor: ES Engineering Services, LLC

Well Diameter: 4" Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	10.84	10.96
Depth of Well (ft)	25.05	NA
Water Column Height (ft)	14.21	14.23
Calculated Drawdown (ft)	NA	0.02
Depth to Top of Screen	5'	
Screen Length (ft)	20'	
Pump depth (ft)	13'	

System Volume[(a)] (ml) =bladder + discharge tubing

Volume of bladder pump (ml):	100
Volume of flow through cell (ml):	500
Radius of dishcarge tubing (ft):	0.25-in or 0.01 ft.
Length of discharge tubing (ft):	—
System Volume (ml):	—
Total Volume Purged (ml):	2250
Total No. of SV Purged:	—

Notes/Calcs: (a): flow cell disconnected before sample collection
1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	Turbidity (NTU)	pH	Temp (°C)	Turbidity (NTU)
1100	—	10.88	—	2.18	-95.8	450.9	26.4	7.08	16.7	—
1103	750	10.91	250	0.80	-116.3	446.0	9.05	7.05	16.4	—
1106	750	10.91	250	0.42	-126.1	438.3	3.97	7.01	16.8	—
1109	750	10.89	250	0.46	-134.7	435.0	5.18	7.01	16.9	—
Stability:				± 0.2 mg/L	± 20 mv	± 3-5%	± 0.2 units	± 0.2 units	± 20 mv	± 10%

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 1.5

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: 196340
Date: 13/Dec/23
ES Personnel: Matt Engel

Well Number: MW-3
Equipment: YSI ProQuatro, Solinist
Sample ID/Time: 1147
Contractor: ES Engineering Services, LLC

Well Diameter: 4" Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	10.66	10.66
Depth of Well (ft)	26.30	NA
Water Column Height (ft)	15.64	15.64
Calculated Drawdown (ft)	NA	0.0
Depth to Top of Screen	5'	
Screen Length (ft)	20'	
Pump depth (ft)	12'	

System Volume[(a)] (ml) =bladder + discharge tubing
Volume of bladder pump (ml): 100
Volume of flow through cell (ml): 500
Radius of dishcarge tubing (ft): 0.25-in or 0.01 ft.
Length of discharge tubing (ft): –
System Volume (ml): –
Total Volume Purged (ml): 2050
Total No. of SV Purged: –

Notes/Calcs: (a): flow cell disconnected before sample collection
1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	Turbidity (NTU)	pH	Temp (°C)	Turbidity (NTU)
1134	–	10.68	–	6.36	54.3	342.1	13.71	6.78	15.7	–
1137	650	10.68	217	1.45	35.9	354.8	13.09	6.78	15.9	–
1140	750	10.68	250	0.66	30.6	354.1	10.80	6.76	16.0	–
1143	650	10.68	217	0.71	27.9	349.7	9.23	6.77	16.1	–
			Stability:	± 0.2 mg/L	± 20 mv	± 3-5%	± 0.2 units	± 0.2 units	± 20 mv	± 10%

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 0.0

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: 796340
Date: 13/Dec/23
ES Personnel: Matt Engel

Well Number: MW-1
Equipment: Solinst, YSI ProQuatro
Sample ID/Time: 1357
Contractor: ES Engineering Services, LLC

Well Diameter: 4" Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	11.78	11.98
Depth of Well (ft)	24.22	NA
Water Column Height (ft)	12.44	12.24
Calculated Drawdown (ft)	NA	0.20
Depth to Top of Screen	5'	
Screen Length (ft)	20'	
Pump depth (ft)	14'	

System Volume[a] (ml) =bladder + discharge tubing
Volume of bladder pump (ml): 100
Volume of flow through cell (ml): 500
Radius of dishcarge tubing (ft): 0.25-in or 0.01 ft.
Length of discharge tubing (ft): —
System Volume (ml): —
Total Volume Purged (ml): 2150
Total No. of SV Purged: —

Notes/Calcs: (a): flow cell disconnected before sample collection
1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	DO (mg/L)	ORP (mV)	Conductivity (µs/cm)	Turbidity (NTU)	pH	Temp (°C)	Turbidity (NTU)
1343	—	11.89	—	7.16	204.7	335.2	19.0	6.21	16.0	—
1346	650	11.96	217	4.65	178.2	333.6	19.0	6.16	16.3	—
1349	750	12.00	250	4.08	162.3	333.7	14.5	6.13	16.6	—
1352	750	12.02	250	4.27	156.9	333.9	12.2	6.12	16.5	—
Stability:				± 0.2 mg/L	± 20 mv	± 3-5%	± 0.2 units	± 0.2 units	± 20 mv	± 10%

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 0.0

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: 796340
Date: 13/Dec/23
ES Personnel: Matt Engel

Well Number: EW-4
Equipment: Solinist, YSI ProQuatro
Sample ID/Time: 1430
Contractor: —

Well Diameter: 4"
Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	10.99	11.00
Depth of Well (ft)	22.86	NA
Water Column Height (ft)	11.87	11.86
Calculated Drawdown (ft)	NA	0.01
Depth to Top of Screen	13'	
Screen Length (ft)	~~Same~~ 10'	
Pump depth (ft)	14'	

System Volume[(a)] (ml) =bladder + discharge tubing
Volume of bladder pump (ml): —
Volume of flow through cell (ml): —
Radius of dishcarge tubing (ft): —
Length of discharge tubing (ft): —
System Volume (ml): —
Total Volume Purged (ml): 2200
Total No. of SV Purged: —

Notes/Calcs: (a): flow cell disconnected before sample collection
1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	Temp (°C)	pH	Conductivity (µs/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Color
1414	—	11.06	—	17.0	6.76	774	61.4	2.06	-91.8	Gray
1417	750	11.06	250	16.9	6.76	776	72.2	0.42	-103.9	Gray
1420	750	11.06	250	16.9	6.74	768	53.6	0.26	-110.8	—
1423	700	11.04	233	16.8	6.75	765	54.1	0.27	-113.7	—
Stability:				± 0.2 units	± 0.2 units	± 3-5%	± 10%	± 0.2 mg/L	± 20 mv	

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 10.0

LOW-FLOW GROUNDWATER SAMPLING LOG

Project Name: Springfield
Project Number: 796340
Date: 13/Dec/23
ES Personnel: Matt Engel

Well Number: EW-2R
Equipment: Solinist, ProQuatro
Sample ID/Time: 1510
Contractor: —

Well Diameter: 4" Casing Material: PVC
Reference: Top of Casing

	Before	After
Depth to Water (ft)	10.44	10.47
Depth of Well (ft)	22.86	NA
Water Column Height (ft)	12.42	12.39
Calculated Drawdown (ft)	NA	0.03
Depth to Top of Screen	13'	
Screen Length (ft)	10'	
Pump depth (ft)	14'	

System Volume[(a)] (ml) =bladder + discharge tubing
Volume of bladder pump (ml): —
Volume of flow through cell (ml): —
Radius of dishcarge tubing (ft): —
Length of discharge tubing (ft): —
System Volume (ml): —
Total Volume Purged (ml): 2100
Total No. of SV Purged: —

Notes/Calcs: (a): flow cell disconnected before sample collection
1ft of tubing = 10ml

WATER QUALITY INDICATOR PARAMETERS

Time	Volume (ml)	Water Level (ft)	Pumping Rate (ml)	Temp (°C)	pH	Conductivity (µs/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Color
1455	—	10.48	—	15.3	6.58	669	19.5	2.89	-82.2	Clr
1458	650	10.51	217	15.9	6.57	689	9.74	0.58	-91.5	—
1501	750	10.51	250	16.1	6.55	699	7.89	0.32	-95.7	—
1504	900	10.51	233	16.0	6.56	689	6.16	0.24	-99.7	—
Stability:				± 0.2 units	± 0.2 units	± 3-5%	± 10%	± 0.2 mg/L	± 20 mv	

Notes: (weather, well and well box conditions, etc...)

Dissolved Iron (Fe^{+2}) = 6.0

LPH Removal Field Sheet

Project No.: PROJ-006811	United Pacific #5468
Sampler: Matt Engel	Gauging Date: 13/Dec/23
Well ID: EW-1R	Well Diameter (in): 4"
Total Well Depth (ft): 15.58	Depth to Water (ft): 10.18
Depth to Free Product: —	Thickness of Free Product (ft): —
to: —	Equipment: ~~YSI Probe~~ Solinist ME

Purge Method: In-well skimmer	
Sampling Method: Same	Other: —

Purge Start Time: 1600 Flow Rate: — Pump Depth (ft): —

Time	DTP (feet btoc)	DTW	Water Removed	LPH Removed	
1600	—	10.18	1.75	<0.01	

Did well dewater? : No	Amount of H20 actually evacuated: 1.75 gal
Sampling Time: —	Sampling Date: 13/Dec/23
Sample ID: —	Laboratory: —
Analyzed for: —	
Equipment Blank ID: —	Duplicate ID: —
Other Information: —	

LPH Removal Field Sheet

Project No.: PROJ-006811	United Pacific #5468
Sampler: Matt Engel	Gauging Date: 13/Dec/23
Well ID: MW-6	Well Diameter (in): 4"
Total Well Depth (ft): 23.90	Depth to Water (ft): 10.10
Depth to Free Product: —	Thickness of Free Product (ft): —
to: —	Equipment: Solinist

Purge Method: In-well skimmer	
Sampling Method: —	Other: —

Purge Start Time: 1622 Flow Rate: — Pump Depth (ft): —

Time	DTP (feet btoc)	DTW	Water Removed	LPH Removed	
1622	—	10.10	1.75	0.00	—

Did well dewater? : —	Amount of H20 actually evacuated: 1.75 gal
Sampling Time: —	Sampling Date: —
Sample ID: —	Laboratory: —
Analyzed for: —	
Equipment Blank ID: —	Duplicate ID: —
Other Information:	

LPH Removal Field Sheet

Project No.: PROJ-006811	United Pacific #5468
Sampler: Matt Engel	Gauging Date: 13/Dec/23
Well ID: MW-5	Well Diameter (in): 4"
Total Well Depth (ft): 22.61	Depth to Water (ft): 6.79
Depth to Free Product: 6.78	Thickness of Free Product (ft): 0.01
to: 6.79	Equipment: Solinist

Purge Method: In-well bailer	
Sampling Method: —	Other: —

Purge Start Time: 1648 Flow Rate: — Pump Depth (ft): —

Time	DTP (feet btoc)	DTW	Water Removed	LPH Removed	
1648	6.78	6.79	1.70	0.05	

Did well dewater? : No	Amount of H20 actually evacuated: 1.70
Sampling Time: —	Sampling Date: —
Sample ID: —	Laboratory: —
Analyzed for: —	
Equipment Blank ID: —	Duplicate ID: —
Other Information: —	

WELLHEAD INSPECTION FORM

PN: 796340 Date: 12-13/Dec/23 Page: 1 of 1

Site: Springfield Client: —

Technician: Matt Engel

Well ID	Well inspected - No corrective action required	Cap non-functional	Lock non-functional	Bolts missing (list quantity)	Tabs stripped (list quantity)	Tabs broken (list quantity)	Annular seal incomplete	Apron damaged	Rim/lid broken	Trip hazard	Below grade	Other (explain in notes)	Well not inspected (explain in notes)	NOTES - please note if cap or lock is replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe is damaged, or any other details not covered by checklist
MW-1	X	—	—	3	—	1	—	—	—	—	—	—	—	redrill
MW-2	X	—	—	1	—	—	—	—	—	—	—	—	—	1 Needs redrilling
MW-3	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-4	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-5	✓	—	—	—	—	—	—	—	—	—	—	—	—	New string for bailer, with knots
MW-6	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-7	X	—	—	1	—	—	—	—	—	—	—	—	—	1 Needs redrilling
MW-8	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9	✓	—	—	—	—	—	—	—	—	—	—	—	—	Well head flooded because I didn't tighten bolt fully
MW-10	X	—	—	2	?	—	—	—	—	—	—	—	—	—
EW-1R	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
EW-2R	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
EW-4	✓	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-11	X	—	—	—	—	—	X	X?	—	—	—	—	—	Flooded
MW-05	X	X	—	—	—	—	—	—	—	—	—	—	—	Only 1 tab
MW-05	X	X	—	—	—	—	—	—	—	—	—	—	—	Weird cap

DRUM LOG

Site Name/No.: Springfield Project No.: 796340

Site Address.: 5720 Main St, Springfield, OR

STATUS OF DRUM(S) UPON ARRIVAL					
Date:	12/Dec/23				
Number of Drums empty:	1				
Number of drums 1/4 full:	0				
Number of drums 1/2 full:	1				
Number of drums 3/4 full:	1				
Total drums onsite:	3				
Are the drums property labeled?	Yes				
Drum ID and contents:	LPH, purge				
If any drums are partially or totally filled, what is the first used date?	—				

-If free product is added to a drum, the drum must contain at least 20 gallons of water.

-If drum contains free-product, it MUST be steel and appropriately labeled (haz-waste sticker)

STATUS OF DRUM(S) UPON DEPARTURE					
Date:	13/Dec/23				
Number of Drums empty:	1				
Number of drums 1/4 full:	0				
Number of drums 1/2 full:	1				
Number of drums 3/4 full:	1				
Total drums onsite:	3				
Are the drums property labeled?	Yes				
Drum ID and contents:	LPH, purge				
If any drums are partially or totally filled, what is the first used date?	—				

LOCATION OF DRUMS
Behind gas station store, in fenced area with dumpster.

FINAL STATUS					
Number of new drum(s) left onsite this event:	0				
Date of inspection:	13/Dec/23				
Drums labeled properly?:	Yes				
Technician's initals:	ME				

Libby Environmental, Inc.

Chain of Custody Record

www.LibbyEnvironmental.com

3322 South Bay Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 14/Dec/23 Page: 1 of 1

Client: Montrose Environmental

Project Manager: Laura Skow

Address: 1631 Saint Andrews Place

Project Name: Springfield

City: Santa Ana State: CA Zip: 92705

Location: 5720 Main Street City, State: Springfield, OR

Phone: 714-743-7855 Fax: —

Collector: Matt Engel Date of Collection: 12-13/Dec/23

Client Project # PO-057128

Email: lskow@montrose-env.com

Sample Number	Date Depth	Time	Sample Type	Container Type	VOC 8260 (MTCA)	NWTPH-Gx	BTEX 8021	NWTPH-HCID	NWTPH-Dx	NWTPH-Dx/Dx	c PAH 8270	PAH 8270	Semi Vol 8270	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	Lead			Field Notes
1 MW-1	13/Dec	1357	GW	VOAs, Poly			/										/			
2 MW-2	13/Dec	1114	GW				/										/			
3 MW-3	13/Dec	1147	GW				/										/			
4 MW-4	13/Dec	0945	GW				/										/			
5 MW-7	12/Dec	1916	GW				/										/			
6 MW-8	12/Dec	1710	GW				/										/			
7 MW-9	12/Dec	1755	GW				/										/			
8 MW-10	12/Dec	1635	GW				/										/			
9 MW-11	13/Dec	1037	GW				/										/			
10 EW-2R	13/Dec	1510	GW				/										/			
11 EW-4R	13/Dec	1430	GW				/										/			
12 EB-1	12/Dec	1620	GW				/										/			
13 EB-2	13/Dec	1525	GW				/										/			
14 TB-1	—	—	GW				/										/			
15 Dup-1	—	—	GW	↓			/										/			
16																				
17																				

Relinquished by:	Date / Time	Received by:	Date / Time
Matt Engel	14/Dec/23 1441	[signature]	12-14-23 1441
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt

Good Condition?	Y	N
Cooler Temp.		°C
Sample Temp.		°C
Total Number of Containers		

Remarks:

TAT: 24HR 48HR (5-DAY)

Distribution: White - Lab, Yellow - File, Pink - Originator

APPENDIX E

Montrose Groundwater Sampling Field Procedures

MONITORING WELL SAMPLING PROTOCOLS

The groundwater sampling procedures used by Montrose Environmental (Montrose) are designed to comply with local regulatory guidance and reflect the current professional standards and practices employed in the industry. A description of the groundwater sampling procedures is provided below.

Well Gauging

Initial site activities include determination of well locations based on a current site map. The area around each well is inspected to ensure that it is free of debris that could potentially fall into the well. A clean plastic trash bag or a piece of visqueen plastic sheeting is placed adjacent to the well to stage sampling equipment and supplies. Indications of well or well box damage are noted on appropriate field forms.

Prior to sampling, the construction details of each groundwater monitoring well to be sampled are reviewed to establish their respective depths and the length and placement of their screened intervals.

When the well is opened, the Technician will immediately measure the concentration of volatile organic vapors in the upper portion of the well casing with a photo-ionization detector (PID) calibrated to hexane. This measurement will guide the selection of respiratory protection equipment for sampling (as dictated by Montrose's Health and Safety Plan) at that particular well. Historical air monitoring data should also be referred to when selecting appropriate respiratory protection.

Prior to purging or sampling, initial static water levels are measured and recorded for all site wells. Depth to groundwater measurements accurate to 0.01 feet are obtained with an electronic sounding instrument that can also distinguish between liquid phase hydrocarbon (LPH) and water. The depths to LPH (if present), to water, and to the bottom of the well are measured from the top of the well casing (surveyors mark or notch if present). These measurements and the approximate thickness of potential LPH are recorded on the Fluid Level Measurement Form. Field forms are included in the Groundwater Monitoring Report as an Appendix.

As the measuring device is removed, it is thoroughly washed with a Liqui-nox/ water mixture and rinsed with distilled water. The tape is wiped dry with a paper towel as it is re-wound.

Note, wells that are found to contain LPH are not purged or sampled.

Traditional Well Purging

If purging is required, depth to groundwater measurements and well construction details are used to calculate the volume of water within each well casing.

During purging, the water quality parameters consisting of temperature, pH, conductivity, and turbidity are monitored as each well volume is removed. In some cases, additional water quality parameters, such as dissolved oxygen (DO) and oxidation-reduction potential (ORP), are also measured during purging. Purging continues until these parameters vary less than 10 percent from the previous reading, three well volumes are removed, or 80 percent of the well volume has been removed with no significant well recharge. Groundwater samples are collected without additional purging if the volume of groundwater in a well does not recover to at least 80 percent of its initial pre-purge measurement within two hours.

Depth to groundwater measurements, purge volumes, and water quality parameters obtained as each well is purged are recorded on Groundwater Monitoring Field Forms.

Instruments used for groundwater parameter measurements are calibrated daily in accordance with the manufacturer's instructions.

Purge water is generally collected in labeled 55-gallon, DOT-approved drums for disposal. Drums may be left on site in a secure location for disposal by others, or transported to a collection location for eventual transfer to a licensed treatment or recycling facility. In some cases, purge water is collected directly from the site by a licensed vacuum truck company, or treated on site by an active remediation system.

Low Flow, Minimal Drawdown Sampling

For non-LNAPL (floating product) sites: This procedure is designed to assist the user in taking representative groundwater samples from groundwater monitoring wells. The groundwater samples will be collected using low-flow (minimal drawdown) purging and sampling methods and is based upon U.S. EPA, Ground Water Issue, Publication #EPA/540/S-95/504, April 1996.

The field sampler's objective is to purge and sample the well so that the water that is discharged from the pump, and subsequently collected, is representative of the formation water from the aquifer's identified zone of interest.

1. Calibrate all field instruments at the start of each day's deployment per the instrument manufacturer's instruction. Record calibration data on the appropriate field calibration documentation form.

2. Begin sampling at the least contaminated and preferably upgradient well(s). Make notes describing the well condition, personnel, weather, location, etc.

3. Use only new, dedicated and/or clean (phosphate-free detergent, rinse and triple rinsed) equipment and sampling supplies. The water level meter, low-flow pump, discharge tubing and/or bailer will either be new or decontaminated before well gauging and sampling. Note - anything placed into a monitoring well must be CLEANED and DECONTAMINATED beforehand.

4. Measure the depth to water from the surveyed reference mark on the wellhead and record the measurement on the gauging and sampling sheet. Lock the water level meter in place so that the level can be monitored during purging and sampling. When placing the probe in the well, take precautions to not disturb or agitate the water. Where compounds of interest are known to concentrate near the top or the bottom the screen zone, locate the pump intake or end of tubing in the upper one-third or lower one-third of the interval, respectively.

5. Connect the compressed air source's airline to the pump controller's "AIR IN" connection (if utilizing a gas-engine operated generator, locate the generator at least 25 feet downwind from the wellhead). If using a peristaltic pump located at the surface, connect the flexible tubing to the pump drive head.

6. Connect the pump controller "AIR OUT" air-line to the bladder pump's air supply fitting at the wellhead (if using an electric pump, connect to generator's electric panel). If using a peristaltic pump, connect downhole tubing to flexible tubing in pump drive head.

7. Connect the pump discharge line to the in-line flow cell's "IN" fitting. If electric, same as above. If using a peristaltic pump, connect the discharge tubing to the "IN" fitting of the flow cell.

8. Connect the flow cell's "OUT" line and secure to drain the purge water into the purge water collection container.

9. Turn on or start the air supply to the pump. Set the pump controller settings to the documented settings for the specific well. Confirm the flow rate is equal to the well's established optimum flow rate, not to exceed 1 liter (1,000 ml) per minute. Modify as necessary and document any required modification. If electric, document MHz pump frequency for optimum flow rate.

10. Monitor the water level and confirm that the water level drawdown has stabilized within the well's allowable limits. Minimal drawdown is to be achieved which is less than 1/3-foot.

11. After a single pump-system's volume (bladder volume + discharge tubing volume, or for peristaltic pump downhole tubing volume + flexible tubing volume) has been adequately purged, read and record water quality field measurements every three to five minutes until all parameters have stabilized within their allowable ranges for at least three consecutive measurements. When stabilization has been achieved, sample collection may begin.

12. Disconnect the flow cell and its tubing from the pump line before collecting samples. Decrease the pump (MHz) rate to 100 millimeters per minute or less by lowering the controller's air pressure setting or MHz pump frequency prior to collecting samples for volatiles. If using a peristaltic pump, cut the discharge tubing between the pump head drive and the "IN" fitting on the flow cell. Place the samples in a cooler with enough ice to keep them at four degrees Celsius.

13. Once samples for volatiles have been collected, re-established pump flow rate to the original purge flow rate by inputting the documented controller settings for the well without the In-Line Flow Cell connected and collect remaining samples.

14. When all sample containers have been filled, make a final measurement of the well's Static Water Level and record the measurement on the gauging and sampling sheet.

15. Measure and record total purge volume collected. Consolidate generated purge water.

16. Remove and decontaminate the In-Line Flow Cell with phosphate-free detergent and triple rinse. If using a peristaltic pump, disconnect flexible tubing portion from the pump drive head. If dedicating the downhole tubing to the well, place tubing in the well in such a way that it will be easily retrievable during the next sampling event.

17. Disconnect the controller air supply to the pump. Disconnect electric cables to generator.

18. Secure the wellhead cover and secure with its lock. Move equipment to next well to be sampled.

Groundwater Sampling

After wells are purged, or not purged, according to agency-approved instructions or guidelines, groundwater samples are collected for laboratory analysis.

Groundwater samples will be collected from each well directly from the discharge tubing, of which the intake end is located within the screened interval. Groundwater samples should NOT be passed through the low-flow cell, or through any groundwater quality measuring device prior to collection. Groundwater brought to the surface is conveyed into appropriate laboratory prepared containers for each required analysis.

After filling, sample containers are immediately capped. Particular care is given to containers for volatile organic analysis (VOAs), which require filling to zero headspace and fitting with Teflon-sealed caps.

Each sample container is labeled with the project number (or site ID), well designation, sample date, and the samplers initials, and then immediately sealed in a zip lock bag and placed in a pre-chilled, insulated chest with ice. Samples remain chilled prior to and during transport to a state-certified laboratory for analysis. Sample container description and requested analyses are entered onto a chain-of-custody form to provide instruction for the laboratory. The chain-of-custody form accompanies the samples during transportation to provide a continuous record of possession from the point of collection to the laboratory. If a freight or overnight carrier transports the samples, the carrier is noted on the form along with the package tracking number.

For wells that are connected to a treatment system, samples are taken from the sample ports of actively pumping remediation wells.

Sequence of Gauging, Purging, and Sampling

The sequence in which monitoring activities are conducted is determined on a site-specific basis. In general, wells are gauged beginning with the least-affected well and ending with the well that has the highest contaminant concentration based on previous analytical results. After gauging is completed, wells are purged and/or sampled in the order of least-affected to most-affected wells.

Field QA/QC Procedures

A trip blank field sample is used to ensure that sample collection and handling procedures do not introduce contaminants into the groundwater samples. The trip blank is prepared by filling sample containers in the field with de-ionized water. The sample containers are labeled as “Trip Blank,” placed in the cooler with other groundwater samples, and transported to the laboratory for analysis.

Silica Gel Cleanup of Groundwater Samples

Unless clearly specified by the project manager and subsequently noted on the chain-of-custody, groundwater samples that are to be analyzed for diesel and heavy oil using Methods NWTPH-Dx/Ox will not be ‘cleaned-up’ using silica gel or any other agents.

If samples that are to be analyzed for TPH-Dx/Ox are subjected to silica gel cleanup

procedures, that fact will be noted on the chain-of-custody, the analytical report and in the groundwater monitoring report.

Decontamination

To reduce the potential for cross-contamination between wells, strict isolation and decontamination procedures are observed.

Portable pumps are not used in wells with LPH. Technicians wear nitrile gloves during all gauging, purging and sampling activities. Gloves are changed between wells and more often if warranted. Any equipment that may come in contact with fluids is either dedicated to a particular well, decontaminated prior to each use, or discarded after a single use. Decontamination consists of a four-stage decontamination process: a phosphate-free detergent (Liqui-nox) wash, a double potable-water rinse, and a final deionized water rinse.

Exceptions

Additional tasks or non-standard procedures that may be requested or required for a particular site are documented on the appropriate field notes/forms.