



May 31, 2023
Project No. M0785.20.001

Anthony Chavez
Oregon Department of Environmental Quality
165 East 7th Avenue
Eugene, OR 97401

Re: Village Shell—May 2023 Quarterly Monitoring Event

Dear Anthony Chavez:

Maul Foster & Alongi, Inc. (MFA) has prepared this letter to present the results of quarterly groundwater and soil vapor monitoring at the former Village Shell property located at 1805 Virginia Avenue in North Bend, Oregon (the Site) (Figure 1). The Site was selected for assessment by the Oregon Department of Environmental Quality (DEQ) and is funded by DEQ's Leaking Underground Storage Tank cost recovery funds. This report was prepared for the DEQ under Task 9 of Task Order 73-18-21.

PURPOSE

In December 2022, a supplemental investigation was conducted that included the installation of five groundwater monitoring wells (i.e., MW-01, MW-02, MW-04, MW-06, and MW-07) and three soil vapor wells (i.e., SVW-01 through SVW-03).¹ Monitoring wells MW-03 and MW-05 could not be installed due to drilling difficulties. The newly installed wells were sampled to assess the nature and extent of contamination on and off of the Site. The December 2022 sampling event was considered the first quarterly monitoring event.

The second quarterly monitoring event was conducted in February 2023 and the third event was conducted in May 2023. The purpose of quarterly monitoring is to assess chemical conditions at and adjacent to the Site and to confirm that the extent of contamination in groundwater and soil vapor has been delineated. Chemical data from the monitoring events were screened against DEQ risk-based concentrations (RBCs)² to assess whether the Site or adjacent areas potentially impacted by the Site pose an unacceptable risk to human health.

¹ MFA. 2023. *Supplemental Site Investigation Report, DEQ Task Order 73-18-21: Village Shell, LUST ID No. 06-04-2330, UST Facility ID No. 5540*. Maul Foster & Alongi, Inc. Portland, Oregon. January 19.

² DEQ. 2003. *Risk-based decision making for the remediation of contaminated sites*. Oregon Department of Environmental Quality. September 22 (Contact information and links updated September 6, 2017; Guidance name updated October 2, 2017; RBC spreadsheet updated May 2018).

GROUNDWATER AND SOIL VAPOR SAMPLING

Figure 2 presents the locations of the groundwater monitoring wells and soil vapor monitoring wells that were sampled on May 2 and 3, 2023, using the techniques described in the Standard Operating Procedures, provided as Attachment A.

Monitoring wells MW-01, MW-02, MW-04, MW-06, and MW-07 were sampled. Groundwater wells were initially opened to allow the water level to equilibrate with ambient air pressure, followed by the measurement of static water levels using a water level indicator. The water levels were recorded on water field sampling data sheets (FSDS), which are included in Attachment B. Water levels are presented in Table 1 and the groundwater level elevations, with potentiometric contours, are shown on Figure 2. Groundwater at and adjacent to the Site during the May 2023 monitoring event flowed to the northeast and west-northwest, merging to the north toward Pony Slough, consistent with the flow directions observed during the December 2022 and February 2023 monitoring events.

Samples were collected using low flow methods with a peristaltic pump and dedicated disposable polyethylene tubing. Groundwater parameters were measured during purging and recorded on the water FSDS (see Attachment B). Purged groundwater generated during the May 2023 monitoring event was collected and stored in a labeled 55-gallon drum, which is secured behind a locked fence that surrounds the Site.

The three soil vapor monitoring wells (SVW-01 through SVW-03) were sampled using Summa cannisters. The Summa cannisters, sampling train, and tubing were enclosed in a shroud filled with helium gas at each monitoring well to determine if leaks had occurred in the sampling equipment. A portable helium detector was used to sample the air purged through the sampling train to verify the absence of helium. FSDS for the soil vapor samples are also included in Attachment B.

Groundwater and soil vapor samples were labeled, logged on chain-of-custody documentation, and submitted for chemical analysis to the DEQ-contracted laboratory, Pace Analytical National Center for Testing and Innovation in Mt. Juliet, Tennessee.

Samples were analyzed for the following:

- Groundwater samples were analyzed for gasoline-range total petroleum hydrocarbons (TPH) by Northwest TPH (NWTPH) Method NWTPH-Gx, diesel- and heavy-oil-range TPH by NWTPH-Dx (with silica gel cleanup), polycyclic aromatic hydrocarbons (PAHs) by U.S. Environmental Protection Agency (EPA) Method 8270D, and volatile organic compounds (VOCs) by EPA Method 8260C.
- Soil vapor samples were analyzed for gasoline-range TPH and VOCs by Modified EPA Method TO-15. For quality assurance, soil vapor samples were also analyzed

for helium, consistent with ASTM International Method D1946 with a method reporting limit (MRL) of approximately 1 percent.

ANALYTICAL RESULTS

See Attachment C for the data validation memorandum and Attachment D for the laboratory analytical reports. The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

Groundwater

Gasoline-, diesel-, and heavy-oil-range TPH, VOCs, and PAHs were detected above the MRLs in the groundwater samples analyzed (see Table 2 and Figure 3). Results are summarized as follows:

- **Gasoline-range TPH**—Detected concentrations of gasoline-range TPH ranged from 36.4 (estimated) to 14,400 micrograms per liter (ug/L) in samples collected from monitoring wells MW-01, MW-02, MW-06, and MW-07. Concentrations of gasoline-range TPH were not detected above the MRL in the sample collected from monitoring well MW-04.
- **Diesel-range TPH**—Concentrations of diesel-range TPH ranged from 137 (estimated) to 1,530 ug/L in samples collected from monitoring wells MW-01, MW-06, and MW-07. Concentrations of diesel-range TPH were not detected above the MRL in samples collected from monitoring wells MW-02 or MW-04.
- **Heavy-oil-range TPH**—Detected concentrations of heavy-oil-range TPH ranged from 312 to 381 ug/L (both estimated concentrations) in samples collected from monitoring wells MW-01 and MW-06. Concentrations of heavy-oil-range TPH were not detected above the MRL in samples collected from monitoring wells MW-02, MW-04, or MW-07.
- **VOCs**—Various VOCs were detected in samples collected from monitoring wells MW-01, MW-06, and MW-07. No VOCs were detected above the MRLs in the samples collected from monitoring wells MW-02 or MW-04. Detected concentrations of key VOCs are as follows:
 - Benzene was detected at a concentration of 115 ug/L in the sample collected from monitoring well MW-07.
 - Detected concentrations of ethylbenzene ranged from 275 to 1,180 ug/L in samples collected from monitoring wells MW-01 and MW-07.

- Detected concentrations of naphthalene ranged from 30.2 to 912 ug/L (both estimated concentrations) in samples collected from monitoring wells MW-01, MW-06, and MW-07.
- **PAHs**—Various PAHs were detected in samples collected from monitoring wells MW-01, MW-06, and MW-07. No PAHs were detected above the MRLs in samples collected from monitoring wells MW-02 or MW-04. Detected concentrations of naphthalene, a key PAH, ranged from 0.148 (estimated) to 462 ug/L.

Soil Vapor

Gasoline-range TPH were not detected above the MRL in any of the soil vapor samples collected (see Table 3 and Figure 4). Numerous VOCs were detected above the MRLs in all soil vapor samples. Tetrachloroethene and trichloroethene were detected in soil vapor samples collected from monitoring well SVW-01 and tetrachloroethene was detected in the soil vapor sample collected from monitoring well SVW-03. Helium was not detected in any of the soil vapor samples collected.

DATA EVALUATION

In December 2022, monitoring wells MW-01 and/or MW-07 had RBC exceedances of gasoline-range TPH, benzene, ethylbenzene, and naphthalene. In February 2023, RBC exceedances were limited to gasoline-range TPH, ethylbenzene, and naphthalene in monitoring well MW-01 and/or MW-07. In May 2023, RBC exceedances were limited to the groundwater sample collected from monitoring well MW-01, as follows:

- Gasoline-range TPH exceeded the RBC for groundwater in an excavation for construction and excavation workers.
- Ethylbenzene and naphthalene exceeded RBCs for vapor intrusion into buildings for residential receptors. Concentrations increased slightly compared to the February 2023 sampling event.
- No other analytes exceeded applicable RBCs in monitoring well MW-01.
- Monitoring wells MW-02, MW-04, MW-06, and MW-07 had no RBC exceedances.

In December 2022, 1,2-dibromoethane in soil vapor collected from monitoring well SVW-01 was the only constituent detected that exceeded applicable RBCs. In February and May 2023, VOCs were detected above the MRLs in all soil vapor samples collected, however, none of the detections exceeded applicable RBCs.

SUMMARY AND CONCLUSIONS

Groundwater and soil vapor monitoring wells were installed in December 2022 to assess chemical conditions at and adjacent to the Site. The third quarterly sampling event was

completed in May 2023 to confirm that the extent of contamination in groundwater and soil vapor has been delineated.

In May 2023, there were no DEQ RBC exceedances for soil vapor. Gasoline-range TPH, ethylbenzene, and naphthalene exceeded applicable RBCs in groundwater collected from monitoring well MW-01 located in the vicinity of the former underground storage tanks. This is the first quarterly event where petroleum concentrations in downgradient well MW-07 were not detected above the RBCs.

In May 2023, concentrations of gasoline-range TPH, ethylbenzene, and naphthalene in groundwater generally decreased or remained consistent with the concentrations observed during the December 2022 and February 2023 sampling events. The estimated locality of facility between the three events is unchanged.

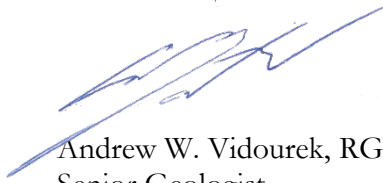
DEQ Task Order 73-18-21 ends on June 29, 2023. MFA is working with DEQ to determine next steps for the site.

Sincerely,

Maul Foster & Alongi, Inc.



Meaghan V. Pollock, RG
Project Geologist



Andrew W. Vidourek, RG
Senior Geologist

Attachments: Limitations
Tables
Figures
Attachment A—Standard Operating Procedures
Attachment B—Field Sampling Data Sheets
Attachment C—Data Validation Memorandum
Attachment D—Laboratory Analytical Reports

cc: Katie Daugherty, Oregon DEQ

LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

TABLES



Table 1
Water Level Elevations
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality



Location	TOC Reference Elevation (feet)	Date	Water Level (feet below TOC)	Water Level Elevation (feet)
MW-01	15.34	12/23/2022	6.09	9.25
		02/08/2023	6.09	9.25
		05/03/2023	6.06	9.28
MW-02	15.96	12/23/2022	6.70	9.26
		02/08/2023	6.55	9.41
		05/03/2023	6.54	9.42
MW-04	15.47	12/24/2022	6.60	8.87
		02/08/2023	6.60	8.87
		05/03/2023	6.59	8.88
MW-06	14.36	12/23/2022	5.26	9.10
		02/08/2023	4.71	9.65
		05/03/2023	4.90	9.46
MW-07	15.35	12/23/2022	6.22	9.13
		02/08/2023	6.24	9.11
		05/03/2023	6.20	9.15
Notes Elevation datum is NAVD88. NAVD88 = North American Vertical Datum of 1988. TOC = top of casing.				



Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air ⁽¹⁾			RBC, Groundwater, Vapor Intrusion into Buildings ⁽¹⁾			RBC, Groundwater in Excavation ⁽¹⁾	MW-01			MW-02			MW-04	
Sample Name:								MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-04	MW-04-DUP
Sample Date:	Res.	Urban Res.	Occ.	Res.	Urban Res.	Occ.	Con. & Exc. Worker	12/23/2022	02/08/2023	05/03/2023	12/23/2022	02/08/2023	05/03/2023	12/24/2022	12/24/2022
TPH (ug/L)															
Gasoline-range TPH	NV	NV	NV	22,000	22,000	NV	14,000	17,100	13,900	14,400	31.6 U	100 U	38.1 J	31.6 U	31.6 U
TPH with Silica Gel Cleanup (ug/L)															
Diesel-range TPH	NV	NV	NV	NV	NV	NV	NV	2,250 J	1,670	1,530	111 U	100 U	37 U	37 U	111 U
Heavy-oil-range TPH	NV	NV	NV	NV	NV	NV	NV	252 J	239 J	312 J+	92.7 U	83.3 U	92.7 U	92.7 U	93.8 J
Dissolved Metals (ug/L)															
Cadmium	NV	NV	NV	NV	NV	NV	130,000	0.15 U	--	--	0.15 U	--	--	0.15 U	0.15 U
Chromium	NV	NV	NV	NV	NV	NV	NV	2.58	--	--	1.24 U	--	--	1.24 U	1.24 U
Lead	NV	NV	NV	NV	NV	NV	NV	4.48	--	--	0.849 U	--	--	0.849 U	0.849 U
VOCs (ug/L)															
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	NV	NV	NV	0.147 U	2.94 U	2.94 U	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U
1,1,1-Trichloroethane	NV	NV	NV	NV	NV	NV	1,100,000	0.149 U	2.98 U	2.98 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	NV	NV	NV	0.133 U	2.66 U	2.66 U	0.133 U	0.133 U	0.133 U	0.133 U	0.133 U
1,1,2-Trichloroethane	4,700	5,600	21,000	870	1,000	11,000	49	0.158 U	3.16 U	3.16 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U
1,1-Dichloroethane	16,000	37,000	68,000	1,100	2,600	14,000	10,000	0.1 U	2 U	2 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
1,1-Dichloroethene	570,000	570,000	2,400,000	29,000	29,000	360,000	44,000	0.188 U	3.76 U	3.76 U	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	0.142 U	2.84 U	2.84 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	0.23 U	4.6 U	4.6 U	0.23 U	0.23 UJ	0.23 U	0.23 U	0.23 U
1,2,3-Trichloropropane	NV	NV	NV	NV	NV	NV	NV	0.237 U	4.74 U	4.74 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	NV	NV	NV	1,050	753	1,160	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	0.481 U	9.62 U	9.62 U	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U
1,2,4-Trimethylbenzene	NV	NV	NV	50,000	50,000	NV	6,300	2,840	2,170	2,690	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	NV	NV	NV	0.276 UJ	5.52 U	5.52 U	0.276 UJ	0.276 U	0.276 U	0.276 UJ	0.276 UJ
1,2-Dibromoethane	180	430	790	45	110	590	27	0.126 U	2.52 U	2.52 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
1,2-Dichlorobenzene	NV	NV	NV	NV	NV	NV	37,000	0.504 J	2.14 U	2.14 U	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U
1,2-Dichloroethane	2,100	4,900	9,000	300	700	3,900	630	0.0819 U	1.64 U	1.64 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U
1,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	0.149 U	2.98 U	2.98 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,3,5-Trimethylbenzene	NV	NV	NV	36,000	36,000	NV	7,500	564	439	599	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	0.11 U	2.2 U	2.2 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	0.11 U	2.2 U	2.2 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,4-Dichlorobenzene	4,900	12,000	21,000	540	1,300	7,100	1,500	0.15 J	2.4 U	2.4 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	0.161 U	3.22 U	3.22 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U
2-Butanone	NV	NV	NV	NV	NV	NV	NV	11.1	23.8 U	23.8 U	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	0.106 U	2.12 U	2.12 U	0.106 U	0.106 U	0.106 U	0.106 U	0.106 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	0.114 U	2.28 U	2.28 U	0.114 U	0.114 U	0.114 U	0.114 U	0.114 U
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	9.68	5.86 J	9.12 J	0.146 J	0.12 U	0.12 U	0.12 U	0.12 U
4-Methyl-2-pentanone	NV	NV	NV	NV	NV	NV	NV	1.93 J	9.56 U	9.56 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U
Acetone	NV	NV	NV	NV	NV	NV	NV	11.3 U	226 U	226 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air ⁽¹⁾			RBC, Groundwater, Vapor Intrusion into Buildings ⁽¹⁾			RBC, Groundwater in Excavation ⁽¹⁾	MW-01			MW-02			MW-04	
Sample Name:								MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-04	MW-04-DUP
Sample Date:	Res.	Urban Res.	Occ.	Res.	Urban Res.	Occ.	Con. & Exc. Worker	12/23/2022	02/08/2023	05/03/2023	12/23/2022	02/08/2023	05/03/2023	12/24/2022	12/24/2022
Acrolein	NV	NV	NV	NV	NV	NV	NV	2.54 U	50.8 UJ	50.8 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U
Acrylonitrile	2,200	5,300	9,800	700	1,700	9,200	250	0.671 U	13.4 U	13.4 UJ	0.671 U	0.671 U	0.671 UJ	0.671 U	0.671 U
Benzene	3,100	7,400	14,000	210	510	2,800	1,800	4.22	1.88 U	1.88 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U
Bromobenzene	NV	NV	NV	NV	NV	NV	NV	0.118 U	2.36 U	2.36 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Bromodichloromethane	1,400	3,200	6,000	180	420	2,300	450	0.136 U	2.72 U	2.72 U	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U
Bromoform	130,000	300,000	550,000	36,000	85,000	470,000	14,000	0.129 U	2.58 U	2.58 UJ	0.129 U	0.129 U	0.129 UJ	0.129 U	0.129 U
Bromomethane	32,000	32,000	130,000	2,100	2,100	27,000	1,200	0.605 U	12.1 U	12.1 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U
Carbon disulfide	NV	NV	NV	NV	NV	NV	NV	0.0962 U	1.92 U	1.92 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U
Carbon tetrachloride	1,800	4,200	7,700	92	220	1,200	1,800	0.128 U	2.56 U	2.56 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U
Chlorobenzene	NV	NV	NV	67,000	67,000	NV	10,000	0.116 U	2.32 U	2.32 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
Chloroethane	NV	NV	NV	2,800,000	2,800,000	NV	2,400,000	0.192 U	3.84 U	3.84 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U
Chloroform	1400	3400	6300	120	290	1,600	720	0.111 U	2.22 U	2.22 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Chloromethane	440,000	440,000	1,800,000	26,000	26,000	330,000	22,000	0.96 U	19.2 U	19.2 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U
cis-1,2-Dichloroethene	NV	NV	NV	NV	NV	NV	18,000	0.126 U	2.52 U	2.52 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	0.111 U	2.22 U	2.22 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Dibromochloromethane	3,900	9,300	17,000	980	2,300	13,000	610	0.14 U	2.8 U	2.8 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Dibromomethane	NV	NV	NV	NV	NV	NV	NV	0.122 U	2.44 U	2.44 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	NV	NV	NV	0.374 U	7.48 UJ	7.48 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U
Diisopropyl Ether	NV	NV	NV	NV	NV	NV	NV	0.105 U	2.1 U	2.1 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
Ethylbenzene	9,900	23,000	43,000	620	1,500	8,200	4,500	714	793	1,180	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U
Freon 113	NV	NV	NV	NV	NV	NV	NV	0.18 U	3.6 U	3.6 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Hexachlorobutadiene	NV	NV	NV	NV	NV	NV	NV	0.337 U	6.74 U	6.74 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Isopropylbenzene	NV	NV	NV	NV	NV	NV	51,000	158	76.3	141	0.709 J	0.105 U	0.105 U	0.111 J	0.105 U
Methyl tert-butyl ether	350,000	830,000	1,500,000	67,000	160,000	870,000	63,000	0.101 U	2.02 U	2.02 U	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U
Methylene chloride	1,000,000	2,000,000	13,000,000	90,000	160,000	3,300,000	79,000	0.43 U	8.6 U	8.6 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Naphthalene	3,600	8,500	16,000	840	2,000	11,000	500	858	528	912 J-	60.7 J-	112 J-	1 UJ	1 U	1 U
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	28.6	17.4 J	24.2	0.461 J	0.157 U	0.157 U	0.157 U	0.157 U
n-Propylbenzene	NV	NV	NV	NV	NV	NV	NV	619	342	473	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	26.2	17.2 J	25.6	0.367 J	0.125 U	0.125 U	0.125 U	0.125 U
Styrene	NV	NV	NV	NV	NV	NV	170,000	0.118 U	2.36 U	2.36 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	0.127 U	2.54 U	2.54 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U
Tetrachloroethene	64,000	150,000	NV	3,700	8,700	48,000	5,600	15 U	6 U	6 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Toluene	NV	NV	NV	NV	NV	NV	220,000	8.61	20 U	5.56 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U
trans-1,2-Dichloroethene	NV	NV	NV	NV	NV	NV	180,000	0.149 U	2.98 U	2.98 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	0.118 U	2.36 U	2.36 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Trichloroethene	3,300	6,900	20,000	200	430	3,700	430	0.19 U	3.8 U	3.8 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	36,000	36,000	460,000	160,000	5 U	3.2 U	3.2 U	5 U	0.16 U	0.16 U	5 U	5 U
Vinyl chloride	350	430	5,900	17	21	880	960	0.234 U	4.68 U	4.68 U	0.234 U	0.234 U	0.234 U	0.234 U	0.234 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air ⁽¹⁾			RBC, Groundwater, Vapor Intrusion into Buildings ⁽¹⁾			RBC, Groundwater in Excavation ⁽¹⁾	MW-01			MW-02			MW-04	
Sample Name:								MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-04	MW-04-DUP
Sample Date:	Res.	Urban Res.	Occ.	Res.	Urban Res.	Occ.	Con. & Exc. Worker	12/23/2022	02/08/2023	05/03/2023	12/23/2022	02/08/2023	05/03/2023	12/24/2022	12/24/2022
Xylenes (total) ^(a)	NV	NV	NV	86,000	86,000	NV	23,000	648	571	902	0.174 U	0.174 U	0.174 U	0.174 U	0.174 U
PAHs (ug/L)															
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	54.5 J-	49.3	45.3	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	2.73 U	0.136 U	0.126 J	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	70.7 J-	60.5	68.5	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	0.76 U	0.617	0.6	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	0.684 U	0.0342 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	0.14 J-	0.214	0.12	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Benzo(a)anthracene	NV	NV	NV	NV	NV	NV	NV	0.124 J-	0.206	0.13	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	0.0846 J-	0.143	0.109	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	0.105 J-	0.159	0.133	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	0.0448 J-	0.0795 J	0.0681	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	0.0404 UJ	0.0565 J	0.0494 J	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	0.162 J-	0.222	0.133	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	0.032 UJ	0.032 U	0.0173 J	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	0.443 J-	0.763	0.466	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	0.676 U	0.514	0.557	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	0.0354 J-	0.0748 J	0.0626	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	840	2,000	11,000	500	244	391 J-	462	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	0.589 J-	0.699	0.628	0.0286 J	0.018 U	0.018 U	0.018 U	0.018 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	0.425 J-	0.632	0.392	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U
cPAH TEQ ^{(b)(2)}	NV	NV	NV	NV	NV	NV	NV	0.127 J-	0.204 J	0.159 J	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air ⁽¹⁾			RBC, Groundwater, Vapor Intrusion into Buildings ⁽¹⁾			RBC, Groundwater in Excavation ⁽¹⁾	MW-04 (cont.)			MW-06		
Sample Name:								MW-04	MW-04	MW-04-DUP	MW-06	MW-06	MW-06
Sample Date:	Res.	Urban Res.	Occ.	Res.	Urban Res.	Occ.	Con. & Exc. Worker	02/08/2023	05/03/2023	05/03/2023	12/23/2022	02/08/2023	05/03/2023
TPH (ug/L)													
Gasoline-range TPH	NV	NV	NV	22,000	22,000	NV	14,000	100 U	36.4 J	38.7 J	1,390	1,280	938
TPH with Silica Gel Cleanup (ug/L)													
Diesel-range TPH	NV	NV	NV	NV	NV	NV	NV	100 U	35 U	35 U	100 U	100 U	204
Heavy-oil-range TPH	NV	NV	NV	NV	NV	NV	NV	198 J	87.7 U	263 U	150 J-	106 J	381 J+
Dissolved Metals (ug/L)													
Cadmium	NV	NV	NV	NV	NV	NV	130,000	--	--	--	0.15 U	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	--	--	--	14	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	--	--	--	16.3	--	--
VOCs (ug/L)													
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	NV	NV	NV	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U
1,1,1-Trichloroethane	NV	NV	NV	NV	NV	NV	1,100,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	NV	NV	NV	0.133 U	0.133 U	0.133 U	0.133 U	0.133 UJ	0.133 U
1,1,2-Trichloroethane	4,700	5,600	21,000	870	1,000	11,000	49	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U
1,1-Dichloroethane	16,000	37,000	68,000	1,100	2,600	14,000	10,000	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
1,1-Dichloroethene	570,000	570,000	2,400,000	29,000	29,000	360,000	44,000	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	0.23 UJ	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2,3-Trichloropropane	NV	NV	NV	NV	NV	NV	NV	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	NV	NV	NV	0.104 U	0.104 U	0.104 U	15.4	0.104 UJ	0.104 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U
1,2,4-Trimethylbenzene	NV	NV	NV	50,000	50,000	NV	6,300	0.322 U	0.322 U	0.322 U	31.7	0.322 U	0.322 U
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	NV	NV	NV	0.276 U	0.276 U	0.276 U	0.276 UJ	0.276 U	0.276 U
1,2-Dibromoethane	180	430	790	45	110	590	27	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
1,2-Dichlorobenzene	NV	NV	NV	NV	NV	NV	37,000	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U
1,2-Dichloroethane	2,100	4,900	9,000	300	700	3,900	630	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U
1,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,3,5-Trimethylbenzene	NV	NV	NV	36,000	36,000	NV	7,500	0.104 U	0.104 U	0.104 U	7.04	0.104 U	0.104 U
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	0.11 U	0.11 U	0.11 U	0.11 U	0.11U	0.11 U
1,4-Dichlorobenzene	4,900	12,000	21,000	540	1,300	7,100	1,500	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U
2-Butanone	NV	NV	NV	NV	NV	NV	NV	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	0.106 U	0.106 U	0.106 U	0.106 U	0.106 UJ	0.106 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	0.114 U	0.114 U	0.114 U	0.114 U	0.114 UJ	0.114 U
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	0.12 U	0.12 U	0.12 U	0.252 J	0.12 U	0.12 U
4-Methyl-2-pentanone	NV	NV	NV	NV	NV	NV	NV	0.478 U	0.478 U	0.478 U	0.544 J	0.478 U	0.478 U
Acetone	NV	NV	NV	NV	NV	NV	NV	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air ⁽¹⁾			RBC, Groundwater, Vapor Intrusion into Buildings ⁽¹⁾			RBC, Groundwater in Excavation ⁽¹⁾	MW-04 (cont.)			MW-06		
Sample Name:								MW-04	MW-04	MW-04-DUP	MW-06	MW-06	MW-06
Sample Date:	Res.	Urban Res.	Occ.	Res.	Urban Res.	Occ.	Con. & Exc. Worker	02/08/2023	05/03/2023	05/03/2023	12/23/2022	02/08/2023	05/03/2023
Acrolein	NV	NV	NV	NV	NV	NV	NV	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U
Acrylonitrile	2,200	5,300	9,800	700	1,700	9,200	250	0.671 U	0.671 UJ	0.671 UJ	0.671 U	0.671 U	0.671 UJ
Benzene	3,100	7,400	14,000	210	510	2,800	1,800	0.0941 U	0.0941 U	0.0941 U	18.3	0.105 J	0.0941 U
Bromobenzene	NV	NV	NV	NV	NV	NV	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 UJ	0.118 U
Bromodichloromethane	1,400	3,200	6,000	180	420	2,300	450	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U
Bromoform	130,000	300,000	550,000	36,000	85,000	470,000	14,000	0.129 U	0.129 UJ	0.129 UJ	0.129 U	0.129 U	0.129 UJ
Bromomethane	32,000	32,000	130,000	2,100	2,100	27,000	1,200	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U
Carbon disulfide	NV	NV	NV	NV	NV	NV	NV	0.0962 U	0.0962 U	0.0962 U	0.129 J	0.0962 U	0.0962 U
Carbon tetrachloride	1,800	4,200	7,700	92	220	1,200	1,800	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U
Chlorobenzene	NV	NV	NV	67,000	67,000	NV	10,000	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
Chloroethane	NV	NV	NV	2,800,000	2,800,000	NV	2,400,000	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U
Chloroform	1400	3400	6300	120	290	1,600	720	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Chloromethane	440,000	440,000	1,800,000	26,000	26,000	330,000	22,000	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U
cis-1,2-Dichloroethene	NV	NV	NV	NV	NV	NV	18,000	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Dibromochloromethane	3,900	9,300	17,000	980	2,300	13,000	610	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Dibromomethane	NV	NV	NV	NV	NV	NV	NV	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	NV	NV	NV	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U
Diisopropyl Ether	NV	NV	NV	NV	NV	NV	NV	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
Ethylbenzene	9,900	23,000	43,000	620	1,500	8,200	4,500	0.137 U	0.137 U	0.137 U	73.8	0.312 J	0.137 U
Freon 113	NV	NV	NV	NV	NV	NV	NV	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Hexachlorobutadiene	NV	NV	NV	NV	NV	NV	NV	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Isopropylbenzene	NV	NV	NV	NV	NV	NV	51,000	0.105 U	0.105 U	0.105 U	5.86	0.356 J	0.334 J
Methyl tert-butyl ether	350,000	830,000	1,500,000	67,000	160,000	870,000	63,000	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U
Methylene chloride	1,000,000	2,000,000	13,000,000	90,000	160,000	3,300,000	79,000	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Naphthalene	3,600	8,500	16,000	840	2,000	11,000	500	1 U	1 UJ	1 UJ	14.9 J-	1 UJ	1 UJ
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	0.157 U	0.157 U	0.157 U	0.715 J	0.157 UJ	0.157 U
n-Propylbenzene	NV	NV	NV	NV	NV	NV	NV	0.0993 U	0.0993 U	0.0993 U	16.4	0.644 J-	0.644 J
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	0.125 U	0.125 U	0.125 U	1.03	0.234 J-	0.261 J
Styrene	NV	NV	NV	NV	NV	NV	170,000	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U
Tetrachloroethene	64,000	150,000	NV	3,700	8,700	48,000	5,600	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Toluene	NV	NV	NV	NV	NV	NV	220,000	0.278 U	0.278 U	0.278 U	18	1.9 U	1.92
trans-1,2-Dichloroethene	NV	NV	NV	NV	NV	NV	180,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Trichloroethene	3,300	6,900	20,000	200	430	3,700	430	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	36,000	36,000	460,000	160,000	0.16 U	0.16 U	0.16 U	5 U	0.16 U	0.16 U
Vinyl chloride	350	430	5,900	17	21	880	960	0.234 U	0.234 U	0.234 U	0.234 U	0.234 U	0.234 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air ⁽¹⁾			RBC, Groundwater, Vapor Intrusion into Buildings ⁽¹⁾			RBC, Groundwater in Excavation ⁽¹⁾	MW-04 (cont.)			MW-06		
Sample Name:								MW-04	MW-04	MW-04-DUP	MW-06	MW-06	MW-06
Sample Date:	Res.	Urban Res.	Occ.	Res.	Urban Res.	Occ.	Con. & Exc. Worker	02/08/2023	05/03/2023	05/03/2023	12/23/2022	02/08/2023	05/03/2023
Xylenes (total) ^(a)	NV	NV	NV	86,000	86,000	NV	23,000	0.174 U	0.174 U	0.174 U	165	3 U	0.174 U
PAHs (ug/L)													
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	0.0687 U	0.0687 U	0.0687 U	0.905 J	0.0687 U	0.0687 U
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	0.0682 U	0.0682 U	0.0682 U	0.273 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	0.0674 U	0.0674 U	0.0674 U	1.4	0.0674 U	0.0693 J
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	0.019 U	0.019 U	0.019 U	0.076 U	0.019 U	0.019 U
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	0.0171 U	0.0171 U	0.0171 U	0.0684 U	0.0171 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	0.019 U	0.019 U	0.019 U	0.076 U	0.019 U	0.019 U
Benzo(a)anthracene	NV	NV	NV	NV	NV	NV	NV	0.0203 U	0.0203 U	0.0203 U	0.0812 U	0.0203 U	0.0203 U
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0736 U	0.0184 U	0.0184 U
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	0.0168 U	0.0168 U	0.0168 U	0.0672 U	0.0168 U	0.0168 U
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0736 U	0.0184 U	0.0184 U
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	0.0202 U	0.0202 U	0.0202 U	0.0808 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	0.0179 U	0.0179 U	0.0179 U	0.0716 U	0.0179 U	0.0179 U
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	0.016 U	0.016 U	0.016 U	0.064 U	0.016 U	0.016 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	0.027 U	0.027 U	0.027 U	0.108 U	0.027 U	0.027 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0676 U	0.0169 U	0.0169 U
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	0.0158 U	0.0158 U	0.0158 U	0.0632 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	840	2,000	11,000	500	0.0917 U	0.0917 U	0.0917 U	11	0.0917 U	0.148 J
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	0.018 U	0.018 U	0.018 U	0.072 U	0.018 U	0.018 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0676 U	0.0169 U	0.0169 U
cPAH TEQ ^{(b)(2)}	NV	NV	NV	NV	NV	NV	NV	0.0203 U	0.0203 U	0.0203 U	0.0812 U	0.0203 U	0.0203 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air ⁽¹⁾			RBC, Groundwater, Vapor Intrusion into Buildings ⁽¹⁾			RBC, Groundwater in Excavation ⁽¹⁾	MW-07			
Sample Name:								MW-07	MW-07	MW-07-DUP	MW-07
Sample Date:	Res.	Urban Res.	Occ.	Res.	Urban Res.	Occ.	Con. & Exc. Worker	12/23/2022	02/08/2023	02/08/2023	05/03/2023
TPH (ug/L)											
Gasoline-range TPH	NV	NV	NV	22,000	22,000	NV	14,000	39,300	15,300	14,500	9,500
TPH with Silica Gel Cleanup (ug/L)											
Diesel-range TPH	NV	NV	NV	NV	NV	NV	NV	625 J	171	159	137 J+
Heavy-oil-range TPH	NV	NV	NV	NV	NV	NV	NV	87.7 U	86.1 J	83.3 U	263 U
Dissolved Metals (ug/L)											
Cadmium	NV	NV	NV	NV	NV	NV	130,000	0.15 U	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	1.24 U	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	9.92	--	--	--
VOCs (ug/L)											
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	NV	NV	NV	1.47 U	1.47 U	0.147 U	1.47 U
1,1,1-Trichloroethane	NV	NV	NV	NV	NV	NV	1,100,000	1.49 U	1.49 U	0.149 U	1.49 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	NV	NV	NV	1.33 U	1.33 U	0.133 U	1.33 U
1,1,2-Trichloroethane	4,700	5,600	21,000	870	1,000	11,000	49	1.58 U	1.58 U	0.158 U	1.58 U
1,1-Dichloroethane	16,000	37,000	68,000	1,100	2,600	14,000	10,000	1 U	1 U	0.1 U	1 U
1,1-Dichloroethene	570,000	570,000	2,400,000	29,000	29,000	360,000	44,000	1.88 U	1.88 U	0.188 U	1.88 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	1.42 U	1.42 U	0.142 U	1.42 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	2.3 U	2.3 UJ	0.23 UJ	2.3 U
1,2,3-Trichloropropane	NV	NV	NV	NV	NV	NV	NV	2.37 U	2.37 U	0.237 U	2.37 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	NV	NV	NV	450	91.9	81.1	47.8
1,2,4-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	4.81 U	4.81 U	0.481 U	4.81 U
1,2,4-Trimethylbenzene	NV	NV	NV	50,000	50,000	NV	6,300	2,030	342	333	204
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	NV	NV	NV	2.76 UJ	2.76 U	0.276 U	2.76 U
1,2-Dibromoethane	180	430	790	45	110	590	27	1.26 U	1.26 U	0.126 U	1.26 U
1,2-Dichlorobenzene	NV	NV	NV	NV	NV	NV	37,000	1.07 U	1.07 U	0.107 U	1.07 U
1,2-Dichloroethane	2,100	4,900	9,000	300	700	3,900	630	0.819 U	0.819 U	0.0819 U	0.819 U
1,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	1.49 U	1.49 U	0.149 U	1.49 U
1,3,5-Trimethylbenzene	NV	NV	NV	36,000	36,000	NV	7,500	552	115	94	50
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	1.1 U	1.1 U	0.11 U	1.1 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	1.1 U	1.1 U	0.11 U	1.1 U
1,4-Dichlorobenzene	4,900	12,000	21,000	540	1,300	7,100	1,500	1.2 U	1.2 U	0.12 U	1.2 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	1.61 U	1.61 U	0.161 U	1.61 U
2-Butanone	NV	NV	NV	NV	NV	NV	NV	11.9 U	11.9 U	1.19 U	11.9 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	1.06 U	1.06 U	0.106 U	1.06 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	1.14 U	1.14 U	0.114 U	1.14 U
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	4.04 J	1.67 J	1.62	1.2 U
4-Methyl-2-pentanone	NV	NV	NV	NV	NV	NV	NV	4.78 U	4.78 U	0.478 U	4.78 U
Acetone	NV	NV	NV	NV	NV	NV	NV	113 U	113 U	11.3 U	113 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air ⁽¹⁾			RBC, Groundwater, Vapor Intrusion into Buildings ⁽¹⁾			RBC, Groundwater in Excavation ⁽¹⁾	MW-07			
Sample Name:								MW-07	MW-07	MW-07-DUP	MW-07
Sample Date:	Res.	Urban Res.	Occ.	Res.	Urban Res.	Occ.	Con. & Exc. Worker	12/23/2022	02/08/2023	02/08/2023	05/03/2023
Acrolein	NV	NV	NV	NV	NV	NV	NV	25.4 U	25.4 U	2.54 U	25.4 U
Acrylonitrile	2,200	5,300	9,800	700	1,700	9,200	250	6.71 U	6.71 U	0.671 U	6.71 U
Benzene	3,100	7,400	14,000	210	510	2,800	1,800	262	130	125	115
Bromobenzene	NV	NV	NV	NV	NV	NV	NV	1.18 U	1.18 U	0.118 U	1.18 U
Bromodichloromethane	1,400	3,200	6,000	180	420	2,300	450	1.36 U	1.36 U	0.136 U	1.36 U
Bromoform	130,000	300,000	550,000	36,000	85,000	470,000	14,000	1.29 U	1.29 U	0.129 U	1.29 UJ
Bromomethane	32,000	32,000	130,000	2,100	2,100	27,000	1,200	6.05 U	6.05 U	0.605 U	6.05 UJ
Carbon disulfide	NV	NV	NV	NV	NV	NV	NV	0.962 U	0.962 U	1 U	0.962 U
Carbon tetrachloride	1,800	4,200	7,700	92	220	1,200	1,800	1.28 U	1.28 U	0.128 U	1.28 U
Chlorobenzene	NV	NV	NV	67,000	67,000	NV	10,000	1.16 U	1.16 U	0.116 U	1.16 U
Chloroethane	NV	NV	NV	2,800,000	2,800,000	NV	2,400,000	1.92 U	1.92 U	0.192 U	1.92 U
Chloroform	1400	3400	6300	120	290	1,600	720	1.11 U	1.11 U	0.111 U	1.11 U
Chloromethane	440,000	440,000	1,800,000	26,000	26,000	330,000	22,000	9.6 U	9.6 U	0.96 U	9.6 U
cis-1,2-Dichloroethene	NV	NV	NV	NV	NV	NV	18,000	1.26 U	1.26 U	0.126 U	1.26 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	1.11 U	1.11 U	0.111 U	1.11 U
Dibromochloromethane	3,900	9,300	17,000	980	2,300	13,000	610	1.4 U	1.4 U	0.14 U	1.4 U
Dibromomethane	NV	NV	NV	NV	NV	NV	NV	1.22 U	1.22 U	0.122 U	1.22 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	NV	NV	NV	3.74 U	3.74 U	0.374 U	3.74 U
Diisopropyl Ether	NV	NV	NV	NV	NV	NV	NV	1.05 U	1.05 U	0.105 U	1.05 U
Ethylbenzene	9,900	23,000	43,000	620	1,500	8,200	4,500	1,880	404	288	275
Freon 113	NV	NV	NV	NV	NV	NV	NV	1.8 U	1.8 U	0.18 U	1.8 U
Hexachlorobutadiene	NV	NV	NV	NV	NV	NV	NV	3.37 U	3.37 U	0.337 U	3.37 U
Isopropylbenzene	NV	NV	NV	NV	NV	NV	51,000	88.4	13.1	17.4	12.8
Methyl tert-butyl ether	350,000	830,000	1,500,000	67,000	160,000	870,000	63,000	1.01 U	1.01 U	0.101 U	1.01 U
Methylene chloride	1,000,000	2,000,000	13,000,000	90,000	160,000	3,300,000	79,000	4.3 U	4.3 U	0.43 U	4.3 U
Naphthalene	3,600	8,500	16,000	840	2,000	11,000	500	377 J-	52.8	64.3 J-	30.2 J
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	39	9.16 J	8.81	2.51 J
n-Propylbenzene	NV	NV	NV	NV	NV	NV	NV	297	65.2	51.9	35.3
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	18.3	3.99 J	3.79	3.22 J
Styrene	NV	NV	NV	NV	NV	NV	170,000	1.18 U	1.18 U	0.118 U	1.18 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	1.27 U	1.27 U	0.127 U	1.27 U
Tetrachloroethene	64,000	150,000	NV	3,700	8,700	48,000	5,600	3 U	3 U	0.3 U	3 U
Toluene	NV	NV	NV	NV	NV	NV	220,000	4,970	1,770	1,380	1,160
trans-1,2-Dichloroethene	NV	NV	NV	NV	NV	NV	180,000	1.49 U	1.49 U	0.149 U	1.49 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	1.18 U	1.18 U	0.118 U	1.18 U
Trichloroethene	3,300	6,900	20,000	200	430	3,700	430	1.9 U	1.9 U	0.19 U	1.9 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	36,000	36,000	460,000	160,000	50 U	1.6 U	0.16 U	1.6 U
Vinyl chloride	350	430	5,900	17	21	880	960	2.34 U	2.34 U	0.234 U	2.34 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air ⁽¹⁾			RBC, Groundwater, Vapor Intrusion into Buildings ⁽¹⁾			RBC, Groundwater in Excavation ⁽¹⁾	MW-07			
Sample Name:								MW-07	MW-07	MW-07-DUP	MW-07
Sample Date:	Res.	Urban Res.	Occ.	Res.	Urban Res.	Occ.	Con. & Exc. Worker	12/23/2022	02/08/2023	02/08/2023	05/03/2023
Xylenes (total) ^(a)	NV	NV	NV	86,000	86,000	NV	23,000	7,840	2,170	1,470	1,280
PAHs (ug/L)											
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	25.2	4.76	4.51	2.98
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	0.0682 U	0.0682 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	56.6	8.37	7.97	3.98
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	0.106	0.0292 J	0.0269 J	0.019 U
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	0.0171 U	0.0171 U	0.0171 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	0.019 U	0.019 U	0.019 U	0.019 U
Benzo(a)anthracene	NV	NV	NV	NV	NV	NV	NV	0.0203 U	0.0203 U	0.0203 U	0.0203 U
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	0.0168 U	0.0168 U	0.0168 U	0.0168 U
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	0.0202 U	0.0202 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	0.0179 U	0.0179 U	0.0179 U	0.0179 U
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	0.016 U	0.016 U	0.016 U	0.016 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	0.027 U	0.027 U	0.027 U	0.027 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	0.105	0.0229 J	0.0198 J	0.0169 U
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	0.0158 U	0.0158 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	840	2,000	11,000	500	393	69.4	66.1	46.6
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	0.0889	0.018 U	0.018 U	0.018 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0169 U
cPAH TEQ ^{(b)(2)}	NV	NV	NV	NV	NV	NV	NV	0.0203 U	0.0203 U	0.0203 U	0.0203 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Notes Shading (color key below) indicates values that exceed screening criteria; non-detects (U and UJ) were not compared with screening criteria. When multiple criteria are exceeded, the highest value is shaded. When multiple screening criteria with the same value are exceeded, the result is shaded based on the criterion presented to the right. RBC, Groundwater, Vapor Intrusion into Buildings, Residential RBC, Groundwater, Vapor Intrusion into Buildings, Urban Residential RBC, Groundwater in Excavation, Construction & Excavation Worker Detected results are bolded. -- = not analyzed. Con. = construction. cPAH = carcinogenic polycyclic aromatic hydrocarbon. DEQ = Oregon Department of Environmental Quality. Exc. = excavation. J = result is estimated. J+ = result is estimated, but the result may be biased high. J- = result is estimated, but the result may be biased low. NV = no value. Occ. = occupational. PAH = polycyclic aromatic hydrocarbon. RBC = risk-based concentration. Res. = residential. TEQ = toxicity equivalency. TPH = total petroleum hydrocarbons. U = result is non-detect at the method detection limit or method reporting limit. ug/L= micrograms per liter. UJ = result is non-detect with an estimated detection limit. VOC = volatile organic compound. ^(a)Total xylenes are reported by the laboratory. ^(b)One-half the detection limit is used for non-detect results in the cPAH TEQ calculation. When all cPAHs are non-detect, the highest detection limit is used. References ⁽¹⁾DEQ. 2018. Table: <i>Risk-Based Concentrations for Individual Chemicals</i> . Oregon Department of Environmental Quality. May. ⁽²⁾EPA. 1993. <i>EPA Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons</i> . U.S. Environmental Protection Agency 600/R-93/089. July.
--

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Soil Gas, Vapor Intrusion into Buildings ⁽¹⁾			SVW-01			SVW-02			SVW-03			
Sample Name:				SVW-01	SVW-01	SVW-01	SVW-02	SVW-02	SVW-02	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP
Sample Date:	Res.	Urban Res.	Occ.	12/21/2022	02/07/2023	05/02/2023	12/21/2022	02/07/2023	05/02/2023	12/22/2022	12/22/2022	02/07/2023	02/07/2023
TPH (ug/m³)													
Gasoline-range hydrocarbons	79,000	79,000	1,700,000	826 U	826 U	826 U	826 U	826 U	826 U	826 U	1,360	826 U	826 U
VOCs (ug/m³)													
1,1,1-Trichloroethane	1,000,000	1,000,000	21,900,000	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U
1,1,2-Trichloroethane	35	42	770	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1-Dichloroethane	350	830	7,700	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U
1,1-Dichloroethene	42,000	42,000	880,000	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U
1,2,4-Trichlorobenzene	NV	NV	NV	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U
1,2,4-Trimethylbenzene	13,000	13,000	260,000	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	2.54	2.77	0.982 U	0.982 U
1,2-Dibromoethane	0.94	2.2	20	3.59	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U
1,2-Dichlorobenzene	42,000	42,000	880,000	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	22	51	470	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
1,2-Dichloropropane	NV	NV	NV	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U
1,3,5-Trimethylbenzene	13,000	13,000	260,000	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	1.02	0.982 U	0.982 U
1,3-Butadiene	NV	NV	NV	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U
1,3-Dichlorobenzene	NV	NV	NV	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	51	120	1,100	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dioxane	110	270	2,500	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U
2,2,4-Trimethylpentane	NV	NV	NV	2.49	0.934 U	0.934 U	0.934 U	0.934 U	0.934 U	3.84 J	12.1 J	0.934 U	0.934 U
2-Butanone	NV	NV	NV	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U
2-Chlorotoluene	NV	NV	NV	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U
2-Hexanone	NV	NV	NV	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U
2-Propanol	NV	NV	NV	3.07 U	3.07 U	3.07 U	3.07 U	3.07 U	3.07 U	3.07 U	3.07 U	3.07 U	3.07 U
4-Ethyltoluene	NV	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
4-Methyl-2-pentanone	NV	NV	NV	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U
Acetone	NV	NV	NV	2.97 U	2.97 U	5.32	2.97 U	2.97 U	3.42	13.9	14.6	2.97 U	3.42
Allyl Chloride	NV	NV	NV	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U
Benzene	72	170	1,600	0.639 U	0.639 U	0.639 U	1.34	3.26	0.639 U	1.41	1.39	1.54	1.4
Benzyl Chloride	NV	NV	NV	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U
Bromodichloromethane	15	36	330	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U
Bromoform	510	1,200	11,000	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U
Bromomethane	1,000	1,000	22,000	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U
Carbon disulfide	NV	NV	NV	0.622 U	0.622 U	0.622 U	0.622 U	1.07	1.46	0.622 UJ	6.51 J	1.38	1.52
Carbon tetrachloride	94	220	2000	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U
Chlorobenzene	10,000	10,000	220,000	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U
Chloroethane	2,100,000	2,100,000	43,800,000	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U
Chloroform	24	58	530	0.973 U	0.973 U	0.973 U	0.973 U	0.973 U	0.973 U	2.2	2.99	0.973 U	0.973 U
Chloromethane	19,000	19,000	390,000	0.413 U	0.413 U	0.413 U	0.413 U	1.14	0.413 U	0.413 U	0.413 U	1.13	1.26
cis-1,2-Dichloroethene	NV	NV	NV	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Soil Gas, Vapor Intrusion into Buildings ⁽¹⁾			SVW-01			SVW-02			SVW-03			
Sample Name:				SVW-01	SVW-01	SVW-01	SVW-02	SVW-02	SVW-02	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP
Sample Date:	Res.	Urban Res.	Occ.	12/21/2022	02/07/2023	05/02/2023	12/21/2022	02/07/2023	05/02/2023	12/22/2022	12/22/2022	02/07/2023	02/07/2023
cis-1,3-Dichloropropene	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Cyclohexane	NV	NV	NV	0.689 U	0.689 U	0.689 U	0.689 U	0.689 U	0.689 U	0.689 UJ	1.29 J	0.689 U	0.689 U
Dibromochloromethane	21	49	450	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	0.989 U	2.38	2.02	0.989 U	2.15	1.73	0.989 U	0.989 U	2.29	2.33
Ethanol	NV	NV	NV	2.36 U	3.02	4.86 J+	2.36 U	4.92	12	12.4	10.2	4.54	5.54
Ethylbenzene	220	530	4,900	0.867 U	0.867 U	0.867 U	5.98	0.867 U	0.867 U	2.93	2.39	0.867 U	0.867 U
Freon 113	6,300,000	6,300,000	131,400,000	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U
Freon 114	NV	NV	NV	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Heptane	NV	NV	NV	0.818 U	0.818 U	0.818 U	9.12	0.818 U	0.818 U	2.49 J	5.24 J	0.818 U	0.818 U
Hexachlorobutadiene	NV	NV	NV	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U
Isopropylbenzene	83,000	83,000	1,800,000	0.983 U	0.983 U	0.983 U	6.15	8.8	0.983 U	1.6	1.18	1.32	0.983 U
m,p-Xylene	NV	NV	NV	1.73 U	1.73 U	1.73 U	3.86	1.73 U	1.73 U	6.24	6.11	1.73 U	1.73 U
Methyl methacrylate	NV	NV	NV	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U
Methyl tert-butyl ether	2,200	5,100	47,000	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U
Methylene chloride	20,000	37,000	1,200,000	0.694 U	0.694 U	0.694 U	0.694 U	0.694 U	0.694 U	0.694 U	0.694 U	0.694 U	0.694 U
Naphthalene	17	39	360	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
n-Hexane	NV	NV	NV	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.93	2.22 U	2.22 U
n-Propylbenzene	NV	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
o-Xylene	NV	NV	NV	0.867 U	0.867 U	0.867 U	2.01	0.867 U	0.867 U	2.69	2.27	0.867 U	0.867 U
Propylene	NV	NV	NV	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U
Styrene	210,000	210,000	4,400,000	0.851 U	0.851 U	0.851 U	3.48	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U
Tetrachloroethene	2,200	5,100	47,000	1.36 U	1.36 U	2.07	1.36 U	1.36 U	1.36 U	1.36 U	1.36 U	1.36 U	1.36 U
Tetrahydrofuran	NV	NV	NV	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U
Toluene	1,000,000	1,000,000	21,900,000	1.88 U	1.88 U	1.88 U	3.71	1.88 U	1.88 U	1.88 U	1.88 U	2.73	2.94
trans-1,2-Dichloroethene	NV	NV	NV	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	2.79 J+	0.793 U	0.793 U	0.793 U	0.793 U
trans-1,3-Dichloropropene	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Trichloroethene	95	200	2,900	1.07 U	1.07 U	24.6	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U
Trichlorofluoromethane (Freon 11)	150,000	150,000	3,100,000	1.12 U	1.19	1.31	1.12 U	1.27	1.29	1.12 U	1.12 U	1.4	1.43
Vinyl Acetate	NV	NV	NV	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U
Vinyl Bromide	NV	NV	NV	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U
Vinyl chloride	33	41	2,800	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U
Xylenes (total) ^(a)	21,000	21,000	440,000	1.73 U	1.73 U	1.73 U	5.87	1.73 U	1.73 U	8.93	8.38	1.73 U	1.73 U

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Soil Gas, Vapor Intrusion into Buildings ⁽¹⁾			SVW-03 (cont.)	
Sample Name:				SVW-03	SVW-03-DUP
Sample Date:	Res.	Urban Res.	Occ.	05/02/2023	05/02/2023
TPH (ug/m³)					
Gasoline-range hydrocarbons	79,000	79,000	1,700,000	826 U	826 U
VOCs (ug/m³)					
1,1,1-Trichloroethane	1,000,000	1,000,000	21,900,000	1.09 U	1.09 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	1.37 U	1.37 U
1,1,2-Trichloroethane	35	42	770	1.09 U	1.09 U
1,1-Dichloroethane	350	830	7,700	0.802 U	0.802 U
1,1-Dichloroethene	42,000	42,000	880,000	0.793 U	0.793 U
1,2,4-Trichlorobenzene	NV	NV	NV	4.66 U	4.66 U
1,2,4-Trimethylbenzene	13,000	13,000	260,000	0.982 U	0.982 U
1,2-Dibromoethane	0.94	2.2	20	1.54 U	1.54 U
1,2-Dichlorobenzene	42,000	42,000	880,000	1.2 U	1.2 U
1,2-Dichloroethane	22	51	470	0.81 U	0.81 U
1,2-Dichloropropane	NV	NV	NV	0.924 U	0.924 U
1,3,5-Trimethylbenzene	13,000	13,000	260,000	0.982 U	0.982 U
1,3-Butadiene	NV	NV	NV	4.43 U	4.43 U
1,3-Dichlorobenzene	NV	NV	NV	1.2 U	1.2 U
1,4-Dichlorobenzene	51	120	1,100	1.2 U	1.2 U
1,4-Dioxane	110	270	2,500	0.721 U	0.721 U
2,2,4-Trimethylpentane	NV	NV	NV	0.934 U	0.934 U
2-Butanone	NV	NV	NV	3.69 U	3.69 U
2-Chlorotoluene	NV	NV	NV	1.03 U	1.03 U
2-Hexanone	NV	NV	NV	5.11 U	5.11 U
2-Propanol	NV	NV	NV	6.00	4.28 J+
4-Ethyltoluene	NV	NV	NV	0.982 U	0.982 U
4-Methyl-2-pentanone	NV	NV	NV	5.12 U	5.12 U
Acetone	NV	NV	NV	6.25	3.40
Allyl Chloride	NV	NV	NV	0.626 U	0.626 U
Benzene	72	170	1,600	0.639 U	0.639 U
Benzyl Chloride	NV	NV	NV	1.04 U	1.04 U
Bromodichloromethane	15	36	330	1.34 U	1.34 U
Bromoform	510	1,200	11,000	6.21 U	6.21 U
Bromomethane	1,000	1,000	22,000	0.776 U	0.776 U
Carbon disulfide	NV	NV	NV	0.622 U	0.622 U
Carbon tetrachloride	94	220	2000	1.26 U	1.26 U
Chlorobenzene	10,000	10,000	220,000	0.924 U	0.924 U
Chloroethane	2,100,000	2,100,000	43,800,000	0.528 U	0.528 U
Chloroform	24	58	530	0.973 U	0.973 U
Chloromethane	19,000	19,000	390,000	0.413 U	0.413 U
cis-1,2-Dichloroethene	NV	NV	NV	0.793 U	0.793 U

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

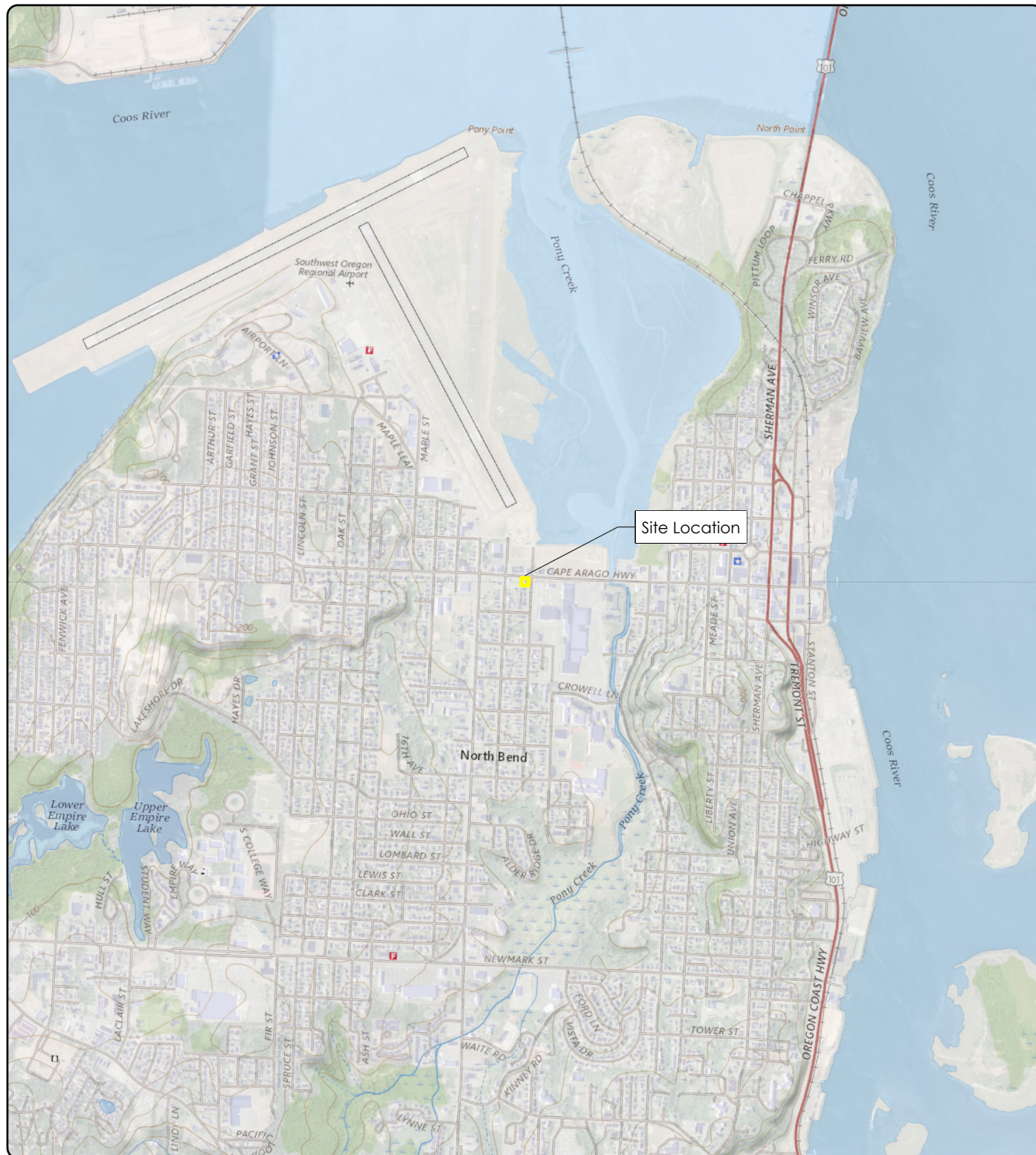
Location:	RBC, Soil Gas, Vapor Intrusion into Buildings ⁽¹⁾			SVW-03 (cont.)	
Sample Name:				SVW-03	SVW-03-DUP
Sample Date:	Res.	Urban Res.	Occ.	05/02/2023	05/02/2023
cis-1,3-Dichloropropene	NV	NV	NV	0.908 U	0.908 U
Cyclohexane	NV	NV	NV	0.689 U	0.689 U
Dibromochloromethane	21	49	450	1.7 U	1.7 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	2.17	2.11
Ethanol	NV	NV	NV	38.5	26.8
Ethylbenzene	220	530	4,900	0.867 U	0.867 U
Freon 113	6,300,000	6,300,000	131,400,000	1.53 U	1.53 U
Freon 114	NV	NV	NV	1.4 U	1.4 U
Heptane	NV	NV	NV	0.818 U	0.818 U
Hexachlorobutadiene	NV	NV	NV	6.73 U	6.73 U
Isopropylbenzene	83,000	83,000	1,800,000	0.983 U	0.983 U
m,p-Xylene	NV	NV	NV	1.73 U	1.73 U
Methyl methacrylate	NV	NV	NV	0.819 U	0.819 U
Methyl tert-butyl ether	2,200	5,100	47,000	0.721 U	0.721 U
Methylene chloride	20,000	37,000	1,200,000	1.55	1.06
Naphthalene	17	39	360	3.3 U	3.3 U
n-Hexane	NV	NV	NV	2.22 U	2.22 U
n-Propylbenzene	NV	NV	NV	0.982 U	0.982 U
o-Xylene	NV	NV	NV	0.867 U	0.867 U
Propylene	NV	NV	NV	2.15 U	2.15 U
Styrene	210,000	210,000	4,400,000	0.851 U	0.851 U
Tetrachloroethene	2,200	5,100	47,000	5.87 J	1.36 UJ
Tetrahydrofuran	NV	NV	NV	0.59 U	0.59 U
Toluene	1,000,000	1,000,000	21,900,000	1.88 U	1.88 U
trans-1,2-Dichloroethene	NV	NV	NV	0.793 U	0.975 J+
trans-1,3-Dichloropropene	NV	NV	NV	0.908 U	0.908 U
Trichloroethene	95	200	2,900	1.07 U	1.07 U
Trichlorofluoromethane (Freon 11)	150,000	150,000	3,100,000	1.86	1.81
Vinyl Acetate	NV	NV	NV	0.704 U	0.704 U
Vinyl Bromide	NV	NV	NV	0.875 U	0.875 U
Vinyl chloride	33	41	2,800	0.511 U	0.511 U
Xylenes (total) ^(a)	21,000	21,000	440,000	1.73 U	1.73 U

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Notes
Shading (color key below) indicates values that exceed screening criteria; non-detects (U and UJ) were not compared with screening criteria. When multiple criteria are exceeded, the highest value is shaded.
RBC, Soil Gas, Vapor Intrusion into Buildings, Residential
RBC, Soil Gas, Vapor Intrusion into Buildings, Urban Residential
Detected results are bolded .
DEQ = Oregon Department of Environmental Quality.
J = result is estimated.
J+ = result is estimated, but the result may be biased high.
NV = no value.
Occ. = occupational.
RBC = risk-based concentration.
Res. = residential.
TPH = total petroleum hydrocarbons.
U = result is non-detect at the method reporting limit.
ug/m ³ = micrograms per cubic meter.
UJ = result is non-detect with an estimated reporting limit.
VOC = volatile organic compound.
^(a) Total xylenes is the sum of m,p-xylene and o-xylene. When results are non-detect, half the reporting limit is used. When both results are non-detect, the highest reporting limit is shown.
Reference
⁽¹⁾ DEQ. 2018. Table: <i>Risk-Based Concentrations for Individual Chemicals</i> . Oregon Department of Environmental Quality. May.

FIGURES





Source:
U.S. Geological Survey (2021) 7.5-minute
topographic quadrangle: North Bend.
Township 25 South, Range 13 West, Section 15.
Property boundary obtained from
Coos County GIS.

Legend

 Site Boundary

Figure 1 Site Location

Oregon DEQ
Former Village Shell
1805 Virginia Avenue
North Bend, Oregon

 **MAUL FOSTER ALONGI**
p. 971 544 2139 | www.maulfooster.com

This product is for informational purposes and may not have been prepared for, or be suitable
for legal, engineering, or surveying purposes. Users of this information should review or
consult the primary data and information sources to ascertain the usability of the information.

0 1,000 2,000

Feet



Path: X:\0785.20 DEQ\001\Projects\Pro\0785_20_001\Map\Fig 2 WLE Contour Map May 2023
Print Date: 5/19/2023
Reviewed By: mpollock
Produced By: jroberts
Project: M0785.20.001

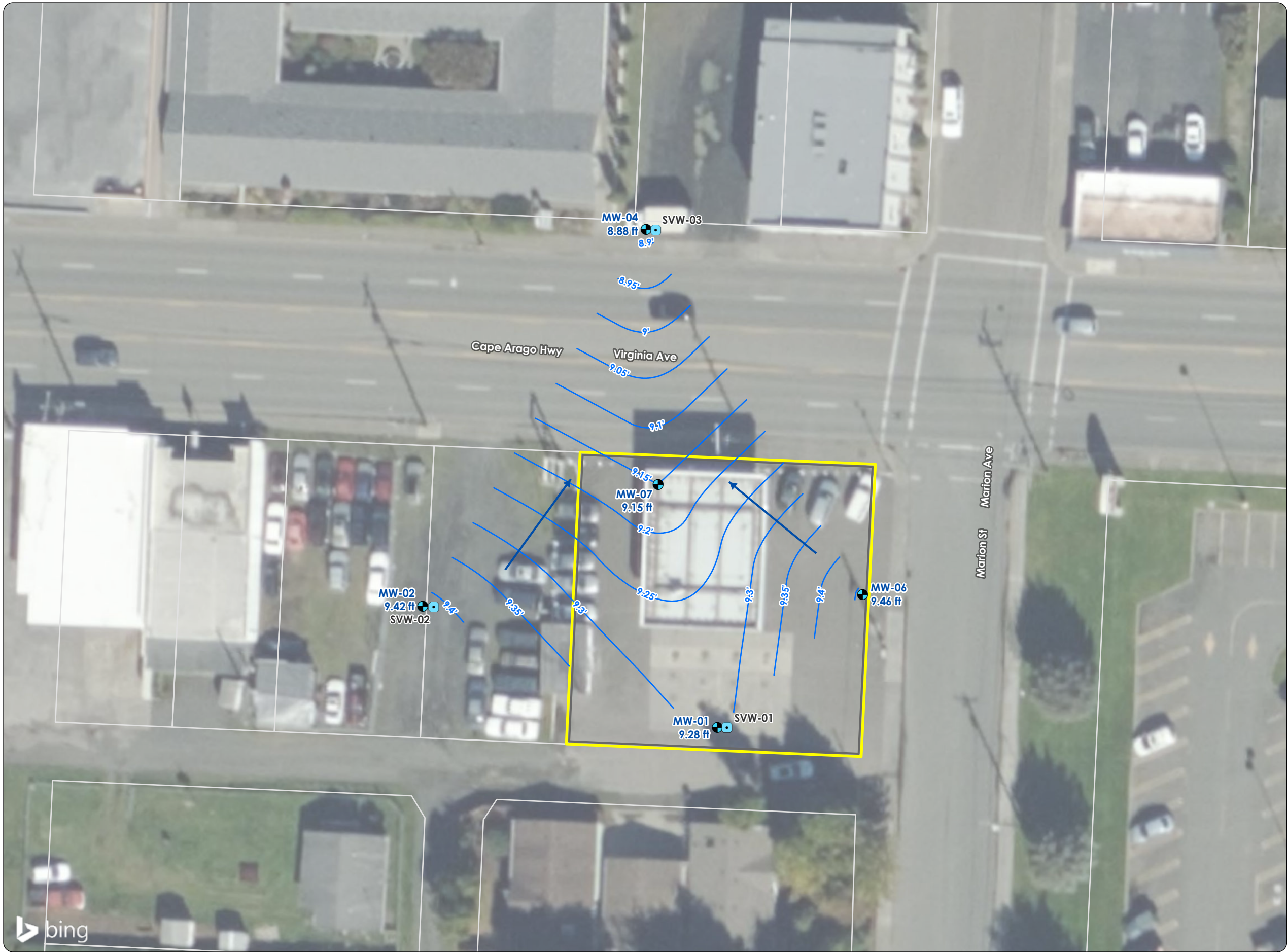


Figure 2
Monitoring Well Locations
and Water Level Elevation
Contour Map
May 2023

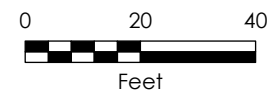
Oregon DEQ
Former Village Shell
1805 Virginia Avenue
North Bend, Oregon

Legend

- Groundwater Monitoring Well
- Soil Vapor Well
- Groundwater Elevation Contour
(feet NAVD 88; 0.05-foot. interval)
- Approximate Groundwater Flow
Direction
- Site Boundary
- Tax Lot

Notes

All locations are approximate.
ft = feet.



Data Sources

Aerial photograph obtained from Bing;
tax lot data obtained from Coos County.



MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfooster.com

This product is for informational purposes and may not have been prepared for, or be suitable
for legal, engineering, or surveying purposes. Users of this information should review or
consult the primary data and information sources to ascertain the usability of the information.
© 2023 Maul Foster & Alongi, Inc.

Path: X:\0785 20 DEQ\001\Projects\Pro M0785 20 001 Fig 3 4 5.aprx\Fig 3.GW Results May 2023
Print Date: 5/25/2023
Reviewed By: maplock
Produced By: roberts
Project: M0785 20 001

Bolding indicates values that exceed risk-based concentrations. See analytical results in Table 2 for specific screening level exceedances. Non-detect results were not compared to screening criteria.

MW-04	
GRO	38.7 J
DRO	35 U
Benzene	0.0941 U
Naph.	1 UJ

MW-07	
GRO	9,500
DRO	137 J+
Benzene	115
Naph.	46.6

MW-02	
GRO	38.1 J
DRO	37 U
Benzene	0.0941 U
Naph.	1 UJ

MW-06	
GRO	938
DRO	204
Benzene	0.148 J
Naph.	1 UJ

MW-01	
GRO	14,400
DRO	1,530
Benzene	1.88 U
Naph.	912 J-

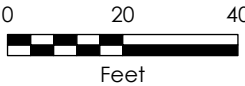
Figure 3 Groundwater Sample Results May 2023

Oregon DEQ
Former Village Shell
1805 Virginia Avenue
North Bend, Oregon

Legend

- Groundwater Monitoring Well
- Soil Vapor Well
- Former Fuel Dispenser
- Former Fuel Dispenser Island
- UST Excavation Pit
- LOF Boundary
- Site Boundary
- Tax Lot

Notes
All depths are in feet below ground surface.
All results are in micrograms per liter.
DRO was run with silica gel cleanup.
LOF approximated based on applicable risk-based concentration exceedances in groundwater samples collected to-date.
Naph. was analyzed by both EPA Method 8260 and 8270. The highest reported result is shown.
At locations where field duplicate samples were collected, the higher result for each analyte is shown.
DRO = diesel-range organics.
EPA = U.S. Environmental Protection Agency.
GRO = gasoline-range organics.
J = result is estimated.
J+ = result is estimated with a potential high bias.
J- = result is estimated with a potential low bias.
LOF = locality of facility.
naph. = naphthalene.
U = result is non-detect at the method detection limit.
UJ = result is non-detect with an estimated detection limit.



Data Sources
Aerial photograph obtained from Bing; tax lot data obtained from Coos County.

 **MAUL FOSTER & ALONGI**
p. 971 544 2139 | www.maulfooster.com

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.
© 2023 Maul Foster & Alongi, Inc.



Project: M0785.20.001 Produced By: jroberts Reviewed By: mpollock Print Date: 5/25/2023 Path: X:\0785.20 DEQ\001\Projects\Pro\M0785.20_001\Fig 4_5.aprx Fig 4 Soil Vapor Results May 2023

Soil vapor analytical results are provided in Table 3. Non-detect results were not compared to screening criteria.

SVW-03	
GRO	826 U
Benzene	0.639 U
Ethylbenzene	0.867 U
Toluene	1.88 U
Xylenes (total)	1.73 U
PCE	5.87 J
TCE	1.07 U

SVW-02	
GRO	826 U
Benzene	0.639 U
Ethylbenzene	0.867 U
Toluene	1.88 U
Xylenes (total)	1.73 U
PCE	1.36 U
TCE	1.07 U

SVW-01	
GRO	826 U
Benzene	0.639 U
Ethylbenzene	0.867 U
Toluene	1.88 U
Xylenes (total)	1.73 U
PCE	2.07
TCE	24.6

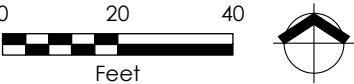
Figure 4
Soil Vapor Sample Results
May 2023

Oregon DEQ
Former Village Shell
1805 Virginia Avenue
North Bend, Oregon

Legend

- Groundwater Monitoring Well
- Soil Vapor Well
- Former Fuel Dispenser
- Former Fuel Dispenser Island
- UST Excavation Pit
- LOF Boundary
- Site Boundary
- Tax Lot

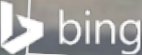
Notes
All results are in micrograms per cubic meter.
At locations where field duplicate samples were collected, the higher result for each analyte is shown.
LOF approximated based on applicable risk-based concentration exceedances in soil vapor samples collected to-date.
GRO = gasoline-range organics.
J = result is estimated.
LOF = locality of facility.
PCE = tetrachloroethene.
TCE = trichloroethene.
U = result is non-detect at the method detection limit.



Data Sources
Aerial photograph obtained from Bing; tax lot data obtained from Coos County.

 MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfooster.com

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.
© 2023 Maul Foster & Alongi, Inc.



ATTACHMENT A

STANDARD OPERATING PROCEDURES





STANDARD OPERATING PROCEDURE

Decontamination of Field Equipment

SOP Number: 1

Date: 3/9/2021

Revision Number: 0.1

SCOPE AND APPLICATION

This standard operating procedure (SOP) describes the decontamination procedure for field equipment that may come in contact with contaminated media and that Maul Foster & Alongi, Inc. (MFA) staff may reuse at multiple sample locations or sites. Decontamination is performed to reduce the potential for cross-contamination of samples that will be collected with multiuse equipment and that will undergo physical or chemical analyses. Other equipment that is multiuse—not used specifically for sample collection (e.g., water level meter, pump used for well development)—also requires decontamination. Finally, decontamination is necessary to minimize the potential for MFA staff's exposure to chemicals.

Typically, decontamination is not necessary for field equipment that is disposable and intended to be used only once (e.g., disposable bailer). Additionally, this SOP does not apply to equipment used by subcontractors, such as drilling equipment. However, MFA staff should confirm that subcontractors are implementing appropriate decontamination procedures to minimize the potential for cross-contamination of samples or MFA staff's exposure to chemicals.

EQUIPMENT AND MATERIALS REQUIRED

The following materials are necessary for this procedure:

- Nonphosphate detergent solution (e.g., Alconox, Liquinox)
- Distilled and potable water
- Personal protective equipment (as specified in the site-specific health and safety plan)
- Buckets to contain rinsate, brushes, paper towels

Depending on the site conditions and the types of contaminants that may be present, the use of other decontamination materials, such as deionized water, methanol, hexane, or isopropyl alcohol, may be necessary. The need for other materials should be determined prior to fieldwork. The decontamination procedures using other materials should be described in a site-specific sampling and analysis plan (SAP).

METHODOLOGY

When the site-specific SAP specifies additional or different requirements for decontamination, it takes precedence over this SOP. In the absence of a SAP, the following procedures shall be used.

General Sampling Procedure:

1. Rinse the equipment with potable water to remove visible soil, petroleum sheen, or contamination.
2. Scrub the equipment with a brush and solution of distilled water and nonphosphate detergent.
3. Rinse the equipment with distilled water.
4. Allow equipment to air dry, or dry it with paper towels.
5. At all times, ensure that the decontaminated equipment is stored so as to prevent it from becoming contaminated while not in use. Depending on the size of the equipment, it can be wrapped with new aluminum foil or placed in a new plastic bag.

Rinsate Storage:

All fluids resulting from equipment decontamination shall initially be contained in a bucket and then transferred to a Department of Transportation-approved container (e.g., 55-gallon drum) stored on site at a location that

does not interfere with on-site activities (e.g., vehicle traffic, pedestrian areas). Place a label on each container and include the following information:

- The date on which fluids were placed in the container
- Contents (e.g., “water from equipment decontamination”)
- Contact information, including MFA staff or client phone number

Note that labels on containers exposed to sunlight or precipitation are prone to fading. Use a waterproof, indelible ink pen (e.g., Sharpie®) whenever possible. In the field notebook, keep a detailed inventory of all containers, including the number of containers, the approximate quantity of liquids generated, and a description of the source of the fluids. Provide this information to the MFA project manager. For future reference, take photographs of (1) each drum label, (2) the drum(s), and (3) the drum storage vicinity on site.

Note that some clients and site owners have specific requirements for labeling and storage of containers. The requirements should be determined in advance of the fieldwork.



STANDARD OPERATING PROCEDURE

Low-Flow Groundwater Sampling

SOP Number: 9

Date: 3/9/2021

Revision Number: 0.1

SCOPE AND APPLICATION

This standard operating procedure (SOP) describes use of the low-flow sampling method for collection of reconnaissance groundwater samples from borings and groundwater samples from monitoring wells. The method uses low pumping rates during purging and sample collection to minimize water-level drawdown and hydraulic stress at the well-aquifer interface.

EQUIPMENT AND MATERIALS REQUIRED

The following materials are necessary for this procedure:

- Personal protective equipment (as specified in the health and safety plan)
- Water quality meter (e.g., Oakton, YSI Inc. multiparameter meter)
- Turbidity meter
- Water-level meter
- Peristaltic pump and tubing
- Laboratory-supplied sample containers
- Laboratory chain-of-custody form and cooler with ice
- Filter if dissolved analyses will be performed
- Well construction logs documenting the screen depth and interval for all wells to be sampled
- Equipment decontamination supplies if sampling equipment will be reused between sample locations (see SOP 1 for equipment decontamination procedures)
- 5-gallon buckets with lids
- Department of Transportation-approved storage containers (e.g., drums, totes)
- Groundwater field sampling datasheet and notebook

METHODOLOGY

When the project-specific sampling and analysis plan (SAP) provides additional or different requirements for low-flow groundwater sampling, it takes precedence over this SOP. In the absence of a SAP, the procedures in this SOP shall be used.

General Sampling Procedure:

Water Level Measurement

- Water-level measurement procedures are described in detail in SOP 13.
- Open the well cap to allow the water level to equilibrate (approximately ten minutes).
- Measure the water level in the well, using an electronic water-level meter to the nearest 0.01 foot to determine the depth to groundwater below the top of the well casing.
- If light nonaqueous-phase liquid (LNAPL) is present (typically indicated by a dark, oily sheen on the top of the water level meter), discuss with the MFA project manager how to proceed.

Purging

- If the water level is above the top of the well screen, place the end of the sample tubing in the middle of the well screen interval. If the water level is below the top of the screen, place the end of the sample tubing at the midpoint between the water level and the bottom of the well screen.
- Typical low-flow sampling pumping rates range from 0.1 to 0.5 liters per minute, depending on the hydrogeologic characteristics at the site. The objective of the rate selected is to minimize excessive drawdown (<0.3 feet) of the water level.
- Measure water quality parameters (dissolved oxygen, pH, electrical conductivity, turbidity, and temperature) using a flow-through cell connected to the discharge end of the peristaltic pump tubing. Purging will be considered complete when the water quality parameters stabilize per the following for three consecutive readings taken over 3-minute intervals (consistent with EPA guidance)¹:

Dissolved Oxygen (10% for values greater than 0.5 mg/L, if three Dissolved Oxygen values are less than 0.5 mg/L, consider the values as stabilized),
Specific Conductance (3%),
Temperature (3%),
pH (± 0.1 unit),
Oxidation/Reduction Potential (± 10 millivolts).

- Document the purge procedures, including pumping rates, water quality parameter measurements, and the water level during purging, on the groundwater field sampling datasheet.
- Place purge water in Department of Transportation-approved containers (e.g., 55-gallon drum) stored on site. See SOP 1 for drum storage, labeling, and documentation procedures.

Sample Collection

- Following the purging process, collect groundwater samples in laboratory-supplied containers.
- Confirm the laboratory analytical methods and sample container requirement with the MFA project manager or project chemist. If analysis for gasoline-range petroleum hydrocarbons or volatile organic compounds (VOCs) is proposed, fill the sample containers for gasoline and VOC analysis before filling sample containers for other analytical methods.

Low Yield (Alternate Method)

- If drawdown of the water table cannot be avoided by reducing the pumping rate, and the well goes dry during purging, discontinue pumping and water quality parameter measurements.
- Collect the groundwater sample after the water level above the well bottom recovers to 90 percent of the prepurge water level. For example, if the water level was 10 feet above the well bottom before purging, begin sampling when the water level has recovered to 9 feet or more above the well bottom.
- If the water column volume is insufficient to meet the sample volume requirement, allow the water level to again recover to 90 percent before continuing sampling. Repeat this procedure until all sample containers are filled.

¹ EPA. 2017. Low stress (low flow) purging and sampling procedure for the collection of groundwater samples from monitoring wells. September 19.



STANDARD OPERATING PROCEDURE

Monitoring Well—Water Elevation

SOP Number: 13

Date: 3/9/2021

Revision Number: 0.1

SCOPE AND APPLICATION

This standard operating procedure (SOP) describes the methods for obtaining groundwater level measurements and light nonaqueous-phase liquid (LNAPL) measurements from monitoring wells. Measurement may be collected as an independent event or in conjunction with groundwater sampling or sampling of removed LNAPL.

EQUIPMENT AND MATERIALS REQUIRED

The following materials are necessary for this procedure:

- Personal protective equipment (as specified in the health and safety plan)
- Equipment decontamination supplies if equipment will be reused between well locations (see SOP 1 for equipment decontamination procedures)
- Field notebook
- Water-level meter or oil/water interface probe if water levels and LNAPL levels will be measured
- Bailers or tape/paste to confirm LNAPL detections if required; see SOP 10 for procedures for managing LNAPL when removing LNAPL from a well

METHODOLOGY

When the project-specific sampling and analysis plan (SAP) provides additional or different requirements for water-level and LNAPL measurements, it takes precedence over this SOP. In the absence of a SAP, the procedures in this SOP shall be used.

General Sampling Procedure:

Review well construction details and historical groundwater and LNAPL levels and thicknesses if available.

During groundwater sampling events, measurements should be collected before, during, and after purging and sampling. During purging and low-flow sampling, water-level measurements are conducted to ensure that drawdown is not occurring. Low-flow sampling methods are described in SOP 9. The following procedures should be followed when collecting groundwater-level and LNAPL measurements from wells.

Water Level Measurement

1. Test the water-level meter to ensure proper instrument response. This can be accomplished by immersing the probe tip in a small container of water.
2. Open the well cover and cap and allow the water level to equilibrate with atmospheric pressure for several minutes so that a static water level is attained. Audible air movement into or out of the well upon loosening of the well cap is an indication that the water level is not in equilibrium with atmospheric pressure.
3. Locate the measurement reference point at the top of the well casing. Typically, this is a small notch in the casing or a point marked with a pen. If no measure point is present, measure the water level from the north side of the casing and note the result in the field notebook.
4. Lower the water-level meter probe into the well casing until the probe signal indicates that water has been contacted.

5. Observe the depth-to-water (DTW) reading from the measurement reference point at the top of the well casing to the nearest 0.01 foot. Over the course of about a minute, raise and re-lower the probe and observe the resulting DTW reading. If the reading remains unchanged to within 0.01 foot, this is an indication that the water level has equilibrated with atmospheric pressure; the reading can then be recorded in the field notebook as the static water level reading. If the reading changes, allow more time for the water level to become static.
6. If the work scope or SAP requires measurement of the depth-to-bottom (DTB), lower the probe to the bottom of the well and record the DTB reading from the reference point to the nearest 0.01 foot.
7. Remove the probe and decontaminate the probe and the portion of the probe tape inserted into the well casing.

Water Level and LNAPL Measurement

1. Repeat above steps 1 through 7.
2. Lower the interface probe into the well casing until the probe signal indicates that LNAPL has been contacted. Typically, the interface probe will signal by a repeating beep when LNAPL is present. A steady signal indicates that LNAPL is absent and that the probe is recording the DTW.
3. Observe the LNAPL reading as described in step 5 above until a static reading to the nearest 0.01 foot is achieved, and record the reading in the field notebook.
4. Lower the probe until a steady signal indicates that water has been contacted. Observe the water-level reading as described in step 5 above to confirm a static water level, and record the reading in the field notebook.
5. If LNAPL is detected in a well with no prior history of LNAPL presence, or the LNAPL thickness is greater than in prior observations, verify the presence and thickness using an alternative technique (e.g., bailer, tape, and water/petroleum colorimetric paste). See SOP 10 for procedures for managing LNAPL when removing LNAPL from a well.
6. Remove the interface probe and decontaminate the probe and the portion of the probe tape inserted into the well casing.



STANDARD OPERATING PROCEDURE

Soil Vapor Sampling

SOP Number: 16
Date: 3/9/2021
Revision Number: 0.1

SCOPE AND APPLICATION

This standard operating procedure (SOP) describes the methods for collecting soil vapor samples from temporary or permanent equipment installed in unsaturated subsurface soil. Sample collection may require drilling through concrete or asphalt to gain access to subsurface soils.

EQUIPMENT AND MATERIALS REQUIRED

The following materials are necessary for this procedure:

- Personal protective equipment (as specified in the health and safety plan)
- Measuring tape, Teflon™ tape, wrenches
- Laboratory-supplied sample canister (e.g., Summa), manifolds, and flow controllers
- Leak-detection equipment (helium tank, two-stage regulator, and gas-flow-control valve; and helium leak detector)
- Vacuum (purge) pump
- Laboratory chain-of-custody form
- Equipment decontamination supplies if vapor-sampling equipment[instruments?] will be reused between sample locations (see SOP 1 for equipment decontamination procedures)
- Soil vapor field sampling datasheet and notebook

METHODOLOGY

When the project-specific sampling and analysis plan (SAP) provides additional or different requirements for vapor sampling, it takes precedence over this SOP. In the absence of a SAP, the procedures in this SOP shall be used.

Complete the attached questionnaire before beginning vapor-sampling activities. The intent of this questionnaire is to document potential sources of vapors that could require the collection of vapor samples that are not representative of vapors present in subsurface soil.

General Sampling Procedure:

Sample collection from a temporary or permanent boring

- Installation of the sample point may be completed manually or by a drilling subcontractor. See SOPs 7 and 8 for drilling procedures.
- Vapor point construction details, including screen length and depth placement, annular material, and seal specifications, may be project-specific and should be described in the project SAP.
- Clear the ground surface of brush, root mat, grass, leaves, and other debris.
- Remove soil to the target depth, verify that the sample depth is correct, and record the depth in the field notebook and the boring log (see SOP 2).
- Assemble and attach the sampling equipment as described below. Before sampling, temporary sampling points must equilibrate for at least 30 minutes. Permanent points should equilibrate for at least 48 hours.

Sample collection from a subslab sample point

Subslab soil-gas sampling points consist of a Cox-Colvin & Associates, Inc. (Cox-Colvin) Vapor Pin™ system. The procedures developed by Cox-Colvin for installing and removing the Vapor Pin system, including the secure cover, are attached.

Assembly and attachment of sampling equipment

- Connect the sampling equipment as shown in the attached figure such that the equipment can be purged, leak tested, shut-in tested, and sampled in the field.
- The vapor pin installed in an asphalt or cement slab will be connected to the ¼ turn Swagelok® ball valve (Valve #1—sampling valve), using appurtenant stainless steel or Tygon® tubing. The sampling valve is connected to a vacuum gauge, which is attached to the flow controller.
- At the flow controller, a Swagelok tee connection will be fitted to the canister and to a second ¼ turn Swagelok ball valve (Valve #2—purge valve) used to isolate the purging equipment during actual sampling.
- The canister has a built-in valve that allows isolation of the canister during purging and leak-checking activities. On the other side of the purge valve (#2), a vacuum pump will be connected in order to induce vacuum for purging and shut-in testing.

Leak detection

- Helium will be contained around the sampling apparatus and sampling pin to serve as a leak-check compound. Helium will be released into a small structure (shroud) that is placed over the sampling pin and sampling train.
- With the canister valve closed, a sample of the soil gas collected during purging (described below) will be contained in a Tedlar® bag.
- A field helium detector will be used to sample the air purged through the sampling train to verify the presence or absence of helium. A helium concentration greater than 10 percent of the concentration in the containment structure indicates that a leak is occurring.
- If a leak is detected, the sampling and purging train fittings will be tightened and the leak check will be repeated.
- The absence of helium during the purging process verifies the integrity of the sampling system before the sample is collected.
- The canister will also be analyzed for helium by the analytical laboratory as a quality assurance measure.

Sampling

- After the sampling train is purged and no leaks are detected in the sampling train, close the valve leading to the vacuum pump (Valve #2—purge valve), open the valve leading to the sampling pin (Valve #1—sample valve), and then open the valve on the canister to collect the sample over a 30-minute period or the duration of time required for the specific test.
- Record field data during the sampling on the soil vapor field sampling datasheet, including the sampling start and stop times, the initial and final canister vacuum readings, and weather conditions.
- The sample will be rejected if the initial canister pressure is not at least -25 inch of mercury or if the final canister pressure is greater than -0.1 inch of mercury. The final canister pressure is recommended at or near -5 inch of mercury.

Data Recording

In a field log notebook and soil vapor field sampling datasheet, record the following:

- Project name, sample date, sampling location, canister serial number, initial vacuum reading, final pressure reading, and sampling time.
- Weather conditions during sampling (temperature, barometric pressure, humidity, sunny/cloud cover, wind).
- Date and amount of most recent prior rainfall.

Abandonment of Sampling Points

- Temporary Borings: Abandon each borehole in accordance with local and state regulations/procedures. See SOPs 7 and 8 for borehole abandonment procedures. The abandonment procedure typically consists of filling the boring with granular bentonite and hydrating the bentonite with water. Match the surface completion to the surrounding materials.
- Subslab Vapor Pin: The subslab vapor pin will be properly decommissioned consistent with the attached Cox-Colvin procedure. The slab borehole will be filled with grout and/or concrete. Surface restoration may include a follow-up visit for final sanding and finish work to restore the floor slab, and associated coverings, to their original condition as required.

ATTACHMENT B

FIELD SAMPLING DATA SHEETS



Soil Gas Field Sampling Data Sheet
Project: M0785.20.001
Client: Oregon Department of Environmental Quality
Location: North Bend, Oregon



Sample ID	Sample Date	Initial Vacuum ("Hg)	Shut-in Test	SUMMA Canister No.	Manifold No.	Sample Size/Rate	Purge Time		Helium Concentration		Purge		Sample Time		Sample Vacuum	
							Begin	End	Outdoor Ambient Air (ppm)	Under Shroud (%, >50%)	Purge Volume (L)	Helium Concentration in Tedlar Bag	Begin	End	Initial ("Hg)	Final ("Hg)
SVW-01	5/2/2023	-29	✓	009651	011295	6 L	12:18	12:21	0	48.5	1	0	12:23	12:54	-29	-5
SVW-02	5/2/2023	-29	✓	010650	012037	6 L	13:41	13:44	0	48.9	1	0	13:52	14:17	-29	-5
SVW-03	5/2/2023	-29	✓	021530	023092	6 L	15:15	15:18	0	42.3	1	0	15:21	15:48	-30	-5
SVW-03-DUP	5/2/2023	-29	✓	021571	012064	6 L	15:15	15:18	0	42.3	1	0	15:21	15:58	-30	-5
NOTES: "Hg= Inches of mercury ID= identification L= liter No.= number ppm= parts per million %= percent																

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691

Water Field Sampling Data Sheet

Client Name	DEQ	Sample Location	MW-01				
Project #	M0785.20.001-009	Sampler	C. Anderson				
Project Name	Village Shell	Sampling Date	5/3/2023				
Sampling Event	May 2023	Sample Name	MW-01				
Sub Area		Sample Depth	6.5				
FSDS QA:	M. Pollock; 05/18/2023	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
5/3/2023	13:45	10.9		6.06		4.84	0.79

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	1:53:00 PM	0.15	0.2	5.61	13.4	577	0.17	5	4.73
	1:56:00 PM	0.3	0.2	5.65	13.4	572	0.17	6.3	7.46
	1:59:00 PM	0.45	0.2	5.66	13.4	563	0.15	8.7	7.76
Final Field Parameters	2:02:00 PM	0.6	0.2	5.67	13.4	561	0.15	10.4	7.8

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear, colorless, faint petroleum hydrocarbon-like odor.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	2:02:00 PM	VOA-Glass	8	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments

Began purging at 13:50.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691

Water Field Sampling Data Sheet

Client Name	DEQ	Sample Location	MW-02				
Project #	M0785.20.001-009	Sampler	C. Anderson				
Project Name	Village Shell	Sampling Date	5/3/2023				
Sampling Event	May 2023	Sample Name	MW-02				
Sub Area		Sample Depth	7				
FSDS QA:	M. Pollock; 05/18/2023	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
5/3/2023	15:51	15		6.54		8.46	1.38

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	4:08:00 PM	0.6	0.2	5.14	13.7	126.1	5.86	15.6	39.6
	4:11:00 PM	0.75	0.2	5.16	12.7	123.1	5.93	13.2	20.7
	4:14:00 PM	0.9	0.2	5.22	12.8	121.4	5.65	12.1	12.2
	4:17:00 PM	1.05	0.2	5.25	12.9	121.8	5.65	13	10.17
	4:20:00 PM	1.2	0.2	5.26	12.9	121.8	6.12	13.7	7.2
	4:23:00 PM	1.35	0.2	5.27	12.9	121.4	6.15	13.4	6.42
Final Field Parameters	4:26:00 PM	1.5	0.2	5.26	13.1	122.7	5.96	13.4	6.87

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear, colorless.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	4:26:00 PM	VOA-Glass	8	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments

Began purging at 15:56.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691

Water Field Sampling Data Sheet

Client Name	DEQ	Sample Location	MW-04				
Project #	M0785.20.001-009	Sampler	C. Anderson				
Project Name	Village Shell	Sampling Date	5/3/2023				
Sampling Event	May 2023	Sample Name	MW-04				
Sub Area		Sample Depth	7.1				
FSDS QA:	M. Pollock; 05/18/2023	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
5/3/2023	14:46	14		6.59		7.41	1.21

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	2:55:00 PM	0.3	0.2	5	14.6	91.8	0.29	17.8	57.2
	2:58:00 PM	0.45	0.2	5.07	14.5	91.3	0.39	19.4	26.2
	3:01:00 PM	0.6	0.2	5.09	14.6	91.6	0.44	21.7	13.6
	3:04:00 PM	0.75	0.2	5.1	14.7	91.4	0.45	23.9	8.27
	3:07:00 PM	0.9	0.2	5.11	14.7	90.9	0.45	24.7	6.58
	3:10:00 PM	1.05	0.2	5.11	14.6	90.8	0.48	24.7	3.63
Final Field Parameters	3:13:00 PM	1.2	0.2	5.11	14.6	90.5	0.48	25	3

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear, colorless.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	3:13:00 PM	VOA-Glass	8	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments

Began purging at 14:49.
Collected duplicate sample MW-04-DUP at this location.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691

Water Field Sampling Data Sheet

Client Name	DEQ	Sample Location	MW-06				
Project #	M0785.20.001-009	Sampler	C. Anderson				
Project Name	Village Shell	Sampling Date	5/3/2023				
Sampling Event	May 2023	Sample Name	MW-06				
Sub Area		Sample Depth	5.75				
FSDS QA:	M. Pollock; 05/18/2023	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
5/3/2023	10:27	13.99		4.9		9.09	1.48

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	10:53:00 AM	0.64	0.4	4.92	13.8	108.7	0.09	-4.6	92.6
	10:56:00 AM	0.79	0.2	5	14.7	108.9	0.65	3.5	39.7
	10:59:00 AM	0.94	0.2	4.97	14.8	117.3	0.26	4.3	26.9
	11:02:00 AM	1.09	0.2	4.94	14.5	111.4	0.2	4	18.6
	11:05:00 AM	1.24	0.2	4.94	14.3	105.6	0.13	5.1	37.6
	11:08:00 AM	1.39	0.2	4.96	14.4	107.5	0.14	6.5	52.8
Final Field Parameters	11:11:00 AM	1.54	0.2	4.96	14.4	107.4	0.14	7.4	48.9

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear, colorless, petroleum hydrocarbon-like odor.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	11:11:00 AM	VOA-Glass	8	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments

Began purging at 10:47.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691

Water Field Sampling Data Sheet

Client Name	DEQ	Sample Location	MW-07				
Project #	M0785.20.001-009	Sampler	C. Anderson				
Project Name	Village Shell	Sampling Date	5/3/2023				
Sampling Event	May 2023	Sample Name	MW-07				
Sub Area		Sample Depth	7				
FSDS QA:	M. Pollock; 05/18/2023	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
5/3/2023	12:14	15		6.2		8.8	1.43

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	12:37:00 PM	0.75	0.2	5.4	13.6	238.2	0.2	17.9	25.9
	12:40:00 PM	0.9	0.2	5.39	13.6	230.7	0.21	18.4	21.7
	12:43:00 PM	1.05	0.2	5.38	13.7	224	0.23	18.8	19.2
	12:46:00 PM	1.2	0.2	5.38	13.7	221.1	0.25	19.2	14.3
	1:08:00 PM	1.35	0.2	5.36	14	190.7	0.33	22.5	7.1
	1:11:00 PM	1.5	0.2	5.35	13.9	188.9	0.32	21.9	7.09
Final Field Parameters	1:14:00 PM	1.65	0.2	5.35	13.8	187.8	0.33	21.1	6.01

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear, colorless, faint petroleum hydrocarbon-like odor.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	1:14:00 PM	VOA-Glass	8	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments

Began purging at 12:22.

ATTACHMENT C

DATA VALIDATION MEMORANDUM



DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. M0785.20.001 | MAY 17, 2023 | OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Maul Foster & Alongi, Inc. (MFA), conducted an independent Stage 2A review of the quality of analytical results for groundwater, soil vapor, and associated quality control samples collected on May 2 and 3, 2023, at the Former Village Shell Station located at 1805 Virginia Avenue in North Bend, Oregon.

The Pace Analytical National branch of Pace Analytical Services, LLC (Pace-N), performed the analyses. MFA reviewed Pace-N report number L1613461 and L1613493. The analyses performed and the samples analyzed are listed in the following tables.

Analysis	Reference
Diesel- and residual-range hydrocarbons (with silica gel cleanup)	NWTPH-Dx/SG
Gasoline-range hydrocarbons (groundwater)	NWTPH-Gx
Gasoline-range hydrocarbons (soil vapor) ^(a)	EPA TO-15
Helium	ASTM D1946
Semivolatile organic compounds	EPA 8270E-SIM
Volatile organic compounds (groundwater)	EPA 8260D
Volatile organic compounds (soil vapor)	EPA TO-15
Notes ASTM = ASTM International. EPA = U.S. Environmental Protection Agency. NWTPH = Northwest Total Petroleum Hydrocarbons. SG = silica gel cleanup. SIM = selected ion monitoring. TO = toxic organics. ^(a) Gasoline-range hydrocarbons for soil vapor are reported by Pace-N as low-fraction total petroleum hydrocarbons.	

Samples Analyzed		
Report L1613461	Report L1613493	
SVW-01	MW-01	MW-06
SVW-02	MW-02	MW-07
SVW-03	MW-04	TRIP BLANK
SVW-03-DUP	MW-04-DUP	--

DATA QUALIFICATION

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA 2020) and appropriate laboratory- and method-specific guidelines (EPA 1986, Pace-N 2020).

Data validation procedures were modified, as appropriate, to accommodate quality control requirements for methods that EPA data review procedures do not specifically address (e.g., Northwest Total Petroleum Hydrocarbons [NWTPH]-Dx/SG).

Based on the results of the data quality review procedures described below, the data, with the appropriate final data qualifiers assigned, are considered acceptable for their intended use. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, and data qualifiers assigned by the reviewer during validation.

Final data qualifiers:

- J = result is estimated.
- J+ = result is estimated, but the result may be biased high.
- J- = result is estimated, but the result may be biased low.
- U = result is non-detect at the method detection limit (MDL) or method reporting limit (MRL).
- UJ = result is non-detect with an estimated MDL or MRL.

SAMPLE CONDITIONS

Sample Custody

Sample custody was appropriately documented on the chain-of-custody forms accompanying the reports. The reviewer confirmed the gap in custody is due to shipment via a third-party shipping service, and that the samples were properly relinquished.

Holding Times

Extractions and analyses were performed within the recommended holding times.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

The reviewer confirmed that soil vapor samples SVW-01, SVW-02, SVW-03, and SVW-03-DUP were collected under a helium shroud to detect leaks in the collection system. The associated sample results were non-detect for helium by ASTM International Method D1946.

REPORTING LIMITS

Pace-N reported soil vapor results in report L1613461 to MRLs, and groundwater and associated quality control results in report L1613493 to MDLs. Samples that required dilutions because of high analyte concentrations, matrix interferences, and/or dilutions necessary for preparation and/or analysis were reported with raised MDLs and/or MRLs.

The laboratory qualified groundwater results that were detected between the MDL and the MRL with J, as estimated.

BLANKS

Where an analyte was detected in both a sample and its associated blank, sample results were qualified if the concentration was less than five times the blank concentration. Non-detect sample results and sample results greater than five times the blank concentration did not require qualification.

Method Blanks

Laboratory method blanks are used to assess whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the laboratory method blanks were associated with all samples prepared in the analytical batch.

According to report L1613461, the EPA Method TO-15 batch WG2060727 laboratory method blank (R3925795-3) had trans-1,2-dichloroethene, ethanol, and 2-propanol detections between the MDL and the MRL, at concentrations of 0.176 parts per billion by volume (ppbv), 0.597 ppbv, and 0.349 ppbv, respectively. The associated sample results were compared to the laboratory blank detection in ppbv, and sample results less than five times the blank concentration were qualified by the reviewer, with the qualifications and respective concentrations in micrograms per cubic meters shown in the table below.

Report	Sample	Analyte	Method Blank Result (ppbv)	Original Result (ug/m ³)	Qualified Result (ug/m ³)
L1613461	SVW-02	trans-1,2-Dichloroethene	0.176 J	2.79	2.79 J+
	SVW-03-DUP			0.975	0.975 J+
	SVW-01	Ethanol	0.597 J	4.86	4.86 J+
	SVW-03-DUP	2-Propanol	0.349 J	4.28	4.28 J+
Notes J = result is estimated. J+ = result is estimated, but the result may be biased high. ppbv = parts per billion by volume. ug/m ³ = micrograms per cubic meter.					

According to report L1613493, the NWTPH-Dx/SG batch WG2057921 laboratory method blank (R3923884-1) had diesel-range hydrocarbons and oil-range hydrocarbons detections between the MDL and the MRL, at concentrations of 37.2 micrograms per liter (ug/L) and 170 ug/L, respectively. The associated sample results less than five times the concentrations detected in the laboratory method blank were qualified by the reviewer, as shown in the following table.

Report	Sample	Analyte	Method Blank Result (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
L1613493	MW-01	Residual-range hydrocarbons	170 J	312	312 J+
	MW-04-DUP			103 J	263 U
	MW-06			381	381 J+
	MW-07			145 J	263 U
		Diesel-range hydrocarbons	37.2 J	137	137 J+
Notes J = result is estimated. J+ = result is estimated, but the result may be biased high. U = result is non-detect at the method reporting limit. ug/L = micrograms per liter.					

All remaining laboratory method blank results were non-detect to MDLs or MRLs.

Equipment Rinse Blanks

Equipment rinse blanks are used to evaluate field equipment decontamination. These blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

Trip Blanks

Trip blanks are used to evaluate whether volatile organic compound contamination was introduced during sample storage and during shipment between the sampling location and the laboratory.

A trip blank was submitted with sample delivery group L1613493 for EPA Method 8260D analysis.

The trip blank was non-detect to MDLs for all target analytes.

LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

A laboratory control sample (LCS) and a laboratory control sample duplicate (LCSD) are spiked with target analytes to provide information about laboratory precision and accuracy. LCSDs were not provided for NWTPH-Gx and EPA Method 8260D analysis; batch precision

could not be evaluated for these methods and qualification was not necessary. The LCS and the remaining LCSD were prepared and analyzed at the required frequency.

According to report L1613493, the EPA Method 8260D batch WG2057214 LCS results for dichlorodifluoromethane and vinyl chloride were above their respective upper percent recovery acceptance limits, at 164 percent and 138 percent, respectively. All associated sample results were non-detect; thus, no qualifications were necessary.

All remaining LCS and LCSD results were within acceptance limits for percent recovery and relative percent difference (RPD).

LABORATORY DUPLICATE RESULTS

Laboratory duplicate results are used to evaluate laboratory precision. Pace-N did not report laboratory duplicate results for any methods. Laboratory precision was evaluated with LCS and LCSD or matrix spike (MS) and matrix spike duplicate (MSD) results.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RESULTS

MS and MSD results are used to evaluate laboratory precision, accuracy, and the effect of the sample matrix on sample preparation and analysis. MS and MSD results were not provided with EPA Method TO-15 and ASTM International D1946 in report L1613461, as they are not required by these analytical methods. MS and MSD results were not provided in report L1613493, and batch precision was evaluated based on LCS and/or LCSD results.

SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance for individual samples for organic analyses.

The laboratory appropriately documented and qualified surrogate outliers. When surrogate percent recoveries were outside of acceptance limits because of dilutions necessary to quantify high concentrations of target analytes, qualification by the reviewer was not required. The reviewer confirmed that batch quality control results for samples with surrogate outliers were within acceptance limits.

According to report L1613493, the EPA Method 8270D-SIM 2-fluorobiphenyl surrogate result for the undiluted analysis of MW-01 was below the lower percent recovery acceptance limit of 48 percent, at 42.9 percent. The remaining two EPA Method 8270D-SIM base/neutral surrogates associated with the initial, undiluted analysis had acceptable recoveries; thus, qualifications were not necessary.

All remaining surrogate results were within percent recovery acceptance limits.

CONTINUING CALIBRATION VERIFICATION RESULTS

Continuing calibration verification (CCV) results are used to demonstrate instrument precision and accuracy through the end of the sample batch. CCV results were not required for validation. The laboratory did not report CCV results, but appropriately flagged results associated with CCV exceedances.

According to report L1613493, several EPA Method 8260D results were associated with CCV results with low recoveries; Pace-N noted that these results were associated with acceptable method sensitivity checks. The reviewer confirmed that method sensitivity checks show that sensitivity is acceptable at MRLs. Pace-N noted that these results are considered estimated. The reviewer qualified associated non-detect sample results with UJ and associated detected sample results with J-, as shown in the following table.

Report	Sample	Analyte	Original Result (ug/L)	Qualified Result (ug/L)
L1613493	MW-01	Acrylonitrile	13.4 U	13.4 UJ
		Bromoform	2.58 U	2.58 UJ
		Naphthalene	912	912 J-
	MW-02	Acrylonitrile	0.671 U	0.671 UJ
		Bromoform	0.129 U	0.129 UJ
		Naphthalene	1.00 U	1.00 UJ
	MW-04	Acrylonitrile	0.671 U	0.671 UJ
		Bromoform	0.129 U	0.129 UJ
		Naphthalene	1.00 U	1.00 UJ
	MW-04-DUP	Acrylonitrile	0.671 U	0.671 UJ
		Bromoform	0.129 U	0.129 UJ
		Naphthalene	1.00 U	1.00 UJ
	MW-06	Acrylonitrile	0.671 U	0.671 UJ
		Bromoform	0.129 U	0.129 UJ
		Naphthalene	1.00 U	1.00 UJ
	MW-07	Bromoform	1.29 U	1.29 UJ
		Bromomethane	6.05 U	6.05 UJ
	TRIP BLANK	Bromoform	0.129 U	0.129 UJ
Bromomethane		0.605 U	0.605 UJ	
Notes J = result is estimated. J- = result is estimated, but the result may be biased low. U = result is non-detect at the method detection limit. ug/L = micrograms per liter. UJ = result is non-detect with an estimated method detection limit.				

FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. The following field duplicate and parent sample pairs were submitted for analysis:

Report	Parent Sample	Field Duplicate Sample
L1613461	SVW-03	SVW-03-DUP
L1613493	MW-04	MW-04-DUP

MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL or 50 percent RPD for results that are greater than five times the MRL. RPD was not evaluated when both results in the sample pair were non-detect. When one result in the sample pair was non-detect, RPD was evaluated using the MRL of the non-detect result. Field duplicate results that exceeded the acceptance criteria were qualified by the reviewer, as shown in the following table.

Report	Sample	Analyte	RPD (%)	Original Result (ug/m³)	Qualified Result (ug/m³)
L1613461	SVW-03	Tetrachloroethene	125	5.87	5.87 J
	SVW-03-DUP			1.36 U	1.36 UJ
Notes J = result is estimated. RPD = relative percent difference. U = result is non-detect at the method reporting limit. ug/m³ = micrograms per cubic meters. UJ = result is non-detect with an estimated reporting limit.					

All remaining field duplicate results met the RPD acceptance criteria.

DATA PACKAGE

The data package was reviewed for transcription errors, omissions, and anomalies. None were found.

REFERENCES

EPA. 1986. *Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods*. EPA publication SW-846. 3rd ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), VI phase III (2019), VII phase I (2019), and VII phase II (2020).

EPA. 2020. *National Functional Guidelines for Organic Superfund Methods Data Review*. EPA 540-R-20-005. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.

Pace-N. 2022. *Quality Manual*. Version 03. Pace Analytical Services, LLC: Mt. Juliet, TN. August 15.

ATTACHMENT D

LABORATORY ANALYTICAL REPORTS



May 17, 2023

Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group: L1613461
Samples Received: 05/06/2023
Project Number: M0785.20.001
Description: Village Shell

Report To: Anthony Chavez

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

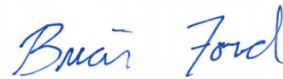
⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
SVW-01 L1613461-01	5	
SVW-02 L1613461-02	7	⁴ Cn
SVW-03 L1613461-03	9	⁵ Sr
SVW-03-DUP L1613461-04	11	
Qc: Quality Control Summary	13	⁶ Qc
Volatile Organic Compounds (MS) by Method TO-15	13	
Organic Compounds (GC) by Method ASTM 1946	17	⁷ Gl
Gl: Glossary of Terms	18	⁸ Al
Al: Accreditations & Locations	19	
Sc: Sample Chain of Custody	20	⁹ Sc

SAMPLE SUMMARY

SVW-01 L1613461-01 Air

Collected by
Connor Anderson

Collected date/time
05/02/23 12:54

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2060727	1	05/16/23 16:14	05/16/23 16:14	CEP	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2058852	1	05/12/23 10:53	05/12/23 10:53	BAW	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

SVW-02 L1613461-02 Air

Collected by
Connor Anderson

Collected date/time
05/02/23 14:17

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2060727	1	05/16/23 16:51	05/16/23 16:51	CEP	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2058852	1	05/12/23 10:56	05/12/23 10:56	BAW	Mt. Juliet, TN

SVW-03 L1613461-03 Air

Collected by
Connor Anderson

Collected date/time
05/02/23 15:48

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2060727	1	05/16/23 17:28	05/16/23 17:28	CEP	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2058852	1	05/12/23 10:59	05/12/23 10:59	BAW	Mt. Juliet, TN

SVW-03-DUP L1613461-04 Air

Collected by
Connor Anderson

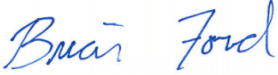
Collected date/time
05/02/23 15:58

Received date/time
05/06/23 09:00

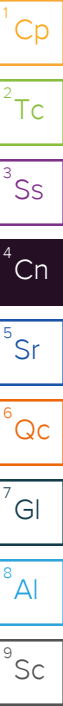
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2060727	1	05/16/23 18:03	05/16/23 18:03	CEP	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2058852	1	05/12/23 11:05	05/12/23 11:05	BAW	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.24	5.32		1	WG2060727
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2060727
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2060727
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2060727
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2060727
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2060727
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2060727
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2060727
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2060727
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2060727
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2060727
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2060727
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2060727
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2060727
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2060727
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2060727
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2060727
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2060727
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2060727
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2060727
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2060727
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2060727
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2060727
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2060727
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2060727
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2060727
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2060727
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2060727
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2060727
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG2060727
Ethanol	64-17-5	46.10	2.50	4.71	2.58	4.86	B	1	WG2060727
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2060727
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2060727
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.233	1.31		1	WG2060727
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.409	2.02		1	WG2060727
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2060727
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2060727
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2060727
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2060727
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2060727
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2060727
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2060727
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2060727
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2060727
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2060727
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2060727
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2060727
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2060727
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2060727
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2060727
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2060727
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2060727
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2060727
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.305	2.07		1	WG2060727
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2060727
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2060727

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2060727
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2060727
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2060727
Trichloroethylene	79-01-6	131	0.200	1.07	4.60	24.6		1	WG2060727
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2060727
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2060727
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2060727
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2060727
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2060727
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG2060727
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG2060727
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2060727
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2060727
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.1				WG2060727

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG2058852

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

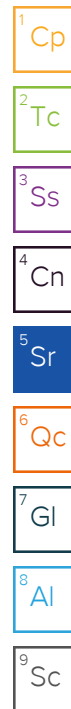
7Gl

8Al

9Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	1.44	3.42		1	WG2060727
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2060727
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2060727
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2060727
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2060727
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2060727
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2060727
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2060727
Carbon disulfide	75-15-0	76.10	0.200	0.622	0.469	1.46		1	WG2060727
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2060727
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2060727
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2060727
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2060727
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2060727
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2060727
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2060727
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2060727
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2060727
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2060727
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2060727
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2060727
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2060727
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2060727
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2060727
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2060727
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.704	2.79	B	1	WG2060727
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2060727
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2060727
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2060727
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG2060727
Ethanol	64-17-5	46.10	2.50	4.71	6.36	12.0		1	WG2060727
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2060727
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2060727
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.230	1.29		1	WG2060727
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.350	1.73		1	WG2060727
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2060727
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2060727
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2060727
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2060727
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2060727
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2060727
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2060727
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2060727
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2060727
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2060727
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2060727
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2060727
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2060727
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2060727
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2060727
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2060727
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2060727
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2060727
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2060727
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2060727
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2060727



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2060727
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2060727
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2060727
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2060727
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2060727
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2060727
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2060727
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2060727
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2060727
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG2060727
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG2060727
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2060727
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2060727
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.8				WG2060727

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG2058852

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.63	6.25		1	WG2060727
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2060727
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2060727
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2060727
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2060727
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2060727
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2060727
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2060727
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2060727
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2060727
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2060727
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2060727
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2060727
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2060727
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2060727
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2060727
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2060727
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2060727
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2060727
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2060727
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2060727
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2060727
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2060727
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2060727
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2060727
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2060727
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2060727
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2060727
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2060727
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG2060727
Ethanol	64-17-5	46.10	2.50	4.71	20.4	38.5		1	WG2060727
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2060727
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2060727
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.331	1.86		1	WG2060727
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.438	2.17		1	WG2060727
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2060727
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2060727
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2060727
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2060727
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2060727
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2060727
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.447	1.55		1	WG2060727
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2060727
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2060727
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2060727
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2060727
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2060727
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2060727
2-Propanol	67-63-0	60.10	1.25	3.07	2.44	6.00	B	1	WG2060727
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2060727
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2060727
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2060727
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2060727
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.864	5.87		1	WG2060727
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2060727
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2060727

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

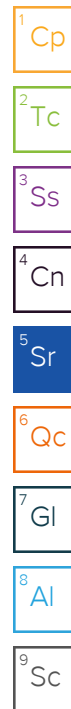
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2060727
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2060727
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2060727
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2060727
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2060727
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2060727
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2060727
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2060727
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2060727
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG2060727
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG2060727
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2060727
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2060727
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		92.0				WG2060727

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG2058852



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	1.43	3.40		1	WG2060727
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2060727
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2060727
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2060727
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2060727
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2060727
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2060727
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2060727
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2060727
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2060727
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2060727
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2060727
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2060727
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2060727
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2060727
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2060727
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2060727
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2060727
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2060727
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2060727
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2060727
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2060727
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2060727
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2060727
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2060727
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.246	0.975	B	1	WG2060727
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2060727
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2060727
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2060727
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG2060727
Ethanol	64-17-5	46.10	2.50	4.71	14.2	26.8		1	WG2060727
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2060727
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2060727
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.322	1.81		1	WG2060727
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.427	2.11		1	WG2060727
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2060727
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2060727
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2060727
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2060727
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2060727
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2060727
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.305	1.06		1	WG2060727
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2060727
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2060727
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2060727
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2060727
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2060727
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2060727
2-Propanol	67-63-0	60.10	1.25	3.07	1.74	4.28	B	1	WG2060727
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2060727
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2060727
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2060727
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2060727
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2060727
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2060727
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2060727

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2060727
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2060727
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2060727
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2060727
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2060727
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2060727
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2060727
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2060727
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2060727
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG2060727
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG2060727
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2060727
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2060727
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		92.7				WG2060727

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG2058852

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3925795-3 05/16/23 09:50

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.584	1.25
Allyl chloride	U		0.114	0.200
Benzene	U		0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Bromomethane	U		0.0982	0.200
1,3-Butadiene	U		0.104	2.00
Carbon disulfide	U		0.102	0.200
Carbon tetrachloride	U		0.0732	0.200
Chlorobenzene	U		0.0832	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
2-Chlorotoluene	U		0.0828	0.200
Cyclohexane	U		0.0753	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
trans-1,2-Dichloroethene	0.176	U	0.0673	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.200
Ethanol	0.597	U	0.265	2.50
Ethylbenzene	U		0.0835	0.200
4-Ethyltoluene	U		0.0783	0.200
Trichlorofluoromethane	U		0.0819	0.200
Dichlorodifluoromethane	U		0.137	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
Heptane	U		0.104	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630
n-Hexane	U		0.206	0.630

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3925795-3 05/16/23 09:50

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl methacrylate	U		0.0876	0.200
MTBE	U		0.0647	0.200
Naphthalene	U		0.350	0.630
2-Propanol	0.349	U	0.264	1.25
Propene	U		0.0932	1.25
n-Propylbenzene	U		0.0773	0.200
Styrene	U		0.0788	0.200
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
Tetrachloroethylene	U		0.0814	0.200
Tetrahydrofuran	U		0.0734	0.200
Toluene	U		0.0870	0.500
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.200
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	91.9			60.0-140

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3925795-1 05/16/23 08:37 • (LCSD) R3925795-2 05/16/23 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	4.43	4.59	118	122	70.0-130			3.55	25
Allyl chloride	3.75	4.22	4.36	113	116	70.0-130			3.26	25
Benzene	3.75	4.05	4.16	108	111	70.0-130			2.68	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3925795-1 05/16/23 08:37 • (LCSD) R3925795-2 05/16/23 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Benzyl Chloride	3.75	3.66	3.74	97.6	99.7	70.0-152			2.16	25
Bromodichloromethane	3.75	4.18	4.12	111	110	70.0-130			1.45	25
Bromoform	3.75	4.50	4.50	120	120	70.0-130			0.000	25
Bromomethane	3.75	4.27	4.29	114	114	70.0-130			0.467	25
1,3-Butadiene	3.75	4.39	4.41	117	118	70.0-130			0.455	25
Carbon disulfide	3.75	4.13	4.18	110	111	70.0-130			1.20	25
Carbon tetrachloride	3.75	4.11	4.20	110	112	70.0-130			2.17	25
Chlorobenzene	3.75	4.11	4.17	110	111	70.0-130			1.45	25
Chloroethane	3.75	4.32	4.33	115	115	70.0-130			0.231	25
Chloroform	3.75	4.11	4.11	110	110	70.0-130			0.000	25
Chloromethane	3.75	4.24	4.25	113	113	70.0-130			0.236	25
2-Chlorotoluene	3.75	3.98	3.93	106	105	70.0-130			1.26	25
Cyclohexane	3.75	4.16	4.21	111	112	70.0-130			1.19	25
Dibromochloromethane	3.75	4.31	4.24	115	113	70.0-130			1.64	25
1,2-Dibromoethane	3.75	4.19	4.18	112	111	70.0-130			0.239	25
1,2-Dichlorobenzene	3.75	3.99	4.10	106	109	70.0-130			2.72	25
1,3-Dichlorobenzene	3.75	3.92	3.98	105	106	70.0-130			1.52	25
1,4-Dichlorobenzene	3.75	3.77	3.86	101	103	70.0-130			2.36	25
1,2-Dichloroethane	3.75	4.20	4.15	112	111	70.0-130			1.20	25
1,1-Dichloroethane	3.75	4.13	4.21	110	112	70.0-130			1.92	25
1,1-Dichloroethene	3.75	4.11	4.13	110	110	70.0-130			0.485	25
cis-1,2-Dichloroethene	3.75	4.15	4.21	111	112	70.0-130			1.44	25
trans-1,2-Dichloroethene	3.75	4.13	4.25	110	113	70.0-130			2.86	25
1,2-Dichloropropane	3.75	4.24	4.27	113	114	70.0-130			0.705	25
cis-1,3-Dichloropropene	3.75	4.28	4.21	114	112	70.0-130			1.65	25
trans-1,3-Dichloropropene	3.75	4.09	4.14	109	110	70.0-130			1.22	25
1,4-Dioxane	3.75	4.20	4.63	112	123	70.0-140			9.74	25
Ethanol	3.75	4.28	4.57	114	122	55.0-148			6.55	25
Ethylbenzene	3.75	4.35	4.42	116	118	70.0-130			1.60	25
4-Ethyltoluene	3.75	3.90	3.99	104	106	70.0-130			2.28	25
Trichlorofluoromethane	3.75	4.16	4.24	111	113	70.0-130			1.90	25
Dichlorodifluoromethane	3.75	4.04	3.91	108	104	64.0-139			3.27	25
1,1,2-Trichlorotrifluoroethane	3.75	3.96	4.11	106	110	70.0-130			3.72	25
1,2-Dichlorotetrafluoroethane	3.75	4.12	4.17	110	111	70.0-130			1.21	25
Heptane	3.75	4.08	4.16	109	111	70.0-130			1.94	25
Hexachloro-1,3-butadiene	3.75	4.01	4.19	107	112	70.0-151			4.39	25
n-Hexane	3.75	4.20	4.30	112	115	70.0-130			2.35	25
Isopropylbenzene	3.75	4.25	4.41	113	118	70.0-130			3.70	25
Methylene Chloride	3.75	4.18	4.21	111	112	70.0-130			0.715	25
Methyl Butyl Ketone	3.75	4.71	4.86	126	130	70.0-149			3.13	25

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3925795-1 05/16/23 08:37 • (LCSD) R3925795-2 05/16/23 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Butanone (MEK)	3.75	4.27	4.46	114	119	70.0-130			4.35	25
4-Methyl-2-pentanone (MIBK)	3.75	4.68	4.85	125	129	70.0-139			3.57	25
Methyl methacrylate	3.75	4.12	4.40	110	117	70.0-130			6.57	25
MTBE	3.75	4.17	4.28	111	114	70.0-130			2.60	25
Naphthalene	3.75	3.80	4.11	101	110	70.0-159			7.84	25
2-Propanol	3.75	4.16	4.52	111	121	70.0-139			8.29	25
Propene	3.75	4.20	4.19	112	112	64.0-144			0.238	25
n-Propylbenzene	3.75	3.85	3.95	103	105	70.0-130			2.56	25
Styrene	3.75	4.34	4.40	116	117	70.0-130			1.37	25
1,1,2,2-Tetrachloroethane	3.75	3.95	4.07	105	109	70.0-130			2.99	25
Tetrachloroethylene	3.75	4.36	4.32	116	115	70.0-130			0.922	25
Tetrahydrofuran	3.75	4.32	4.51	115	120	70.0-137			4.30	25
Toluene	3.75	4.18	4.20	111	112	70.0-130			0.477	25
1,2,4-Trichlorobenzene	3.75	3.91	4.24	104	113	70.0-160			8.10	25
1,1,1-Trichloroethane	3.75	4.08	4.12	109	110	70.0-130			0.976	25
1,1,2-Trichloroethane	3.75	4.19	4.25	112	113	70.0-130			1.42	25
Trichloroethylene	3.75	4.13	4.14	110	110	70.0-130			0.242	25
1,2,4-Trimethylbenzene	3.75	3.84	3.89	102	104	70.0-130			1.29	25
1,3,5-Trimethylbenzene	3.75	3.76	3.91	100	104	70.0-130			3.91	25
2,2,4-Trimethylpentane	3.75	4.28	4.42	114	118	70.0-130			3.22	25
Vinyl chloride	3.75	4.28	4.44	114	118	70.0-130			3.67	25
Vinyl Bromide	3.75	4.26	4.29	114	114	70.0-130			0.702	25
Vinyl acetate	3.75	4.58	4.43	122	118	70.0-130			3.33	25
m&p-Xylene	7.50	8.54	8.74	114	117	70.0-130			2.31	25
o-Xylene	3.75	4.32	4.40	115	117	70.0-130			1.83	25
TPH (GC/MS) Low Fraction	188	192	196	102	104	70.0-130			2.06	25
(S) 1,4-Bromofluorobenzene				91.9	91.9	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3924217-3 05/12/23 10:19

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Helium	U		0.0259	0.100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3924217-1 05/12/23 10:12 • (LCSD) R3924217-2 05/12/23 10:16

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD	RPD Limits
Analyte	%	%	%	%	%	%			%	%
Helium	2.50	2.24	2.31	89.6	92.4	70.0-130			3.08	25

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

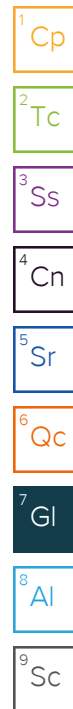
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.



ACCREDITATIONS & LOCATIONS

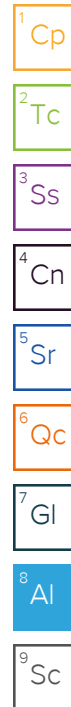
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



State of Oregon Chain of Custody

Agency, Authorized Purchaser or Agent: Oregon DEQ				Contract Laboratory Name: Pace National, bda ESC				Lab Selection Criteria: ☐ Proximity (if TAT < 48 hrs) ☐ Prior work on same project ☒ Cost (for anticipated analyses) ☐ Other labs disqualified or unable to perform requested services ☐ Emergency work				Turn Around Time: ☒ 10 days (std.) ☐ 5 days ☐ 72 hours ☐ 48 hours ☐ 24 hours ☐ Other		
Send Lab Report To: Anthony Chavez Address: 165 7 th Avenue, Suite 100 Eugene, OR 97401 Tel. #: 541-687-7348 E-mail: Anthony.Chavez@deq.oregon.gov				Lab Batch #: Invoice To: ODEQ/Business Office Address: 700 NE Multnomah St, Suite 600 Portland, OR 97232 Tel. #: 503-229-5696										
Project Name: Village Shell Project Number: M0785.20.001 Sampler Name: Connor Anderson				Sample Preservative										
Sample ID#	Collection Date/Time	Matrix	Number of Containers	Gasoline & VOCs by TO-15 Modified	Helium by ASTM D1946									Comments
SVW-01	5/2/2023, 1254	SV	1	X	X									61613461 -01
SVW-02	5/2/2023, 1417	SV	1	X	X									-02
SVW-03	5/2/2023, 1548	SV	1	X	X									-03
SVW-03-DUP	5/2/2023, 1558	SV	1	X	X									-04
				Sample Receipt Checklist COC Seal Present/Intact: <u>Y</u> / <u>N</u> If Applicable COC Signed/Accurate: <u>Y</u> / <u>N</u> VOA Zero Headspace: <u>Y</u> / <u>N</u> Bottles arrive intact: <u>Y</u> / <u>N</u> Pres. Correct/Check: <u>Y</u> / <u>N</u> Correct bottles used: <u>Y</u> / <u>N</u> Sufficient volume sent: <u>Y</u> / <u>N</u> RAD Screen <0.5 mR/hr: <u>Y</u> / <u>N</u>										
Notes: Please cc the following list on analytical reports and COCs: avidourek@maulfoster.com , mpickering@maulfoster.com , and jwetmore@maulfoster.com .														
Relinquished By: Connor Anderson		Agency/Agent: MFA		Received By: <u>ACE</u> (18)				Agency/Agent: PACE						
Signature: <u>ACE</u>		Time & Date: 5/5/23, 1220		Signature: <u>ACE</u>				Time & Date: 5/8/23 0900						
Relinquished By:		Agency/Agent:		Received By:				Agency/Agent:						
Signature:		Time & Date:		Signature:				Time & Date:						

THIS PURCHASE IS SUBMITTED PURSUANT TO STATE OF OREGON SOLICITATION #102-1098-07 AND PRICE AGREEMENT # 8903. THE PRICE AGREEMENT INCLUDING CONTRACT TERMS AND CONDITIONS AND SPECIAL CONTRACT TERMS AND CONDITIONS (T'S & C'S) CONTAINED IN THE PRICE AGREEMENT ARE HEREBY INCORPORATED BY REFERENCE AND SHALL APPLY TO THIS PURCHASE AND SHALL TAKE PRECEDENCE OVER ALL OTHER CONFLICTING T'S AND C'S, EXPRESS OR IMPLIED.

Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group: L1613493
Samples Received: 05/06/2023
Project Number: M0785.20.001
Description: Village Shell

Report To: Anthony Chavez

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	5
Sr: Sample Results	6
MW-01 L1613493-01	6
MW-02 L1613493-02	9
MW-04 L1613493-03	11
MW-04-DUP L1613493-04	13
MW-06 L1613493-05	15
MW-07 L1613493-06	18
TRIP BLANK L1613493-07	21
Qc: Quality Control Summary	23
Volatile Organic Compounds (GC) by Method NWTPHGX	23
Volatile Organic Compounds (GC/MS) by Method 8260D	24
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	32
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	33
Gl: Glossary of Terms	35
Al: Accreditations & Locations	36
Sc: Sample Chain of Custody	37



SAMPLE SUMMARY

MW-01 L1613493-01 GW

Collected by
Connor Anderson

Collected date/time
05/03/23 14:02

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2059179	10	05/13/23 05:08	05/13/23 05:08	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2057214	20	05/10/23 16:11	05/10/23 16:11	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2057921	1	05/11/23 05:36	05/11/23 20:46	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2056443	1	05/09/23 21:36	05/10/23 07:49	DSH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2056443	10	05/09/23 21:36	05/12/23 23:31	DSH	Mt. Juliet, TN

MW-02 L1613493-02 GW

Collected by
Connor Anderson

Collected date/time
05/03/23 16:26

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2059179	1	05/13/23 02:56	05/13/23 02:56	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2057214	1	05/10/23 14:43	05/10/23 14:43	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2057921	1.11	05/11/23 05:36	05/11/23 21:07	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2056443	1	05/09/23 21:36	05/10/23 05:47	DSH	Mt. Juliet, TN

MW-04 L1613493-03 GW

Collected by
Connor Anderson

Collected date/time
05/03/23 15:13

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2059179	1	05/13/23 03:18	05/13/23 03:18	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2057214	1	05/10/23 15:05	05/10/23 15:05	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2057921	1.05	05/11/23 05:36	05/11/23 21:28	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2056443	1	05/09/23 21:36	05/10/23 06:05	DSH	Mt. Juliet, TN

MW-04-DUP L1613493-04 GW

Collected by
Connor Anderson

Collected date/time
05/03/23 15:13

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2059179	1	05/13/23 03:40	05/13/23 03:40	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2057214	1	05/10/23 15:27	05/10/23 15:27	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2057921	1.05	05/11/23 05:36	05/11/23 21:48	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2056443	1	05/09/23 21:36	05/10/23 06:22	DSH	Mt. Juliet, TN

MW-06 L1613493-05 GW

Collected by
Connor Anderson

Collected date/time
05/03/23 11:11

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2059179	1	05/13/23 04:02	05/13/23 04:02	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2057214	1	05/10/23 15:49	05/10/23 15:49	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2057921	1.05	05/11/23 05:36	05/11/23 22:08	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2056443	1	05/09/23 21:36	05/10/23 07:31	DSH	Mt. Juliet, TN

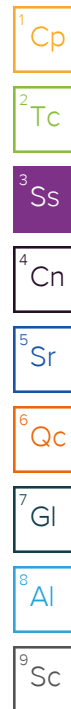
MW-07 L1613493-06 GW

Collected by
Connor Anderson

Collected date/time
05/03/23 13:14

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2059179	10	05/13/23 05:30	05/13/23 05:30	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2059508	10	05/13/23 21:16	05/13/23 21:16	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2057921	1.05	05/11/23 05:36	05/11/23 22:28	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2056443	1	05/09/23 21:36	05/10/23 06:39	DSH	Mt. Juliet, TN



SAMPLE SUMMARY

TRIP BLANK L1613493-07 GW

Collected by
Connor Anderson

Collected date/time
05/03/23 00:00

Received date/time
05/06/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2059508	1	05/13/23 15:24	05/13/23 15:24	JAH	Mt. Juliet, TN

¹Cp

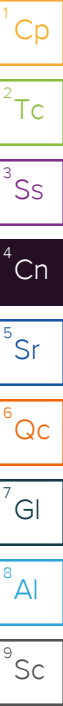
 ${}^2\text{Tc}$ 3S_s
$$^4\text{Cn}$$
 ^5Sr ${}^6\text{Qc}$ ${}^7\text{Gf}$ ${}^8\text{Al}$ ${}^9\text{Sc}$

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager



Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	14400		316	1000	10	05/13/2023 05:08	WG2059179
(S) a,a,a-Trifluorotoluene(FID)	90.6			78.0-120		05/13/2023 05:08	WG2059179

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		226	1000	20	05/10/2023 16:11	WG2057214
Acrolein	U		50.8	1000	20	05/10/2023 16:11	WG2057214
Acrylonitrile	U	C3	13.4	200	20	05/10/2023 16:11	WG2057214
Benzene	U		1.88	20.0	20	05/10/2023 16:11	WG2057214
Bromobenzene	U		2.36	20.0	20	05/10/2023 16:11	WG2057214
Bromodichloromethane	U		2.72	20.0	20	05/10/2023 16:11	WG2057214
Bromoform	U	C3	2.58	20.0	20	05/10/2023 16:11	WG2057214
Bromomethane	U		12.1	100	20	05/10/2023 16:11	WG2057214
n-Butylbenzene	24.2		3.14	20.0	20	05/10/2023 16:11	WG2057214
sec-Butylbenzene	25.6		2.50	20.0	20	05/10/2023 16:11	WG2057214
tert-Butylbenzene	U		2.54	20.0	20	05/10/2023 16:11	WG2057214
Carbon disulfide	U		1.92	20.0	20	05/10/2023 16:11	WG2057214
Carbon tetrachloride	U		2.56	20.0	20	05/10/2023 16:11	WG2057214
Chlorobenzene	U		2.32	20.0	20	05/10/2023 16:11	WG2057214
Chlorodibromomethane	U		2.80	20.0	20	05/10/2023 16:11	WG2057214
Chloroethane	U		3.84	100	20	05/10/2023 16:11	WG2057214
Chloroform	U		2.22	100	20	05/10/2023 16:11	WG2057214
Chloromethane	U		19.2	50.0	20	05/10/2023 16:11	WG2057214
2-Chlorotoluene	U		2.12	20.0	20	05/10/2023 16:11	WG2057214
4-Chlorotoluene	U		2.28	20.0	20	05/10/2023 16:11	WG2057214
1,2-Dibromo-3-Chloropropane	U		5.52	100	20	05/10/2023 16:11	WG2057214
1,2-Dibromoethane	U		2.52	20.0	20	05/10/2023 16:11	WG2057214
Dibromomethane	U		2.44	20.0	20	05/10/2023 16:11	WG2057214
1,2-Dichlorobenzene	U		2.14	20.0	20	05/10/2023 16:11	WG2057214
1,3-Dichlorobenzene	U		2.20	20.0	20	05/10/2023 16:11	WG2057214
1,4-Dichlorobenzene	U		2.40	20.0	20	05/10/2023 16:11	WG2057214
Dichlorodifluoromethane	U	J4	7.48	100	20	05/10/2023 16:11	WG2057214
1,1-Dichloroethane	U		2.00	20.0	20	05/10/2023 16:11	WG2057214
1,2-Dichloroethane	U		1.64	20.0	20	05/10/2023 16:11	WG2057214
1,1-Dichloroethene	U		3.76	20.0	20	05/10/2023 16:11	WG2057214
cis-1,2-Dichloroethene	U		2.52	20.0	20	05/10/2023 16:11	WG2057214
trans-1,2-Dichloroethene	U		2.98	20.0	20	05/10/2023 16:11	WG2057214
1,2-Dichloropropane	U		2.98	20.0	20	05/10/2023 16:11	WG2057214
1,1-Dichloropropene	U		2.84	20.0	20	05/10/2023 16:11	WG2057214
1,3-Dichloropropane	U		2.20	20.0	20	05/10/2023 16:11	WG2057214
cis-1,3-Dichloropropene	U		2.22	20.0	20	05/10/2023 16:11	WG2057214
trans-1,3-Dichloropropene	U		2.36	20.0	20	05/10/2023 16:11	WG2057214
2,2-Dichloropropane	U		3.22	20.0	20	05/10/2023 16:11	WG2057214
Di-isopropyl ether	U		2.10	20.0	20	05/10/2023 16:11	WG2057214
Ethylbenzene	1180		2.74	20.0	20	05/10/2023 16:11	WG2057214
Hexachloro-1,3-butadiene	U		6.74	20.0	20	05/10/2023 16:11	WG2057214
Isopropylbenzene	141		2.10	20.0	20	05/10/2023 16:11	WG2057214
p-Isopropyltoluene	9.12	J	2.40	20.0	20	05/10/2023 16:11	WG2057214
2-Butanone (MEK)	U		23.8	200	20	05/10/2023 16:11	WG2057214
Methylene Chloride	U		8.60	100	20	05/10/2023 16:11	WG2057214
4-Methyl-2-pentanone (MIBK)	U		9.56	200	20	05/10/2023 16:11	WG2057214
Methyl tert-butyl ether	U		2.02	20.0	20	05/10/2023 16:11	WG2057214
Naphthalene	912	C3	20.0	100	20	05/10/2023 16:11	WG2057214

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

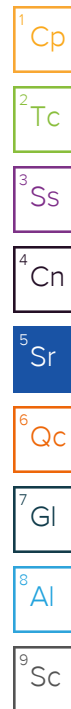
7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	473		1.99	20.0	20	05/10/2023 16:11	WG2057214
Styrene	U		2.36	20.0	20	05/10/2023 16:11	WG2057214
1,1,1,2-Tetrachloroethane	U		2.94	20.0	20	05/10/2023 16:11	WG2057214
1,1,2,2-Tetrachloroethane	U		2.66	20.0	20	05/10/2023 16:11	WG2057214
1,1,2-Trichlorotrifluoroethane	U		3.60	20.0	20	05/10/2023 16:11	WG2057214
Tetrachloroethene	U		6.00	20.0	20	05/10/2023 16:11	WG2057214
Toluene	U		5.56	20.0	20	05/10/2023 16:11	WG2057214
1,2,3-Trichlorobenzene	U		4.60	20.0	20	05/10/2023 16:11	WG2057214
1,2,4-Trichlorobenzene	U		9.62	20.0	20	05/10/2023 16:11	WG2057214
1,1,1-Trichloroethane	U		2.98	20.0	20	05/10/2023 16:11	WG2057214
1,1,2-Trichloroethane	U		3.16	20.0	20	05/10/2023 16:11	WG2057214
Trichloroethene	U		3.80	20.0	20	05/10/2023 16:11	WG2057214
Trichlorofluoromethane	U		3.20	100	20	05/10/2023 16:11	WG2057214
1,2,3-Trichloropropane	U		4.74	50.0	20	05/10/2023 16:11	WG2057214
1,2,4-Trimethylbenzene	2690		6.44	20.0	20	05/10/2023 16:11	WG2057214
1,2,3-Trimethylbenzene	1160		2.08	20.0	20	05/10/2023 16:11	WG2057214
1,3,5-Trimethylbenzene	599		2.08	20.0	20	05/10/2023 16:11	WG2057214
Vinyl chloride	U	J4	4.68	20.0	20	05/10/2023 16:11	WG2057214
Xylenes, Total	902		3.48	60.0	20	05/10/2023 16:11	WG2057214
(S) Toluene-d8	108			80.0-120		05/10/2023 16:11	WG2057214
(S) 4-Bromofluorobenzene	108			77.0-126		05/10/2023 16:11	WG2057214
(S) 1,2-Dichloroethane-d4	123			70.0-130		05/10/2023 16:11	WG2057214



Sample Narrative:

L1613493-01 WG2057214: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1530		33.3	100	1	05/11/2023 20:46	WG2057921
Residual Range Organics (RRO)	312	B	83.3	250	1	05/11/2023 20:46	WG2057921
(S) o-Terphenyl	62.5			31.0-160		05/11/2023 20:46	WG2057921

Sample Narrative:

L1613493-01 WG2057921: Sample resembles laboratory standard for Gasoline.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	0.120		0.0190	0.0500	1	05/10/2023 07:49	WG2056443
Acenaphthene	0.600		0.0190	0.0500	1	05/10/2023 07:49	WG2056443
Acenaphthylene	U		0.0171	0.0500	1	05/10/2023 07:49	WG2056443
Benzo(a)anthracene	0.130		0.0203	0.0500	1	05/10/2023 07:49	WG2056443
Benzo(a)pyrene	0.109		0.0184	0.0500	1	05/10/2023 07:49	WG2056443
Benzo(b)fluoranthene	0.133		0.0168	0.0500	1	05/10/2023 07:49	WG2056443
Benzo(g,h,i)perylene	0.0681		0.0184	0.0500	1	05/10/2023 07:49	WG2056443
Benzo(k)fluoranthene	0.0494	U	0.0202	0.0500	1	05/10/2023 07:49	WG2056443
Chrysene	0.133		0.0179	0.0500	1	05/10/2023 07:49	WG2056443
Dibenz(a,h)anthracene	0.0173	U	0.0160	0.0500	1	05/10/2023 07:49	WG2056443
Fluoranthene	0.466		0.0270	0.100	1	05/10/2023 07:49	WG2056443
Fluorene	0.557		0.0169	0.0500	1	05/10/2023 07:49	WG2056443
Indeno(1,2,3-cd)pyrene	0.0626		0.0158	0.0500	1	05/10/2023 07:49	WG2056443
Naphthalene	462		0.917	2.50	10	05/12/2023 23:31	WG2056443
Phenanthrene	0.628		0.0180	0.0500	1	05/10/2023 07:49	WG2056443
Pyrene	0.392		0.0169	0.0500	1	05/10/2023 07:49	WG2056443

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1-Methylnaphthalene	45.3		0.0687	0.250	1	05/10/2023 07:49	WG2056443
2-Methylnaphthalene	68.5		0.0674	0.250	1	05/10/2023 07:49	WG2056443
2-Chloronaphthalene	0.126	<u>J</u>	0.0682	0.250	1	05/10/2023 07:49	WG2056443
(S) Nitrobenzene-d5	46.2			31.0-160		05/10/2023 07:49	WG2056443
(S) Nitrobenzene-d5	54.2			31.0-160		05/12/2023 23:31	WG2056443
(S) 2-Fluorobiphenyl	42.9	<u>J2</u>		48.0-148		05/10/2023 07:49	WG2056443
(S) 2-Fluorobiphenyl	60.5			48.0-148		05/12/2023 23:31	WG2056443
(S) p-Terphenyl-d14	64.2			37.0-146		05/12/2023 23:31	WG2056443
(S) p-Terphenyl-d14	49.1			37.0-146		05/10/2023 07:49	WG2056443

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	38.1	J	31.6	100	1	05/13/2023 02:56	WG2059179
(S) a,a,a-Trifluorotoluene(FID)	88.5			78.0-120		05/13/2023 02:56	WG2059179

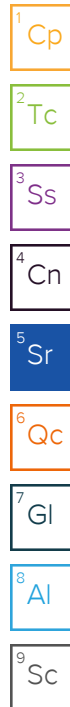
Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	05/10/2023 14:43	WG2057214
Acrolein	U		2.54	50.0	1	05/10/2023 14:43	WG2057214
Acrylonitrile	U	C3	0.671	10.0	1	05/10/2023 14:43	WG2057214
Benzene	U		0.0941	1.00	1	05/10/2023 14:43	WG2057214
Bromobenzene	U		0.118	1.00	1	05/10/2023 14:43	WG2057214
Bromodichloromethane	U		0.136	1.00	1	05/10/2023 14:43	WG2057214
Bromoform	U	C3	0.129	1.00	1	05/10/2023 14:43	WG2057214
Bromomethane	U		0.605	5.00	1	05/10/2023 14:43	WG2057214
n-Butylbenzene	U		0.157	1.00	1	05/10/2023 14:43	WG2057214
sec-Butylbenzene	U		0.125	1.00	1	05/10/2023 14:43	WG2057214
tert-Butylbenzene	U		0.127	1.00	1	05/10/2023 14:43	WG2057214
Carbon disulfide	U		0.0962	1.00	1	05/10/2023 14:43	WG2057214
Carbon tetrachloride	U		0.128	1.00	1	05/10/2023 14:43	WG2057214
Chlorobenzene	U		0.116	1.00	1	05/10/2023 14:43	WG2057214
Chlorodibromomethane	U		0.140	1.00	1	05/10/2023 14:43	WG2057214
Chloroethane	U		0.192	5.00	1	05/10/2023 14:43	WG2057214
Chloroform	U		0.111	5.00	1	05/10/2023 14:43	WG2057214
Chloromethane	U		0.960	2.50	1	05/10/2023 14:43	WG2057214
2-Chlorotoluene	U		0.106	1.00	1	05/10/2023 14:43	WG2057214
4-Chlorotoluene	U		0.114	1.00	1	05/10/2023 14:43	WG2057214
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/10/2023 14:43	WG2057214
1,2-Dibromoethane	U		0.126	1.00	1	05/10/2023 14:43	WG2057214
Dibromomethane	U		0.122	1.00	1	05/10/2023 14:43	WG2057214
1,2-Dichlorobenzene	U		0.107	1.00	1	05/10/2023 14:43	WG2057214
1,3-Dichlorobenzene	U		0.110	1.00	1	05/10/2023 14:43	WG2057214
1,4-Dichlorobenzene	U		0.120	1.00	1	05/10/2023 14:43	WG2057214
Dichlorodifluoromethane	U	J4	0.374	5.00	1	05/10/2023 14:43	WG2057214
1,1-Dichloroethane	U		0.100	1.00	1	05/10/2023 14:43	WG2057214
1,2-Dichloroethane	U		0.0819	1.00	1	05/10/2023 14:43	WG2057214
1,1-Dichloroethene	U		0.188	1.00	1	05/10/2023 14:43	WG2057214
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/10/2023 14:43	WG2057214
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/10/2023 14:43	WG2057214
1,2-Dichloropropane	U		0.149	1.00	1	05/10/2023 14:43	WG2057214
1,1-Dichloropropene	U		0.142	1.00	1	05/10/2023 14:43	WG2057214
1,3-Dichloropropane	U		0.110	1.00	1	05/10/2023 14:43	WG2057214
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/10/2023 14:43	WG2057214
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/10/2023 14:43	WG2057214
2,2-Dichloropropane	U		0.161	1.00	1	05/10/2023 14:43	WG2057214
Di-isopropyl ether	U		0.105	1.00	1	05/10/2023 14:43	WG2057214
Ethylbenzene	U		0.137	1.00	1	05/10/2023 14:43	WG2057214
Hexachloro-1,3-butadiene	U		0.337	1.00	1	05/10/2023 14:43	WG2057214
Isopropylbenzene	U		0.105	1.00	1	05/10/2023 14:43	WG2057214
p-Isopropyltoluene	U		0.120	1.00	1	05/10/2023 14:43	WG2057214
2-Butanone (MEK)	U		1.19	10.0	1	05/10/2023 14:43	WG2057214
Methylene Chloride	U		0.430	5.00	1	05/10/2023 14:43	WG2057214
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/10/2023 14:43	WG2057214
Methyl tert-butyl ether	U		0.101	1.00	1	05/10/2023 14:43	WG2057214
Naphthalene	U	C3	1.00	5.00	1	05/10/2023 14:43	WG2057214



Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	U		0.0993	1.00	1	05/10/2023 14:43	WG2057214
Styrene	U		0.118	1.00	1	05/10/2023 14:43	WG2057214
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/10/2023 14:43	WG2057214
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/10/2023 14:43	WG2057214
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/10/2023 14:43	WG2057214
Tetrachloroethene	U		0.300	1.00	1	05/10/2023 14:43	WG2057214
Toluene	U		0.278	1.00	1	05/10/2023 14:43	WG2057214
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/10/2023 14:43	WG2057214
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/10/2023 14:43	WG2057214
1,1,1-Trichloroethane	U		0.149	1.00	1	05/10/2023 14:43	WG2057214
1,1,2-Trichloroethane	U		0.158	1.00	1	05/10/2023 14:43	WG2057214
Trichloroethene	U		0.190	1.00	1	05/10/2023 14:43	WG2057214
Trichlorofluoromethane	U		0.160	5.00	1	05/10/2023 14:43	WG2057214
1,2,3-Trichloropropane	U		0.237	2.50	1	05/10/2023 14:43	WG2057214
1,2,4-Trimethylbenzene	U		0.322	1.00	1	05/10/2023 14:43	WG2057214
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/10/2023 14:43	WG2057214
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/10/2023 14:43	WG2057214
Vinyl chloride	U	J4	0.234	1.00	1	05/10/2023 14:43	WG2057214
Xylenes, Total	U		0.174	3.00	1	05/10/2023 14:43	WG2057214
(S) Toluene-d8	107			80.0-120		05/10/2023 14:43	WG2057214
(S) 4-Bromofluorobenzene	105			77.0-126		05/10/2023 14:43	WG2057214
(S) 1,2-Dichloroethane-d4	117			70.0-130		05/10/2023 14:43	WG2057214



Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		37.0	111	1.11	05/11/2023 21:07	WG2057921
Residual Range Organics (RRO)	U		92.7	278	1.11	05/11/2023 21:07	WG2057921
(S) o-Terphenyl	51.8			31.0-160		05/11/2023 21:07	WG2057921

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	05/10/2023 05:47	WG2056443
Acenaphthene	U		0.0190	0.0500	1	05/10/2023 05:47	WG2056443
Acenaphthylene	U		0.0171	0.0500	1	05/10/2023 05:47	WG2056443
Benzo(a)anthracene	U		0.0203	0.0500	1	05/10/2023 05:47	WG2056443
Benzo(a)pyrene	U		0.0184	0.0500	1	05/10/2023 05:47	WG2056443
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/10/2023 05:47	WG2056443
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/10/2023 05:47	WG2056443
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/10/2023 05:47	WG2056443
Chrysene	U		0.0179	0.0500	1	05/10/2023 05:47	WG2056443
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/10/2023 05:47	WG2056443
Fluoranthene	U		0.0270	0.100	1	05/10/2023 05:47	WG2056443
Fluorene	U		0.0169	0.0500	1	05/10/2023 05:47	WG2056443
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/10/2023 05:47	WG2056443
Naphthalene	U		0.0917	0.250	1	05/10/2023 05:47	WG2056443
Phenanthrene	U		0.0180	0.0500	1	05/10/2023 05:47	WG2056443
Pyrene	U		0.0169	0.0500	1	05/10/2023 05:47	WG2056443
1-Methylnaphthalene	U		0.0687	0.250	1	05/10/2023 05:47	WG2056443
2-Methylnaphthalene	U		0.0674	0.250	1	05/10/2023 05:47	WG2056443
2-Chloronaphthalene	U		0.0682	0.250	1	05/10/2023 05:47	WG2056443
(S) Nitrobenzene-d5	92.1			31.0-160		05/10/2023 05:47	WG2056443
(S) 2-Fluorobiphenyl	107			48.0-148		05/10/2023 05:47	WG2056443
(S) p-Terphenyl-d14	105			37.0-146		05/10/2023 05:47	WG2056443

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	36.4	J	31.6	100	1	05/13/2023 03:18	WG2059179
(S) a,a,a-Trifluorotoluene(FID)	88.2			78.0-120		05/13/2023 03:18	WG2059179

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	05/10/2023 15:05	WG2057214
Acrolein	U		2.54	50.0	1	05/10/2023 15:05	WG2057214
Acrylonitrile	U	C3	0.671	10.0	1	05/10/2023 15:05	WG2057214
Benzene	U		0.0941	1.00	1	05/10/2023 15:05	WG2057214
Bromobenzene	U		0.118	1.00	1	05/10/2023 15:05	WG2057214
Bromodichloromethane	U		0.136	1.00	1	05/10/2023 15:05	WG2057214
Bromoform	U	C3	0.129	1.00	1	05/10/2023 15:05	WG2057214
Bromomethane	U		0.605	5.00	1	05/10/2023 15:05	WG2057214
n-Butylbenzene	U		0.157	1.00	1	05/10/2023 15:05	WG2057214
sec-Butylbenzene	U		0.125	1.00	1	05/10/2023 15:05	WG2057214
tert-Butylbenzene	U		0.127	1.00	1	05/10/2023 15:05	WG2057214
Carbon disulfide	U		0.0962	1.00	1	05/10/2023 15:05	WG2057214
Carbon tetrachloride	U		0.128	1.00	1	05/10/2023 15:05	WG2057214
Chlorobenzene	U		0.116	1.00	1	05/10/2023 15:05	WG2057214
Chlorodibromomethane	U		0.140	1.00	1	05/10/2023 15:05	WG2057214
Chloroethane	U		0.192	5.00	1	05/10/2023 15:05	WG2057214
Chloroform	U		0.111	5.00	1	05/10/2023 15:05	WG2057214
Chloromethane	U		0.960	2.50	1	05/10/2023 15:05	WG2057214
2-Chlorotoluene	U		0.106	1.00	1	05/10/2023 15:05	WG2057214
4-Chlorotoluene	U		0.114	1.00	1	05/10/2023 15:05	WG2057214
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/10/2023 15:05	WG2057214
1,2-Dibromoethane	U		0.126	1.00	1	05/10/2023 15:05	WG2057214
Dibromomethane	U		0.122	1.00	1	05/10/2023 15:05	WG2057214
1,2-Dichlorobenzene	U		0.107	1.00	1	05/10/2023 15:05	WG2057214
1,3-Dichlorobenzene	U		0.110	1.00	1	05/10/2023 15:05	WG2057214
1,4-Dichlorobenzene	U		0.120	1.00	1	05/10/2023 15:05	WG2057214
Dichlorodifluoromethane	U	J4	0.374	5.00	1	05/10/2023 15:05	WG2057214
1,1-Dichloroethane	U		0.100	1.00	1	05/10/2023 15:05	WG2057214
1,2-Dichloroethane	U		0.0819	1.00	1	05/10/2023 15:05	WG2057214
1,1-Dichloroethene	U		0.188	1.00	1	05/10/2023 15:05	WG2057214
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/10/2023 15:05	WG2057214
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/10/2023 15:05	WG2057214
1,2-Dichloropropane	U		0.149	1.00	1	05/10/2023 15:05	WG2057214
1,1-Dichloropropene	U		0.142	1.00	1	05/10/2023 15:05	WG2057214
1,3-Dichloropropane	U		0.110	1.00	1	05/10/2023 15:05	WG2057214
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/10/2023 15:05	WG2057214
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/10/2023 15:05	WG2057214
2,2-Dichloropropane	U		0.161	1.00	1	05/10/2023 15:05	WG2057214
Di-isopropyl ether	U		0.105	1.00	1	05/10/2023 15:05	WG2057214
Ethylbenzene	U		0.137	1.00	1	05/10/2023 15:05	WG2057214
Hexachloro-1,3-butadiene	U		0.337	1.00	1	05/10/2023 15:05	WG2057214
Isopropylbenzene	U		0.105	1.00	1	05/10/2023 15:05	WG2057214
p-Isopropyltoluene	U		0.120	1.00	1	05/10/2023 15:05	WG2057214
2-Butanone (MEK)	U		1.19	10.0	1	05/10/2023 15:05	WG2057214
Methylene Chloride	U		0.430	5.00	1	05/10/2023 15:05	WG2057214
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/10/2023 15:05	WG2057214
Methyl tert-butyl ether	U		0.101	1.00	1	05/10/2023 15:05	WG2057214
Naphthalene	U	C3	1.00	5.00	1	05/10/2023 15:05	WG2057214

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

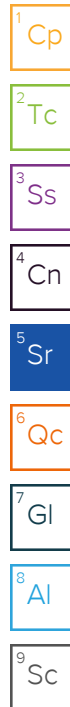
7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	U		0.0993	1.00	1	05/10/2023 15:05	WG2057214
Styrene	U		0.118	1.00	1	05/10/2023 15:05	WG2057214
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/10/2023 15:05	WG2057214
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/10/2023 15:05	WG2057214
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/10/2023 15:05	WG2057214
Tetrachloroethene	U		0.300	1.00	1	05/10/2023 15:05	WG2057214
Toluene	U		0.278	1.00	1	05/10/2023 15:05	WG2057214
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/10/2023 15:05	WG2057214
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/10/2023 15:05	WG2057214
1,1,1-Trichloroethane	U		0.149	1.00	1	05/10/2023 15:05	WG2057214
1,1,2-Trichloroethane	U		0.158	1.00	1	05/10/2023 15:05	WG2057214
Trichloroethene	U		0.190	1.00	1	05/10/2023 15:05	WG2057214
Trichlorofluoromethane	U		0.160	5.00	1	05/10/2023 15:05	WG2057214
1,2,3-Trichloropropane	U		0.237	2.50	1	05/10/2023 15:05	WG2057214
1,2,4-Trimethylbenzene	U		0.322	1.00	1	05/10/2023 15:05	WG2057214
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/10/2023 15:05	WG2057214
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/10/2023 15:05	WG2057214
Vinyl chloride	U	J4	0.234	1.00	1	05/10/2023 15:05	WG2057214
Xylenes, Total	U		0.174	3.00	1	05/10/2023 15:05	WG2057214
(S) Toluene-d8	108			80.0-120		05/10/2023 15:05	WG2057214
(S) 4-Bromofluorobenzene	104			77.0-126		05/10/2023 15:05	WG2057214
(S) 1,2-Dichloroethane-d4	117			70.0-130		05/10/2023 15:05	WG2057214



Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		35.0	105	1.05	05/11/2023 21:28	WG2057921
Residual Range Organics (RRO)	U		87.7	263	1.05	05/11/2023 21:28	WG2057921
(S) o-Terphenyl	51.4			31.0-160		05/11/2023 21:28	WG2057921

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	05/10/2023 06:05	WG2056443
Acenaphthene	U		0.0190	0.0500	1	05/10/2023 06:05	WG2056443
Acenaphthylene	U		0.0171	0.0500	1	05/10/2023 06:05	WG2056443
Benzo(a)anthracene	U		0.0203	0.0500	1	05/10/2023 06:05	WG2056443
Benzo(a)pyrene	U		0.0184	0.0500	1	05/10/2023 06:05	WG2056443
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/10/2023 06:05	WG2056443
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/10/2023 06:05	WG2056443
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/10/2023 06:05	WG2056443
Chrysene	U		0.0179	0.0500	1	05/10/2023 06:05	WG2056443
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/10/2023 06:05	WG2056443
Fluoranthene	U		0.0270	0.100	1	05/10/2023 06:05	WG2056443
Fluorene	U		0.0169	0.0500	1	05/10/2023 06:05	WG2056443
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/10/2023 06:05	WG2056443
Naphthalene	U		0.0917	0.250	1	05/10/2023 06:05	WG2056443
Phenanthrene	U		0.0180	0.0500	1	05/10/2023 06:05	WG2056443
Pyrene	U		0.0169	0.0500	1	05/10/2023 06:05	WG2056443
1-Methylnaphthalene	U		0.0687	0.250	1	05/10/2023 06:05	WG2056443
2-Methylnaphthalene	U		0.0674	0.250	1	05/10/2023 06:05	WG2056443
2-Chloronaphthalene	U		0.0682	0.250	1	05/10/2023 06:05	WG2056443
(S) Nitrobenzene-d5	82.1			31.0-160		05/10/2023 06:05	WG2056443
(S) 2-Fluorobiphenyl	96.8			48.0-148		05/10/2023 06:05	WG2056443
(S) p-Terphenyl-d14	98.9			37.0-146		05/10/2023 06:05	WG2056443

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	38.7	J	31.6	100	1	05/13/2023 03:40	WG2059179
(S) a,a,a-Trifluorotoluene(FID)	89.0			78.0-120		05/13/2023 03:40	WG2059179

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	05/10/2023 15:27	WG2057214
Acrolein	U		2.54	50.0	1	05/10/2023 15:27	WG2057214
Acrylonitrile	U	C3	0.671	10.0	1	05/10/2023 15:27	WG2057214
Benzene	U		0.0941	1.00	1	05/10/2023 15:27	WG2057214
Bromobenzene	U		0.118	1.00	1	05/10/2023 15:27	WG2057214
Bromodichloromethane	U		0.136	1.00	1	05/10/2023 15:27	WG2057214
Bromoform	U	C3	0.129	1.00	1	05/10/2023 15:27	WG2057214
Bromomethane	U		0.605	5.00	1	05/10/2023 15:27	WG2057214
n-Butylbenzene	U		0.157	1.00	1	05/10/2023 15:27	WG2057214
sec-Butylbenzene	U		0.125	1.00	1	05/10/2023 15:27	WG2057214
tert-Butylbenzene	U		0.127	1.00	1	05/10/2023 15:27	WG2057214
Carbon disulfide	U		0.0962	1.00	1	05/10/2023 15:27	WG2057214
Carbon tetrachloride	U		0.128	1.00	1	05/10/2023 15:27	WG2057214
Chlorobenzene	U		0.116	1.00	1	05/10/2023 15:27	WG2057214
Chlorodibromomethane	U		0.140	1.00	1	05/10/2023 15:27	WG2057214
Chloroethane	U		0.192	5.00	1	05/10/2023 15:27	WG2057214
Chloroform	U		0.111	5.00	1	05/10/2023 15:27	WG2057214
Chloromethane	U		0.960	2.50	1	05/10/2023 15:27	WG2057214
2-Chlorotoluene	U		0.106	1.00	1	05/10/2023 15:27	WG2057214
4-Chlorotoluene	U		0.114	1.00	1	05/10/2023 15:27	WG2057214
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/10/2023 15:27	WG2057214
1,2-Dibromoethane	U		0.126	1.00	1	05/10/2023 15:27	WG2057214
Dibromomethane	U		0.122	1.00	1	05/10/2023 15:27	WG2057214
1,2-Dichlorobenzene	U		0.107	1.00	1	05/10/2023 15:27	WG2057214
1,3-Dichlorobenzene	U		0.110	1.00	1	05/10/2023 15:27	WG2057214
1,4-Dichlorobenzene	U		0.120	1.00	1	05/10/2023 15:27	WG2057214
Dichlorodifluoromethane	U	J4	0.374	5.00	1	05/10/2023 15:27	WG2057214
1,1-Dichloroethane	U		0.100	1.00	1	05/10/2023 15:27	WG2057214
1,2-Dichloroethane	U		0.0819	1.00	1	05/10/2023 15:27	WG2057214
1,1-Dichloroethene	U		0.188	1.00	1	05/10/2023 15:27	WG2057214
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/10/2023 15:27	WG2057214
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/10/2023 15:27	WG2057214
1,2-Dichloropropane	U		0.149	1.00	1	05/10/2023 15:27	WG2057214
1,1-Dichloropropene	U		0.142	1.00	1	05/10/2023 15:27	WG2057214
1,3-Dichloropropane	U		0.110	1.00	1	05/10/2023 15:27	WG2057214
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/10/2023 15:27	WG2057214
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/10/2023 15:27	WG2057214
2,2-Dichloropropane	U		0.161	1.00	1	05/10/2023 15:27	WG2057214
Di-isopropyl ether	U		0.105	1.00	1	05/10/2023 15:27	WG2057214
Ethylbenzene	U		0.137	1.00	1	05/10/2023 15:27	WG2057214
Hexachloro-1,3-butadiene	U		0.337	1.00	1	05/10/2023 15:27	WG2057214
Isopropylbenzene	U		0.105	1.00	1	05/10/2023 15:27	WG2057214
p-Isopropyltoluene	U		0.120	1.00	1	05/10/2023 15:27	WG2057214
2-Butanone (MEK)	U		1.19	10.0	1	05/10/2023 15:27	WG2057214
Methylene Chloride	U		0.430	5.00	1	05/10/2023 15:27	WG2057214
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/10/2023 15:27	WG2057214
Methyl tert-butyl ether	U		0.101	1.00	1	05/10/2023 15:27	WG2057214
Naphthalene	U	C3	1.00	5.00	1	05/10/2023 15:27	WG2057214

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

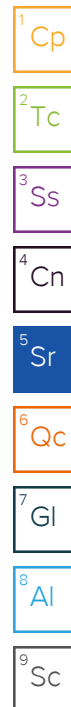
7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	U		0.0993	1.00	1	05/10/2023 15:27	WG2057214
Styrene	U		0.118	1.00	1	05/10/2023 15:27	WG2057214
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/10/2023 15:27	WG2057214
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/10/2023 15:27	WG2057214
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/10/2023 15:27	WG2057214
Tetrachloroethene	U		0.300	1.00	1	05/10/2023 15:27	WG2057214
Toluene	U		0.278	1.00	1	05/10/2023 15:27	WG2057214
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/10/2023 15:27	WG2057214
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/10/2023 15:27	WG2057214
1,1,1-Trichloroethane	U		0.149	1.00	1	05/10/2023 15:27	WG2057214
1,1,2-Trichloroethane	U		0.158	1.00	1	05/10/2023 15:27	WG2057214
Trichloroethene	U		0.190	1.00	1	05/10/2023 15:27	WG2057214
Trichlorofluoromethane	U		0.160	5.00	1	05/10/2023 15:27	WG2057214
1,2,3-Trichloropropane	U		0.237	2.50	1	05/10/2023 15:27	WG2057214
1,2,4-Trimethylbenzene	U		0.322	1.00	1	05/10/2023 15:27	WG2057214
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/10/2023 15:27	WG2057214
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/10/2023 15:27	WG2057214
Vinyl chloride	U	J4	0.234	1.00	1	05/10/2023 15:27	WG2057214
Xylenes, Total	U		0.174	3.00	1	05/10/2023 15:27	WG2057214
(S) Toluene-d8	108			80.0-120		05/10/2023 15:27	WG2057214
(S) 4-Bromofluorobenzene	106			77.0-126		05/10/2023 15:27	WG2057214
(S) 1,2-Dichloroethane-d4	123			70.0-130		05/10/2023 15:27	WG2057214



Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		35.0	105	1.05	05/11/2023 21:48	WG2057921
Residual Range Organics (RRO)	103	B J	87.7	263	1.05	05/11/2023 21:48	WG2057921
(S) o-Terphenyl	53.8			31.0-160		05/11/2023 21:48	WG2057921

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	05/10/2023 06:22	WG2056443
Acenaphthene	U		0.0190	0.0500	1	05/10/2023 06:22	WG2056443
Acenaphthylene	U		0.0171	0.0500	1	05/10/2023 06:22	WG2056443
Benzo(a)anthracene	U		0.0203	0.0500	1	05/10/2023 06:22	WG2056443
Benzo(a)pyrene	U		0.0184	0.0500	1	05/10/2023 06:22	WG2056443
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/10/2023 06:22	WG2056443
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/10/2023 06:22	WG2056443
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/10/2023 06:22	WG2056443
Chrysene	U		0.0179	0.0500	1	05/10/2023 06:22	WG2056443
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/10/2023 06:22	WG2056443
Fluoranthene	U		0.0270	0.100	1	05/10/2023 06:22	WG2056443
Fluorene	U		0.0169	0.0500	1	05/10/2023 06:22	WG2056443
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/10/2023 06:22	WG2056443
Naphthalene	U		0.0917	0.250	1	05/10/2023 06:22	WG2056443
Phenanthrene	U		0.0180	0.0500	1	05/10/2023 06:22	WG2056443
Pyrene	U		0.0169	0.0500	1	05/10/2023 06:22	WG2056443
1-Methylnaphthalene	U		0.0687	0.250	1	05/10/2023 06:22	WG2056443
2-Methylnaphthalene	U		0.0674	0.250	1	05/10/2023 06:22	WG2056443
2-Chloronaphthalene	U		0.0682	0.250	1	05/10/2023 06:22	WG2056443
(S) Nitrobenzene-d5	86.3			31.0-160		05/10/2023 06:22	WG2056443
(S) 2-Fluorobiphenyl	101			48.0-148		05/10/2023 06:22	WG2056443
(S) p-Terphenyl-d14	101			37.0-146		05/10/2023 06:22	WG2056443

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	938		31.6	100	1	05/13/2023 04:02	WG2059179
(S) a,a,a-Trifluorotoluene(FID)	89.9			78.0-120		05/13/2023 04:02	WG2059179

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	05/10/2023 15:49	WG2057214
Acrolein	U		2.54	50.0	1	05/10/2023 15:49	WG2057214
Acrylonitrile	U	C3	0.671	10.0	1	05/10/2023 15:49	WG2057214
Benzene	U		0.0941	1.00	1	05/10/2023 15:49	WG2057214
Bromobenzene	U		0.118	1.00	1	05/10/2023 15:49	WG2057214
Bromodichloromethane	U		0.136	1.00	1	05/10/2023 15:49	WG2057214
Bromoform	U	C3	0.129	1.00	1	05/10/2023 15:49	WG2057214
Bromomethane	U		0.605	5.00	1	05/10/2023 15:49	WG2057214
n-Butylbenzene	U		0.157	1.00	1	05/10/2023 15:49	WG2057214
sec-Butylbenzene	0.261	J	0.125	1.00	1	05/10/2023 15:49	WG2057214
tert-Butylbenzene	U		0.127	1.00	1	05/10/2023 15:49	WG2057214
Carbon disulfide	U		0.0962	1.00	1	05/10/2023 15:49	WG2057214
Carbon tetrachloride	U		0.128	1.00	1	05/10/2023 15:49	WG2057214
Chlorobenzene	U		0.116	1.00	1	05/10/2023 15:49	WG2057214
Chlorodibromomethane	U		0.140	1.00	1	05/10/2023 15:49	WG2057214
Chloroethane	U		0.192	5.00	1	05/10/2023 15:49	WG2057214
Chloroform	U		0.111	5.00	1	05/10/2023 15:49	WG2057214
Chloromethane	U		0.960	2.50	1	05/10/2023 15:49	WG2057214
2-Chlorotoluene	U		0.106	1.00	1	05/10/2023 15:49	WG2057214
4-Chlorotoluene	U		0.114	1.00	1	05/10/2023 15:49	WG2057214
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/10/2023 15:49	WG2057214
1,2-Dibromoethane	U		0.126	1.00	1	05/10/2023 15:49	WG2057214
Dibromomethane	U		0.122	1.00	1	05/10/2023 15:49	WG2057214
1,2-Dichlorobenzene	U		0.107	1.00	1	05/10/2023 15:49	WG2057214
1,3-Dichlorobenzene	U		0.110	1.00	1	05/10/2023 15:49	WG2057214
1,4-Dichlorobenzene	U		0.120	1.00	1	05/10/2023 15:49	WG2057214
Dichlorodifluoromethane	U	J4	0.374	5.00	1	05/10/2023 15:49	WG2057214
1,1-Dichloroethane	U		0.100	1.00	1	05/10/2023 15:49	WG2057214
1,2-Dichloroethane	U		0.0819	1.00	1	05/10/2023 15:49	WG2057214
1,1-Dichloroethene	U		0.188	1.00	1	05/10/2023 15:49	WG2057214
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/10/2023 15:49	WG2057214
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/10/2023 15:49	WG2057214
1,2-Dichloropropane	U		0.149	1.00	1	05/10/2023 15:49	WG2057214
1,1-Dichloropropene	U		0.142	1.00	1	05/10/2023 15:49	WG2057214
1,3-Dichloropropane	U		0.110	1.00	1	05/10/2023 15:49	WG2057214
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/10/2023 15:49	WG2057214
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/10/2023 15:49	WG2057214
2,2-Dichloropropane	U		0.161	1.00	1	05/10/2023 15:49	WG2057214
Di-isopropyl ether	U		0.105	1.00	1	05/10/2023 15:49	WG2057214
Ethylbenzene	U		0.137	1.00	1	05/10/2023 15:49	WG2057214
Hexachloro-1,3-butadiene	U		0.337	1.00	1	05/10/2023 15:49	WG2057214
Isopropylbenzene	0.334	J	0.105	1.00	1	05/10/2023 15:49	WG2057214
p-Isopropyltoluene	U		0.120	1.00	1	05/10/2023 15:49	WG2057214
2-Butanone (MEK)	U		1.19	10.0	1	05/10/2023 15:49	WG2057214
Methylene Chloride	U		0.430	5.00	1	05/10/2023 15:49	WG2057214
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/10/2023 15:49	WG2057214
Methyl tert-butyl ether	U		0.101	1.00	1	05/10/2023 15:49	WG2057214
Naphthalene	U	C3	1.00	5.00	1	05/10/2023 15:49	WG2057214

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

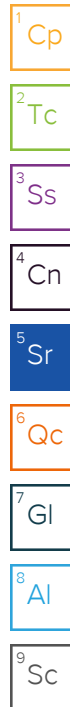
7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	0.644	<u>J</u>	0.0993	1.00	1	05/10/2023 15:49	WG2057214
Styrene	U		0.118	1.00	1	05/10/2023 15:49	WG2057214
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/10/2023 15:49	WG2057214
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/10/2023 15:49	WG2057214
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/10/2023 15:49	WG2057214
Tetrachloroethene	U		0.300	1.00	1	05/10/2023 15:49	WG2057214
Toluene	1.92		0.278	1.00	1	05/10/2023 15:49	WG2057214
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/10/2023 15:49	WG2057214
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/10/2023 15:49	WG2057214
1,1,1-Trichloroethane	U		0.149	1.00	1	05/10/2023 15:49	WG2057214
1,1,2-Trichloroethane	U		0.158	1.00	1	05/10/2023 15:49	WG2057214
Trichloroethene	U		0.190	1.00	1	05/10/2023 15:49	WG2057214
Trichlorofluoromethane	U		0.160	5.00	1	05/10/2023 15:49	WG2057214
1,2,3-Trichloropropane	U		0.237	2.50	1	05/10/2023 15:49	WG2057214
1,2,4-Trimethylbenzene	U		0.322	1.00	1	05/10/2023 15:49	WG2057214
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/10/2023 15:49	WG2057214
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/10/2023 15:49	WG2057214
Vinyl chloride	U	<u>J4</u>	0.234	1.00	1	05/10/2023 15:49	WG2057214
Xylenes, Total	U		0.174	3.00	1	05/10/2023 15:49	WG2057214
(S) Toluene-d8	109			80.0-120		05/10/2023 15:49	WG2057214
(S) 4-Bromofluorobenzene	110			77.0-126		05/10/2023 15:49	WG2057214
(S) 1,2-Dichloroethane-d4	116			70.0-130		05/10/2023 15:49	WG2057214



Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	204	<u>B</u>	35.0	105	1.05	05/11/2023 22:08	WG2057921
Residual Range Organics (RRO)	381	<u>B</u>	87.7	263	1.05	05/11/2023 22:08	WG2057921
(S) o-Terphenyl	75.7			31.0-160		05/11/2023 22:08	WG2057921

Sample Narrative:

L1613493-05 WG2057921: Sample resembles laboratory standard for Fuel Oil #6.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	05/10/2023 07:31	WG2056443
Acenaphthene	U		0.0190	0.0500	1	05/10/2023 07:31	WG2056443
Acenaphthylene	U		0.0171	0.0500	1	05/10/2023 07:31	WG2056443
Benzo(a)anthracene	U		0.0203	0.0500	1	05/10/2023 07:31	WG2056443
Benzo(a)pyrene	U		0.0184	0.0500	1	05/10/2023 07:31	WG2056443
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/10/2023 07:31	WG2056443
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/10/2023 07:31	WG2056443
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/10/2023 07:31	WG2056443
Chrysene	U		0.0179	0.0500	1	05/10/2023 07:31	WG2056443
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/10/2023 07:31	WG2056443
Fluoranthene	U		0.0270	0.100	1	05/10/2023 07:31	WG2056443
Fluorene	U		0.0169	0.0500	1	05/10/2023 07:31	WG2056443
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/10/2023 07:31	WG2056443
Naphthalene	0.148	<u>J</u>	0.0917	0.250	1	05/10/2023 07:31	WG2056443
Phenanthrene	U		0.0180	0.0500	1	05/10/2023 07:31	WG2056443
Pyrene	U		0.0169	0.0500	1	05/10/2023 07:31	WG2056443
1-Methylnaphthalene	U		0.0687	0.250	1	05/10/2023 07:31	WG2056443
2-Methylnaphthalene	0.0693	<u>J</u>	0.0674	0.250	1	05/10/2023 07:31	WG2056443
2-Chloronaphthalene	U		0.0682	0.250	1	05/10/2023 07:31	WG2056443

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
(S) Nitrobenzene-d5	84.2			31.0-160		05/10/2023 07:31	WG2056443
(S) 2-Fluorobiphenyl	100			48.0-148		05/10/2023 07:31	WG2056443
(S) p-Terphenyl-d14	97.4			37.0-146		05/10/2023 07:31	WG2056443

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	9500		316	1000	10	05/13/2023 05:30	WG2059179
(S) a,a,a-Trifluorotoluene(FID)	88.3			78.0-120		05/13/2023 05:30	WG2059179

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		113	500	10	05/13/2023 21:16	WG2059508
Acrolein	U		25.4	500	10	05/13/2023 21:16	WG2059508
Acrylonitrile	U		6.71	100	10	05/13/2023 21:16	WG2059508
Benzene	115		0.941	10.0	10	05/13/2023 21:16	WG2059508
Bromobenzene	U		1.18	10.0	10	05/13/2023 21:16	WG2059508
Bromodichloromethane	U		1.36	10.0	10	05/13/2023 21:16	WG2059508
Bromoform	U	C3	1.29	10.0	10	05/13/2023 21:16	WG2059508
Bromomethane	U	C3	6.05	50.0	10	05/13/2023 21:16	WG2059508
n-Butylbenzene	2.51	J	1.57	10.0	10	05/13/2023 21:16	WG2059508
sec-Butylbenzene	3.22	J	1.25	10.0	10	05/13/2023 21:16	WG2059508
tert-Butylbenzene	U		1.27	10.0	10	05/13/2023 21:16	WG2059508
Carbon disulfide	U		0.962	10.0	10	05/13/2023 21:16	WG2059508
Carbon tetrachloride	U		1.28	10.0	10	05/13/2023 21:16	WG2059508
Chlorobenzene	U		1.16	10.0	10	05/13/2023 21:16	WG2059508
Chlorodibromomethane	U		1.40	10.0	10	05/13/2023 21:16	WG2059508
Chloroethane	U		1.92	50.0	10	05/13/2023 21:16	WG2059508
Chloroform	U		1.11	50.0	10	05/13/2023 21:16	WG2059508
Chloromethane	U		9.60	25.0	10	05/13/2023 21:16	WG2059508
2-Chlorotoluene	U		1.06	10.0	10	05/13/2023 21:16	WG2059508
4-Chlorotoluene	U		1.14	10.0	10	05/13/2023 21:16	WG2059508
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	05/13/2023 21:16	WG2059508
1,2-Dibromoethane	U		1.26	10.0	10	05/13/2023 21:16	WG2059508
Dibromomethane	U		1.22	10.0	10	05/13/2023 21:16	WG2059508
1,2-Dichlorobenzene	U		1.07	10.0	10	05/13/2023 21:16	WG2059508
1,3-Dichlorobenzene	U		1.10	10.0	10	05/13/2023 21:16	WG2059508
1,4-Dichlorobenzene	U		1.20	10.0	10	05/13/2023 21:16	WG2059508
Dichlorodifluoromethane	U		3.74	50.0	10	05/13/2023 21:16	WG2059508
1,1-Dichloroethane	U		1.00	10.0	10	05/13/2023 21:16	WG2059508
1,2-Dichloroethane	U		0.819	10.0	10	05/13/2023 21:16	WG2059508
1,1-Dichloroethene	U		1.88	10.0	10	05/13/2023 21:16	WG2059508
cis-1,2-Dichloroethene	U		1.26	10.0	10	05/13/2023 21:16	WG2059508
trans-1,2-Dichloroethene	U		1.49	10.0	10	05/13/2023 21:16	WG2059508
1,2-Dichloropropane	U		1.49	10.0	10	05/13/2023 21:16	WG2059508
1,1-Dichloropropene	U		1.42	10.0	10	05/13/2023 21:16	WG2059508
1,3-Dichloropropane	U		1.10	10.0	10	05/13/2023 21:16	WG2059508
cis-1,3-Dichloropropene	U		1.11	10.0	10	05/13/2023 21:16	WG2059508
trans-1,3-Dichloropropene	U		1.18	10.0	10	05/13/2023 21:16	WG2059508
2,2-Dichloropropane	U		1.61	10.0	10	05/13/2023 21:16	WG2059508
Di-isopropyl ether	U		1.05	10.0	10	05/13/2023 21:16	WG2059508
Ethylbenzene	275		1.37	10.0	10	05/13/2023 21:16	WG2059508
Hexachloro-1,3-butadiene	U		3.37	10.0	10	05/13/2023 21:16	WG2059508
Isopropylbenzene	12.8		1.05	10.0	10	05/13/2023 21:16	WG2059508
p-Isopropyltoluene	U		1.20	10.0	10	05/13/2023 21:16	WG2059508
2-Butanone (MEK)	U		11.9	100	10	05/13/2023 21:16	WG2059508
Methylene Chloride	U		4.30	50.0	10	05/13/2023 21:16	WG2059508
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	05/13/2023 21:16	WG2059508
Methyl tert-butyl ether	U		1.01	10.0	10	05/13/2023 21:16	WG2059508
Naphthalene	30.2	J	10.0	50.0	10	05/13/2023 21:16	WG2059508

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

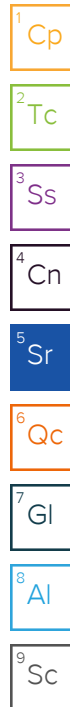
7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	35.3		0.993	10.0	10	05/13/2023 21:16	WG2059508
Styrene	U		1.18	10.0	10	05/13/2023 21:16	WG2059508
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	05/13/2023 21:16	WG2059508
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	05/13/2023 21:16	WG2059508
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	05/13/2023 21:16	WG2059508
Tetrachloroethene	U		3.00	10.0	10	05/13/2023 21:16	WG2059508
Toluene	1160		2.78	10.0	10	05/13/2023 21:16	WG2059508
1,2,3-Trichlorobenzene	U		2.30	10.0	10	05/13/2023 21:16	WG2059508
1,2,4-Trichlorobenzene	U		4.81	10.0	10	05/13/2023 21:16	WG2059508
1,1,1-Trichloroethane	U		1.49	10.0	10	05/13/2023 21:16	WG2059508
1,1,2-Trichloroethane	U		1.58	10.0	10	05/13/2023 21:16	WG2059508
Trichloroethene	U		1.90	10.0	10	05/13/2023 21:16	WG2059508
Trichlorofluoromethane	U		1.60	50.0	10	05/13/2023 21:16	WG2059508
1,2,3-Trichloropropane	U		2.37	25.0	10	05/13/2023 21:16	WG2059508
1,2,4-Trimethylbenzene	204		3.22	10.0	10	05/13/2023 21:16	WG2059508
1,2,3-Trimethylbenzene	47.8		1.04	10.0	10	05/13/2023 21:16	WG2059508
1,3,5-Trimethylbenzene	50.0		1.04	10.0	10	05/13/2023 21:16	WG2059508
Vinyl chloride	U		2.34	10.0	10	05/13/2023 21:16	WG2059508
Xylenes, Total	1280		1.74	30.0	10	05/13/2023 21:16	WG2059508
(S) Toluene-d8	107			80.0-120		05/13/2023 21:16	WG2059508
(S) 4-Bromofluorobenzene	103			77.0-126		05/13/2023 21:16	WG2059508
(S) 1,2-Dichloroethane-d4	123			70.0-130		05/13/2023 21:16	WG2059508



Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	137	B	35.0	105	1.05	05/11/2023 22:28	WG2057921
Residual Range Organics (RRO)	145	B J	87.7	263	1.05	05/11/2023 22:28	WG2057921
(S) o-Terphenyl	70.5			31.0-160		05/11/2023 22:28	WG2057921

Sample Narrative:

L1613493-06 WG2057921: Sample resembles laboratory standard for Gasoline.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	05/10/2023 06:39	WG2056443
Acenaphthene	U		0.0190	0.0500	1	05/10/2023 06:39	WG2056443
Acenaphthylene	U		0.0171	0.0500	1	05/10/2023 06:39	WG2056443
Benzo(a)anthracene	U		0.0203	0.0500	1	05/10/2023 06:39	WG2056443
Benzo(a)pyrene	U		0.0184	0.0500	1	05/10/2023 06:39	WG2056443
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/10/2023 06:39	WG2056443
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/10/2023 06:39	WG2056443
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/10/2023 06:39	WG2056443
Chrysene	U		0.0179	0.0500	1	05/10/2023 06:39	WG2056443
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/10/2023 06:39	WG2056443
Fluoranthene	U		0.0270	0.100	1	05/10/2023 06:39	WG2056443
Fluorene	U		0.0169	0.0500	1	05/10/2023 06:39	WG2056443
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/10/2023 06:39	WG2056443
Naphthalene	46.6		0.0917	0.250	1	05/10/2023 06:39	WG2056443
Phenanthrene	U		0.0180	0.0500	1	05/10/2023 06:39	WG2056443
Pyrene	U		0.0169	0.0500	1	05/10/2023 06:39	WG2056443
1-Methylnaphthalene	2.98		0.0687	0.250	1	05/10/2023 06:39	WG2056443
2-Methylnaphthalene	3.98		0.0674	0.250	1	05/10/2023 06:39	WG2056443
2-Chloronaphthalene	U		0.0682	0.250	1	05/10/2023 06:39	WG2056443

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
(S) Nitrobenzene-d5	88.4			31.0-160		05/10/2023 06:39	WG2056443
(S) 2-Fluorobiphenyl	103			48.0-148		05/10/2023 06:39	WG2056443
(S) p-Terphenyl-d14	105			37.0-146		05/10/2023 06:39	WG2056443

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

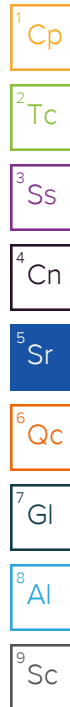
7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	05/13/2023 15:24	WG2059508
Acrolein	U		2.54	50.0	1	05/13/2023 15:24	WG2059508
Acrylonitrile	U		0.671	10.0	1	05/13/2023 15:24	WG2059508
Benzene	U		0.0941	1.00	1	05/13/2023 15:24	WG2059508
Bromobenzene	U		0.118	1.00	1	05/13/2023 15:24	WG2059508
Bromodichloromethane	U		0.136	1.00	1	05/13/2023 15:24	WG2059508
Bromoform	U	C3	0.129	1.00	1	05/13/2023 15:24	WG2059508
Bromomethane	U	C3	0.605	5.00	1	05/13/2023 15:24	WG2059508
n-Butylbenzene	U		0.157	1.00	1	05/13/2023 15:24	WG2059508
sec-Butylbenzene	U		0.125	1.00	1	05/13/2023 15:24	WG2059508
tert-Butylbenzene	U		0.127	1.00	1	05/13/2023 15:24	WG2059508
Carbon disulfide	U		0.0962	1.00	1	05/13/2023 15:24	WG2059508
Carbon tetrachloride	U		0.128	1.00	1	05/13/2023 15:24	WG2059508
Chlorobenzene	U		0.116	1.00	1	05/13/2023 15:24	WG2059508
Chlorodibromomethane	U		0.140	1.00	1	05/13/2023 15:24	WG2059508
Chloroethane	U		0.192	5.00	1	05/13/2023 15:24	WG2059508
Chloroform	U		0.111	5.00	1	05/13/2023 15:24	WG2059508
Chloromethane	U		0.960	2.50	1	05/13/2023 15:24	WG2059508
2-Chlorotoluene	U		0.106	1.00	1	05/13/2023 15:24	WG2059508
4-Chlorotoluene	U		0.114	1.00	1	05/13/2023 15:24	WG2059508
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/13/2023 15:24	WG2059508
1,2-Dibromoethane	U		0.126	1.00	1	05/13/2023 15:24	WG2059508
Dibromomethane	U		0.122	1.00	1	05/13/2023 15:24	WG2059508
1,2-Dichlorobenzene	U		0.107	1.00	1	05/13/2023 15:24	WG2059508
1,3-Dichlorobenzene	U		0.110	1.00	1	05/13/2023 15:24	WG2059508
1,4-Dichlorobenzene	U		0.120	1.00	1	05/13/2023 15:24	WG2059508
Dichlorodifluoromethane	U		0.374	5.00	1	05/13/2023 15:24	WG2059508
1,1-Dichloroethane	U		0.100	1.00	1	05/13/2023 15:24	WG2059508
1,2-Dichloroethane	U		0.0819	1.00	1	05/13/2023 15:24	WG2059508
1,1-Dichloroethene	U		0.188	1.00	1	05/13/2023 15:24	WG2059508
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/13/2023 15:24	WG2059508
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/13/2023 15:24	WG2059508
1,2-Dichloropropane	U		0.149	1.00	1	05/13/2023 15:24	WG2059508
1,1-Dichloropropene	U		0.142	1.00	1	05/13/2023 15:24	WG2059508
1,3-Dichloropropane	U		0.110	1.00	1	05/13/2023 15:24	WG2059508
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/13/2023 15:24	WG2059508
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/13/2023 15:24	WG2059508
2,2-Dichloropropane	U		0.161	1.00	1	05/13/2023 15:24	WG2059508
Di-isopropyl ether	U		0.105	1.00	1	05/13/2023 15:24	WG2059508
Ethylbenzene	U		0.137	1.00	1	05/13/2023 15:24	WG2059508
Hexachloro-1,3-butadiene	U		0.337	1.00	1	05/13/2023 15:24	WG2059508
Isopropylbenzene	U		0.105	1.00	1	05/13/2023 15:24	WG2059508
p-Isopropyltoluene	U		0.120	1.00	1	05/13/2023 15:24	WG2059508
2-Butanone (MEK)	U		1.19	10.0	1	05/13/2023 15:24	WG2059508
Methylene Chloride	U		0.430	5.00	1	05/13/2023 15:24	WG2059508
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/13/2023 15:24	WG2059508
Methyl tert-butyl ether	U		0.101	1.00	1	05/13/2023 15:24	WG2059508
Naphthalene	U		1.00	5.00	1	05/13/2023 15:24	WG2059508
n-Propylbenzene	U		0.0993	1.00	1	05/13/2023 15:24	WG2059508
Styrene	U		0.118	1.00	1	05/13/2023 15:24	WG2059508
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/13/2023 15:24	WG2059508
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/13/2023 15:24	WG2059508
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/13/2023 15:24	WG2059508
Tetrachloroethene	U		0.300	1.00	1	05/13/2023 15:24	WG2059508
Toluene	U		0.278	1.00	1	05/13/2023 15:24	WG2059508
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/13/2023 15:24	WG2059508



Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/13/2023 15:24	WG2059508
1,1,1-Trichloroethane	U		0.149	1.00	1	05/13/2023 15:24	WG2059508
1,1,2-Trichloroethane	U		0.158	1.00	1	05/13/2023 15:24	WG2059508
Trichloroethene	U		0.190	1.00	1	05/13/2023 15:24	WG2059508
Trichlorofluoromethane	U		0.160	5.00	1	05/13/2023 15:24	WG2059508
1,2,3-Trichloropropane	U		0.237	2.50	1	05/13/2023 15:24	WG2059508
1,2,4-Trimethylbenzene	U		0.322	1.00	1	05/13/2023 15:24	WG2059508
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/13/2023 15:24	WG2059508
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/13/2023 15:24	WG2059508
Vinyl chloride	U		0.234	1.00	1	05/13/2023 15:24	WG2059508
Xylenes, Total	U		0.174	3.00	1	05/13/2023 15:24	WG2059508
(S) Toluene-d8	108			80.0-120		05/13/2023 15:24	WG2059508
(S) 4-Bromofluorobenzene	103			77.0-126		05/13/2023 15:24	WG2059508
(S) 1,2-Dichloroethane-d4	118			70.0-130		05/13/2023 15:24	WG2059508

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3924940-3 05/12/23 18:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	89.0			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3924940-2 05/12/23 17:09

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5560	101	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			94.2	78.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3924044-2 05/10/23 07:31

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon disulfide	U		0.0962	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3924044-2 05/10/23 07:31

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.337	1.00
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	109			80.0-120
(S) 4-Bromofluorobenzene	105			77.0-126
(S) 1,2-Dichloroethane-d4	125			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3924044-1 05/10/23 06:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	26.7	107	19.0-160	
Acrolein	25.0	31.5	126	10.0-160	
Acrylonitrile	25.0	24.1	96.4	55.0-149	

Laboratory Control Sample (LCS)

(LCS) R3924044-1 05/10/23 06:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Benzene	5.00	4.79	95.8	70.0-123	
Bromobenzene	5.00	4.53	90.6	73.0-121	
Bromodichloromethane	5.00	4.84	96.8	75.0-120	
Bromoform	5.00	3.73	74.6	68.0-132	
Bromomethane	5.00	5.32	106	10.0-160	
n-Butylbenzene	5.00	5.15	103	73.0-125	
sec-Butylbenzene	5.00	4.61	92.2	75.0-125	
tert-Butylbenzene	5.00	4.70	94.0	76.0-124	
Carbon disulfide	5.00	5.02	100	61.0-128	
Carbon tetrachloride	5.00	4.75	95.0	68.0-126	
Chlorobenzene	5.00	4.44	88.8	80.0-121	
Chlorodibromomethane	5.00	3.89	77.8	77.0-125	
Chloroethane	5.00	5.77	115	47.0-150	
Chloroform	5.00	4.76	95.2	73.0-120	
Chloromethane	5.00	6.07	121	41.0-142	
2-Chlorotoluene	5.00	4.61	92.2	76.0-123	
4-Chlorotoluene	5.00	4.60	92.0	75.0-122	
1,2-Dibromo-3-Chloropropane	5.00	3.93	78.6	58.0-134	
1,2-Dibromoethane	5.00	4.23	84.6	80.0-122	
Dibromomethane	5.00	5.03	101	80.0-120	
1,2-Dichlorobenzene	5.00	4.46	89.2	79.0-121	
1,3-Dichlorobenzene	5.00	4.33	86.6	79.0-120	
1,4-Dichlorobenzene	5.00	4.23	84.6	79.0-120	
Dichlorodifluoromethane	5.00	8.21	164	51.0-149	J4
1,1-Dichloroethane	5.00	5.06	101	70.0-126	
1,2-Dichloroethane	5.00	4.98	99.6	70.0-128	
1,1-Dichloroethene	5.00	4.98	99.6	71.0-124	
cis-1,2-Dichloroethene	5.00	4.67	93.4	73.0-120	
trans-1,2-Dichloroethene	5.00	4.73	94.6	73.0-120	
1,2-Dichloropropane	5.00	4.59	91.8	77.0-125	
1,1-Dichloropropene	5.00	5.33	107	74.0-126	
1,3-Dichloropropane	5.00	4.59	91.8	80.0-120	
cis-1,3-Dichloropropene	5.00	4.77	95.4	80.0-123	
trans-1,3-Dichloropropene	5.00	4.18	83.6	78.0-124	
2,2-Dichloropropane	5.00	5.00	100	58.0-130	
Di-isopropyl ether	5.00	5.23	105	58.0-138	
Ethylbenzene	5.00	4.48	89.6	79.0-123	
Hexachloro-1,3-butadiene	5.00	4.62	92.4	54.0-138	
Isopropylbenzene	5.00	4.62	92.4	76.0-127	
p-Isopropyltoluene	5.00	4.90	98.0	76.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3924044-1 05/10/23 06:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
2-Butanone (MEK)	25.0	28.1	112	44.0-160	
Methylene Chloride	5.00	5.00	100	67.0-120	
4-Methyl-2-pentanone (MIBK)	25.0	25.5	102	68.0-142	
Methyl tert-butyl ether	5.00	5.05	101	68.0-125	
Naphthalene	5.00	4.03	80.6	54.0-135	
n-Propylbenzene	5.00	5.06	101	77.0-124	
Styrene	5.00	4.09	81.8	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	4.21	84.2	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	4.85	97.0	65.0-130	
1,1,2-Trichlorotrifluoroethane	5.00	5.41	108	69.0-132	
Tetrachloroethene	5.00	4.15	83.0	72.0-132	
Toluene	5.00	4.46	89.2	79.0-120	
1,2,3-Trichlorobenzene	5.00	4.38	87.6	50.0-138	
1,2,4-Trichlorobenzene	5.00	4.76	95.2	57.0-137	
1,1,1-Trichloroethane	5.00	5.26	105	73.0-124	
1,1,2-Trichloroethane	5.00	4.47	89.4	80.0-120	
Trichloroethene	5.00	4.45	89.0	78.0-124	
Trichlorofluoromethane	5.00	5.81	116	59.0-147	
1,2,3-Trichloropropane	5.00	4.61	92.2	73.0-130	
1,2,4-Trimethylbenzene	5.00	4.58	91.6	76.0-121	
1,2,3-Trimethylbenzene	5.00	4.52	90.4	77.0-120	
1,3,5-Trimethylbenzene	5.00	4.78	95.6	76.0-122	
Vinyl chloride	5.00	6.90	138	67.0-131	J4
Xylenes, Total	15.0	13.9	92.7	79.0-123	
(S) Toluene-d8			106	80.0-120	
(S) 4-Bromofluorobenzene			102	77.0-126	
(S) 1,2-Dichloroethane-d4			121	70.0-130	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3925450-2 05/13/23 13:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon disulfide	U		0.0962	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3925450-2 05/13/23 13:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.337	1.00
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	107			80.0-120
(S) 4-Bromofluorobenzene	106			77.0-126
(S) 1,2-Dichloroethane-d4	114			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3925450-1 05/13/23 12:45

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	29.5	118	19.0-160	
Acrolein	25.0	37.3	149	10.0-160	
Acrylonitrile	25.0	28.2	113	55.0-149	

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS)

(LCS) R3925450-1 05/13/23 12:45

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Benzene	5.00	5.24	105	70.0-123	
Bromobenzene	5.00	4.55	91.0	73.0-121	
Bromodichloromethane	5.00	5.36	107	75.0-120	
Bromoform	5.00	3.92	78.4	68.0-132	
Bromomethane	5.00	3.57	71.4	10.0-160	
n-Butylbenzene	5.00	5.04	101	73.0-125	
sec-Butylbenzene	5.00	4.77	95.4	75.0-125	
tert-Butylbenzene	5.00	5.05	101	76.0-124	
Carbon disulfide	5.00	5.15	103	61.0-128	
Carbon tetrachloride	5.00	4.79	95.8	68.0-126	
Chlorobenzene	5.00	4.70	94.0	80.0-121	
Chlorodibromomethane	5.00	4.28	85.6	77.0-125	
Chloroethane	5.00	5.26	105	47.0-150	
Chloroform	5.00	5.12	102	73.0-120	
Chloromethane	5.00	5.68	114	41.0-142	
2-Chlorotoluene	5.00	4.77	95.4	76.0-123	
4-Chlorotoluene	5.00	4.73	94.6	75.0-122	
1,2-Dibromo-3-Chloropropane	5.00	4.22	84.4	58.0-134	
1,2-Dibromoethane	5.00	4.83	96.6	80.0-122	
Dibromomethane	5.00	4.95	99.0	80.0-120	
1,2-Dichlorobenzene	5.00	4.72	94.4	79.0-121	
1,3-Dichlorobenzene	5.00	4.94	98.8	79.0-120	
1,4-Dichlorobenzene	5.00	5.20	104	79.0-120	
Dichlorodifluoromethane	5.00	6.52	130	51.0-149	
1,1-Dichloroethane	5.00	5.46	109	70.0-126	
1,2-Dichloroethane	5.00	5.69	114	70.0-128	
1,1-Dichloroethene	5.00	5.16	103	71.0-124	
cis-1,2-Dichloroethene	5.00	5.45	109	73.0-120	
trans-1,2-Dichloroethene	5.00	5.10	102	73.0-120	
1,2-Dichloropropane	5.00	4.99	99.8	77.0-125	
1,1-Dichloropropene	5.00	4.93	98.6	74.0-126	
1,3-Dichloropropane	5.00	4.94	98.8	80.0-120	
cis-1,3-Dichloropropene	5.00	5.45	109	80.0-123	
trans-1,3-Dichloropropene	5.00	4.47	89.4	78.0-124	
2,2-Dichloropropane	5.00	5.40	108	58.0-130	
Di-isopropyl ether	5.00	5.55	111	58.0-138	
Ethylbenzene	5.00	4.78	95.6	79.0-123	
Hexachloro-1,3-butadiene	5.00	4.24	84.8	54.0-138	
Isopropylbenzene	5.00	4.92	98.4	76.0-127	
p-Isopropyltoluene	5.00	5.07	101	76.0-125	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3925450-1 05/13/23 12:45

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
2-Butanone (MEK)	25.0	30.3	121	44.0-160	
Methylene Chloride	5.00	4.93	98.6	67.0-120	
4-Methyl-2-pentanone (MIBK)	25.0	27.7	111	68.0-142	
Methyl tert-butyl ether	5.00	5.68	114	68.0-125	
Naphthalene	5.00	4.49	89.8	54.0-135	
n-Propylbenzene	5.00	4.99	99.8	77.0-124	
Styrene	5.00	4.48	89.6	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	5.03	101	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	5.28	106	65.0-130	
1,1,2-Trichlorotrifluoroethane	5.00	5.17	103	69.0-132	
Tetrachloroethene	5.00	4.51	90.2	72.0-132	
Toluene	5.00	4.72	94.4	79.0-120	
1,2,3-Trichlorobenzene	5.00	5.06	101	50.0-138	
1,2,4-Trichlorobenzene	5.00	4.82	96.4	57.0-137	
1,1,1-Trichloroethane	5.00	5.31	106	73.0-124	
1,1,2-Trichloroethane	5.00	4.74	94.8	80.0-120	
Trichloroethene	5.00	4.95	99.0	78.0-124	
Trichlorofluoromethane	5.00	5.24	105	59.0-147	
1,2,3-Trichloropropane	5.00	4.77	95.4	73.0-130	
1,2,4-Trimethylbenzene	5.00	4.96	99.2	76.0-121	
1,2,3-Trimethylbenzene	5.00	4.97	99.4	77.0-120	
1,3,5-Trimethylbenzene	5.00	5.15	103	76.0-122	
Vinyl chloride	5.00	6.29	126	67.0-131	
Xylenes, Total	15.0	14.7	98.0	79.0-123	
(S) Toluene-d8			105	80.0-120	
(S) 4-Bromofluorobenzene			104	77.0-126	
(S) 1,2-Dichloroethane-d4			116	70.0-130	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3923884-1 05/11/23 19:37

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	37.2	U	33.3	100
Residual Range Organics (RRO)	170	U	83.3	250
(S) o-Terphenyl	85.5			31.0-160

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3923884-2 05/11/23 19:57 • (LCSD) R3923884-3 05/11/23 20:17

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1050	1050	70.0	70.0	50.0-150			0.000	20
(S) o-Terphenyl				70.5	73.5	31.0-160				

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3924095-3 05/10/23 02:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	89.5			31.0-160
(S) 2-Fluorobiphenyl	101			48.0-148
(S) p-Terphenyl-d14	97.0			37.0-146

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3924095-1 05/10/23 01:27 • (LCSD) R3924095-2 05/10/23 01:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.96	2.02	98.0	101	67.0-150			3.02	20
Acenaphthene	2.00	1.78	1.86	89.0	93.0	65.0-138			4.40	20
Acenaphthylene	2.00	2.03	2.09	102	104	66.0-140			2.91	20
Benzo(a)anthracene	2.00	2.08	2.12	104	106	61.0-140			1.90	20
Benzo(a)pyrene	2.00	1.93	1.92	96.5	96.0	60.0-143			0.519	20
Benzo(b)fluoranthene	2.00	1.78	1.80	89.0	90.0	58.0-141			1.12	20
Benzo(g,h,i)perylene	2.00	1.64	1.62	82.0	81.0	52.0-153			1.23	20
Benzo(k)fluoranthene	2.00	1.70	1.70	85.0	85.0	58.0-148			0.000	20
Chrysene	2.00	2.04	2.08	102	104	64.0-144			1.94	20
Dibenz(a,h)anthracene	2.00	1.65	1.64	82.5	82.0	52.0-155			0.608	20
Fluoranthene	2.00	2.23	2.30	111	115	69.0-153			3.09	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3924095-1 05/10/23 01:27 • (LCSD) R3924095-2 05/10/23 01:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	2.00	2.05	2.17	103	108	64.0-136			5.69	20
Indeno(1,2,3-cd)pyrene	2.00	1.86	1.85	93.0	92.5	54.0-153			0.539	20
Naphthalene	2.00	1.98	2.07	99.0	104	61.0-137			4.44	20
Phenanthrene	2.00	2.02	2.08	101	104	62.0-137			2.93	20
Pyrene	2.00	2.05	2.15	103	107	60.0-142			4.76	20
1-Methylnaphthalene	2.00	2.17	2.27	108	114	66.0-142			4.50	20
2-Methylnaphthalene	2.00	2.07	2.16	104	108	62.0-136			4.26	20
2-Chloronaphthalene	2.00	1.97	2.04	98.5	102	64.0-140			3.49	20
(S) Nitrobenzene-d5				90.0	96.0	31.0-160				
(S) 2-Fluorobiphenyl				101	104	48.0-148				
(S) p-Terphenyl-d14				89.5	92.0	37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

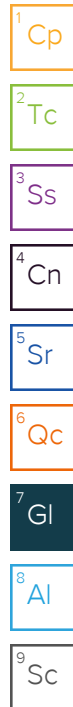
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J4	The associated batch QC was outside the established quality control range for accuracy.



ACCREDITATIONS & LOCATIONS

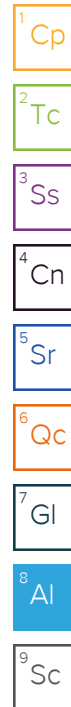
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



State of Oregon Chain of Custody

D224

L1613493

Agency, Authorized Purchaser or Agent: Oregon DEQ				Contract Laboratory Name: Pace National, bda ESC				Lab Selection Criteria: ☐ Proximity (if TAT < 48 hrs) ☐ Prior work on same project ☒ Cost (for anticipated analyses) ☐ Other labs disqualified or unable to perform requested services ☐ Emergency work				Turn Around Time: ☒ 10 days (std.) ☐ 5 days ☐ 72 hours ☐ 48 hours ☐ 24 hours ☐ Other			
Send Lab Report To: Anthony Chavez Address: 165 7 th Avenue, Suite 100 Eugene, OR 97401 Tel. #: 541-687-7348 E-mail: Anthony.Chavez@deq.oregon.gov				Lab Batch #:				Invoice To: ODEQ/Business Office Address: 700 NE Multnomah St, Suite 600 Portland, OR 97232 Tel. #: 503-229-5696							
Project Name: Village Shell Project Number: M0785.20.001 Sampler Name: Connor Anderson				Sample Preservative											
				HCl	HCl	HCl	None								
Sample ID#	Collection Date/Time	Matrix	Number of Containers	NWTPH-Gx	NWTPH-Dx (with Silica Gel)	VOCs (EPA 8260)	PAHs (EPA 8270D-SIM)							Comments	
MW-01	5/3/2023, 1402	GW	10	X	X	X	X							- 01	
MW-02	5/3/2023, 1626	GW	10	X	X	X	X							- 02	
MW-04	5/3/2023, 1513	GW	10	X	X	X	X							- 03	
MW-04-DUP	5/3/2023, 1513	GW	10	X	X	X	X							- 04	
MW-06	5/3/2023, 1111	GW	10	X	X	X	X							- 05	
MW-07	5/3/2023, 1314	GW	10	X	X	X	X							- 06	
TRIP BLANK	5/3/2023	W	2			X								- 07	

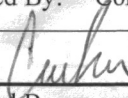
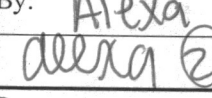
Sample Receipt Checklist
 COC Seal Present/Intact: 1 Y N If Applicable
 COC Signed/Accurate: 1 Y N VOA Zero Headspace: 1 Y N
 Bottles arrive intact: 3 Y N Pres. Correct/Check: Y N
 Correct bottles used: 3 Y N
 Sufficient volume sent: 3 Y N
 RAD Screen <0.5 mR/hr: 1 Y N

3.3 + 0 = 3.3

Notes:

Please cc the following list on analytical reports and COCs: avidourek@maulfoster.com, mpickering@maulfoster.com, and jwetmore@maulfoster.com.

*Samples have been field filtered.

Relinquished By: Connor Anderson	Agency/Agent: MFA	Received By: Alexa	Agency/Agent:
Signature: 	Time & Date: 5/5/23, 1220	Signature: 	Time & Date: 5/6/23 0900
Relinquished By:	Agency/Agent:	Received By:	Agency/Agent:
Signature:	Time & Date:	Signature:	Time & Date: