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June 28, 2024
Project No. M0785.20.002

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

Re: Village Shell—May 2024 Quarterly Monitoring Report
LUST File No. 06-04-233

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 2 of Task Order 067-23-07.

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.

Quarterly groundwater monitoring events have been conducted in February, May, August, and November 2023, and February and May 2024. 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)[2,3] 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. 2023. Table: Risk-Based Concentrations for Individual Chemicals. Oregon Department of Environmental Quality. June.
[3] DEQ. 2023. Table 1: Chronic and Acute Vapor Intrusion Risk-Based Concentrations. Oregon Department of Environmental Quality. June.

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 7 and 8, 2024, 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 initial 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 2024 monitoring event flowed to the northeast toward Pony Slough, consistent with the flow directions observed during the August 2023 and February 2024 event. Groundwater during the December 2022, February 2023, May 2023, and November 2023 monitoring events flowed to the northeast and west-northwest, merging to the north.

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 2024 monitoring event was collected and stored in a labeled 55-gallon accumulation 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. Helium was not detected during the purge tests conducted at all soil vapor monitoring wells prior to sample collection. FSDS for the soil vapor samples are 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- and diesel-range TPH, VOCs, and PAHs were detected above the method reporting limits (MDLs) 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 1,190 to 17,300 micrograms per liter (ug/L) in samples collected from monitoring wells MW-01, MW-06, and MW-07. Concentrations of gasoline-range TPH were not detected above the MDL in the samples collected from monitoring wells MW-02 or MW-04.
- Diesel-range TPH—Diesel-range TPH was detected at 925 ug/L and 111 ug/L in samples collected from monitoring wells MW-01 (duplicate) and MW-07, respectively. Both primary and duplicate samples from MW-01 had detections, with the higher of the two presented here. Concentrations of diesel-range TPH were not detected above the MDL in samples collected from monitoring wells MW-02, MW-04, or MW-06.
- VOCs—Various VOCs were detected in samples collected from monitoring wells MW-01, MW-06, and MW-07. No VOCs were detected above the MDLs in the samples collected from monitoring wells MW-02 or MW-04. Detected concentrations of key VOCs are as follows:
  - 1,2,4-trimethylbenzene was detected at 1,100 ug/L (estimated) and 356 ug/L (estimated) in samples collected from monitoring wells MW-01 and MW-07, respectively.
  - Benzene was detected at 0.100 (estimated) ug/L and 219 ug/L in samples collected from monitoring wells MW-06 and MW-07, respectively.
  - Ethylbenzene was detected at 358 ug/L (duplicate) and 550 ug/L in samples collected from monitoring wells MW-01 and MW-07, respectively.
  - Naphthalene was detected at 437 ug/L (estimated; duplicate) and 112 ug/L (estimated) in samples collected from monitoring wells MW-01 and MW-07, respectively.
- PAHs—Various PAHs were detected in samples collected from monitoring wells MW-01 and MW-07. No PAHs were detected above the MDLs in samples collected from monitoring wells MW-02, MW-04, or MW-06. Naphthalene was detected at 416 ug/L and 82.8 ug/L in samples collected from monitoring wells MW-01 and MW-07, respectively.

Soil Vapor

Gasoline-range TPH was not detected above the MRL in any of the soil vapor samples collected (see Table 3 and Figure 4). VOCs were detected above the MRLs in all the soil vapor samples. None of the key VOCs (benzene, ethylbenzene, toluene, total xylenes) were detected above the MRLs. Helium was not detected in any of the soil vapor samples collected. MFA confirmed that the grade of helium applied to the shroud was 99.9 percent and that the shroud concentrations for the samples were 47.5, 48.7, and 45.7 percent in SVW-01, SVW-02, and SVW-03, respectively.

During prior events in May, August, and November 2023, tetrachloroethene (PCE) was detected in SVW-03 at concentrations below applicable RBCs. PCE was not detected in the May 2024 event. Additionally, because there are no known sources of PCE from the Site, these detections do not appear to affect the locality of facility.

Data Evaluation

Groundwater

RBC exceedances were limited to the groundwater samples collected from monitoring wells MW-01, MW-06, and MW-07, as follows:

- Gasoline-range TPH exceeded the RBCs for chronic groundwater volatilization to indoor air for residential and commercial receptors in MW-01, MW-06, and MW-07. Concentrations in MW-07 also exceeded the groundwater in an excavation for construction and excavation workers RBC.
- Diesel-range TPH exceeded the RBC for chronic groundwater volatilization to indoor air for residential receptors in MW-01. Concentrations increased compared to the February 2024 sampling event, however, are within the range of previous concentrations.
- 1,2,4-trimethylbenzene exceeded the RBC for chronic groundwater volatilization to indoor air for residential receptors in MW-01. Concentrations increased compared to the February 2024 sampling event, however, are within the range of previous concentrations.
- Benzene exceeded the RBC for chronic groundwater volatilization to indoor air for residential and commercial receptors in MW-07. Concentrations in MW-07 increased slightly compared to previous sampling events, however, are within the range of previous concentrations.
- Ethylbenzene exceeded the RBC for chronic groundwater volatilization to indoor air for residential and commercial receptors in MW-01 and MW-07. Concentrations in MW-01 increased compared to the February 2024 sampling event, but were lower than events prior to 2024. Concentrations in MW-07 increased compared to recent sampling events but remained below historical concentrations.
- Naphthalene exceeded the RBC for chronic groundwater volatilization to indoor air for residential and commercial receptors in MW-01 and MW-07. Concentrations in MW-01 and MW-07 increased compared to the February 2024 sampling event but remained below historical high concentrations.
- Total xylenes exceeded the RBC for chronic groundwater volatilization to indoor air for residential receptors in MW-07. Concentrations increased compared to recent sampling events but remained below historical high concentrations.
- No other analytes exceeded applicable RBCs in monitoring wells MW-01, MW-06, or MW-07.
- Monitoring wells MW-02 and MW-04 had no RBC exceedances.
- Concentrations observed in monitoring wells MW-01, MW-06, and MW-07 that exceeded RBCs during the May 2024 event are considered incomplete pathways for the current use of the Site. Observed exceedances are for chronic exposure to volatilization to indoor air for residential and commercial uses. No indoor spaces at the Site are currently used for residential or commercial uses (e.g., the former gas station attendant booth). One concentration (gasoline-range TPH in MW-07) exceeded the RBC for groundwater in an excavation for construction and excavation worker exposure, however, no excavations are present or planned.

Mann-Kendall.

Mann-Kendall statistical analysis was performed using GSI Environmental's Mann-Kendall Toolkit (Toolkit) software. The output files are presented in Attachment E. The Mann-Kendall analysis may be applied to determine if plume concentrations are increasing or not increasing relative to time. The outcomes "No Trend," "Stable," "Probably Decreasing," and "Decreasing" all indicate a nonincreasing condition, while "Increasing" or "Probably Increasing" are the only outcomes that are indicative of increasing concentrations over time at the monitoring location.

Trend analyses were carried out for each analyte at each monitoring well for which sufficient detected concentrations existed. Sufficiency was defined as a parameter analyzed for at a well in at least four monitoring events, and of which at least 50 percent of the data consisted of detected concentrations. The list of analytes evaluated included gasoline-range TPH, diesel-range TPH, benzene, ethylbenzene, toluene, total xylenes, 1,2,4-trimethylbenzene, and naphthalene for wells MW-01 (except toluene), MW-06 (except diesel-range TPH and 1,2,4-trimethylbenzene), and MW-07. The metrics used by the Toolkit to evaluate the trend are the "S" Statistic, Confidence Factor (CF), and Coefficient of Variation (COV). The following table illustrates the decision criteria used by the tool to determine analyte trends.

Statistical Metrics Used in GSI Mann-Kendall Toolkit

S Statistic	*Confidence In Trend*	*Trend*
S > 0	*CF > 95%*	*Increasing*
S > 0	*95% ≥ CF ≥ 90%*	*Probably Increasing*
S > 0	*CF < 90%*	*No Trend*
S ≤ 0	*CF < 90% and COV ≥ 1*	*No Trend*
S ≤ 0	*CF < 90% and COV < 1*	*Stable*
S < 0	*95% ≥ CF ≥ 90%*	*Probably Decreasing*
S < 0	*CF > 95%*	*Decreasing*

The results of the evaluation are presented in Table 4 and summarized below. The statistical analytes could not be completed on monitoring wells MW-02 and MW-04, due to insufficient analyte detections.

Analyte	*MW-01*	*MW-06*	*MW-07*
Gasoline-Range TPH	*Decreasing*	*Stable*	*Probably Decreasing*
Diesel-Range TPH	*Decreasing*	*Insufficient Data*	*Decreasing*
Benzene	*Stable*	*No Trend*	*Stable*
Ethylbenzene	*Decreasing*	*Probably Decreasing*	*No Trend*
Toluene	*Insufficient Data*	*No Trend*	*Stable*

Total Xylenes	*Decreasing*	*Decreasing*	*Stable*
Naphthalene	*No Trend*	*No Trend*	*Probably Decreasing*
1,2,4-Trimethylbenzene	*Decreasing*	*Insufficient Data*	*Probably Decreasing*

None of the wells evaluated had an increasing concentration trend.

Soil Vapor

In each of the monitoring events to date, several VOCs analytes were detected above the MRLs in the soil vapor samples collected, however, none of the detections exceeded applicable RBCs. The only exception is December 2022 when 1,2-dibromoethane in soil vapor collected from monitoring well SVW-01 was detected at a concentration exceeding the RBCs for chronic indoor air for residential and commercial receptors.

Mann-Kendall. A Mann-Kendall statistical evaluation was not completed for the soil vapor sampling results. Insufficient data points existed for analytes exceeding applicable RBCs for the evaluation to be completed.

Investigation-Derived Waste Disposal

Wastes generated during the investigation activities consisted of decontamination/purge water from the sampling events. The waste was placed into Oregon Department of Transportation approved 55-gallon drums for temporary storage onsite. Chemical analysis, waste profiling, and hauling was conducted by ACTenviro. The drums were removed from the Site on June 28, 2024 for off-site disposal. Disposable sampling equipment and personal protective equipment was disposed of as solid waste.

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 seventh quarterly sampling event was completed in May 2024. The results of the May 2024 sampling event confirm that the extent of contamination in groundwater and soil vapor has been delineated.

Groundwater flow at the site is generally to the north-northwest toward well MW-04 with well MW-01 located in the former UST location, well MW-07 located downgradient of the former USTs, and well MW-06 located cross-gradient to the east. May 2024 is the third of seven monitoring events where groundwater flow was observed to the northeast, also observed in August 2023 and February 2024. This intermittent groundwater flow direction may explain the gasoline-range TPH RBC exceedances in well MW-06. This is not likely to have a significant effect on the locality of facility.

Gasoline-range TPH, diesel-range TPH, VOCs (benzene, 1.2.4-trimethylbenzene, ethylbenzene, naphthalene, and total xylenes), and naphthalene exceeded applicable RBCs in groundwater collected from monitoring wells MW-01, MW-06 (gasoline-range TPH only), and MW-07.

During this event concentrations of gasoline-range TPH, diesel-range TPH, 1,2,4-trimethylbenzene, benzene, ethylbenzene, naphthalene, and total xylenes in groundwater generally increased or remained consistent with the prior sampling event, however, these detections are significantly below

historical high concentrations. Overall, the results of a Mann-Kendall analysis of the groundwater concentrations suggest that the plume is stable or decreasing.

There were no DEQ RBC exceedances for soil vapor during the May 2024 event.

The May 2024 monitoring event was the final sampling event authorized by DEQ Task Order 067-23-07. Based on the statistically decreasing concentrations observed in several monitoring wells, the understanding of the locality of facility, limited RBC exceedances in soil vapor concentrations, and understanding of the complete exposure pathways observed for the Site, the Site is believed to be characterized. Future exposure to concentrations that exceed RBCs could likely be controlled through site use restrictions, including development of a contaminated media management plan for use during future excavation work and implementation of land use restrictions or requirements for suitable vapor intrusion systems could be required.

Sincerely,

Maul Foster & Alongi, Inc.

EXPIRES: 1/1/2025
This digital seal certifies the signatory and document content.

Chris Clough
Project Environmental Scientist

Michael Pickering, RG
Principal Geologist

Attachments

Limitations

Figures

Tables

A—Standard Operating Procedures

B—Field Sampling Data Sheets

C—Data Validation Memorandum

D—Laboratory Analytical Reports

E—Mann-Kendall Trend Test Output

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.

Figures

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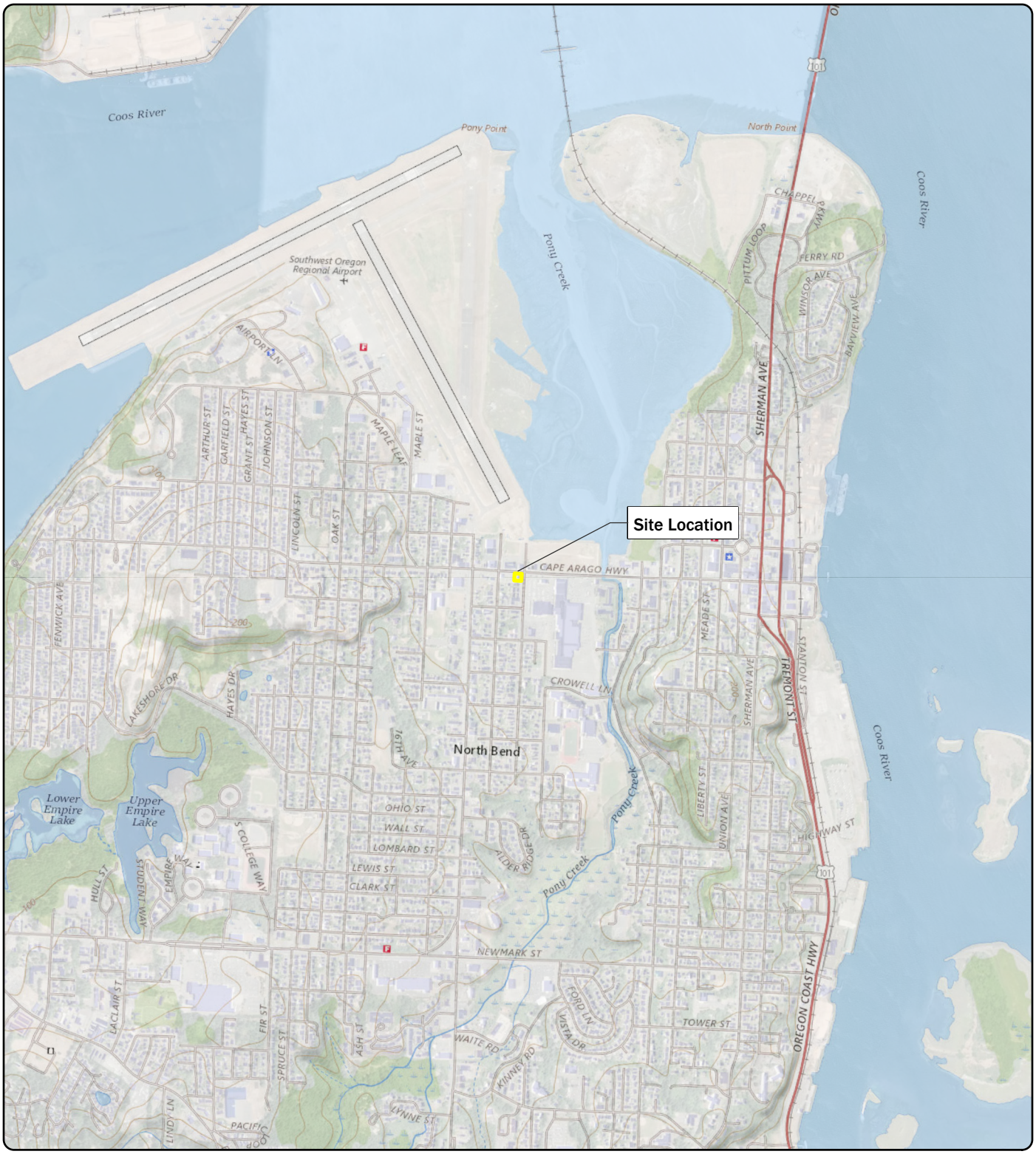

Source:
U.S. Geological Survey (2021) 7.5-minute topographic quadrangle: North Bend. Township 25 South, Range 13 West, Section 15. Property boundary obtained from Coos County GIS.

Legend

Site Boundary

Figure 1 Site Location

Oregon Department of Environmental Quality
Former Village Shell
1805 Virginia Avenue
North Bend, OR

0 1,000 2,000
Feet

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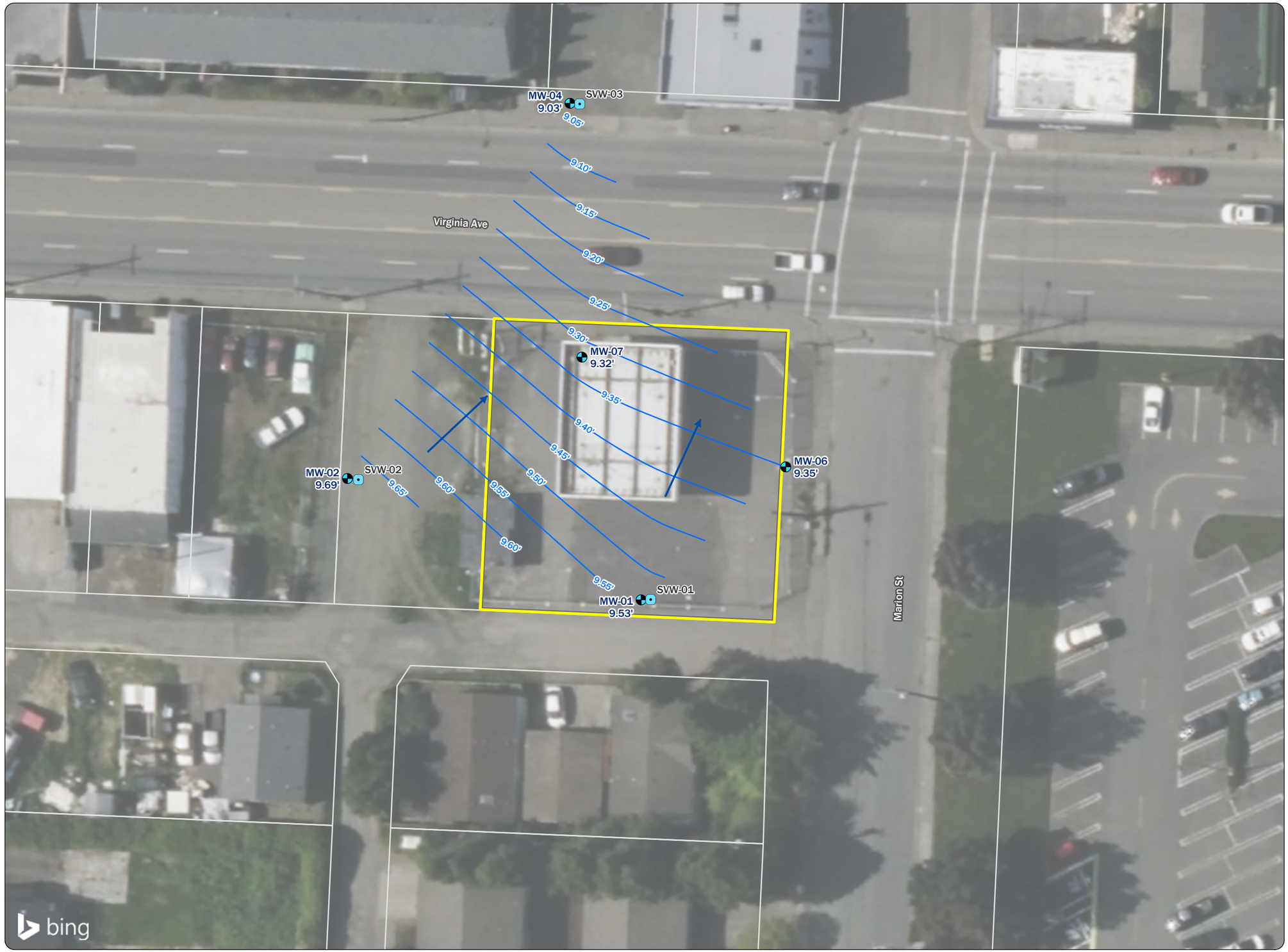

Figure 2
Monitoring Well Locations and Water Level Elevation Contour Map
May 2024

Oregon Department of Environmental Quality
Former Village Shell
1805 Virginia Avenue,
North Bend, OR

Legend

- Groundwater Monitoring Well
- Soil Vapor Well
- Approximate Groundwater Flow Direction
- Groundwater Elevation Contour (0.05-foot interval, NAVD88)
- Site Boundary
- Tax Lot

Notes
All locations are approximate.
NAVD88 = North American Vertical Datum of 1988.

0 30
Feet

Data Sources
Aerial photograph obtained from Microsoft Bing; tax lot data obtained from Coos County (2024).

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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 SVW-03

MW-04	
GRO	31.6 U
DRO	33.3 U
Benzene	0.0941 U
Napth.	1.00 U

Virginia Ave

MW-07	
GRO	**17,300**
DRO	**111**
Benzene	**219**
Napth.	**112 J-**

MW-07

MW-02 SVW-02

MW-02	
GRO	31.6 U
DRO	33.3 U
Benzene	0.0941 U
Napth.	1.00 U

MW-06

MW-06	
GRO	**1,190**
DRO	33.3 U
Benzene	**0.1 J**
Napth.	1.00 UJ

MW-01 SVW-01

MW-01	
GRO	**5,930**
DRO	**891**
Benzene	1.88 U
Napth.	**455 J-**

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bing

Figure 3
Groundwater Sample Results
May 2024

Oregon Department of Environmental Quality
Former Village Shell
1805 Virginia Avenue,
North Bend, OR

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 liter.
DRO was run with silica gel cleanup.
Naph. was analyzed by both EPA Method 8260 and 8270. The highest detected 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.
LOF = locality of facility.
Naph. = naphthalene.
U = result is non-detect at the method detection limit.
UST = underground storage tank.

0 30
Feet

Data Sources

Aerial photograph obtained from Microsoft Bing; tax lot data obtained from Coos County (2024).

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Path: X:\0785.20 DEQ\002\Pro\M0785_20_002_002.aprx\Fig 3 Groundwater Sample Results 2024 05
Reviewed By: mpickering
Print Date: 5/30/2024
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Soil vapor analytical results are provided in Table 3. Non-detect results were not compared to screening criteria.

MW-04 SVW-03

SVW-03	
GRO	826 UJ
Benzene	0.639 UJ
Ethylbenzene	0.867 UJ
Toluene	1.88 UJ
Xylenes (total)	1.73 UJ
PCE	**1.97**
TCE	1.07 UJ

Virginia Ave

MW-07

MW-06

MW-02 SVW-02

SVW-02	
GRO	826 UJ
Benzene	0.639 UJ
Ethylbenzene	0.867 UJ
Toluene	1.88 UJ
Xylenes (total)	1.73 UJ
PCE	**1.97**
TCE	1.07 UJ

MW-01 SVW-01

SVW-01	
GRO	826 UJ
Benzene	0.639 UJ
Ethylbenzene	0.867 UJ
Toluene	1.88 UJ
Xylenes (total)	1.73 UJ
PCE	**2.68**
TCE	1.07 UJ

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Figure 4
Soil Vapor Sample Results
May 2024

Oregon Department of Environmental Quality
Former Village Shell
1805 Virginia Avenue,
North Bend, OR

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.
GRO = gasoline-range organics.
LOF = locality of facility.
PCE = tetrachloroethene.
R = result is rejected. The analyte may or may not be present in the sample.
TCE = trichloroethene.
UJ = result is non-detect with an estimated detection limit.
UST = underground storage tank.

0 30
Feet

Data Sources

Aerial photograph obtained from Microsoft Bing; tax lot data obtained from Coos County (2024).

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Tables

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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
		08/23/2023	6.75	8.59
		11/15/2023	6.08	9.26
		02/07/2024	5.35	9.99
		05/08/2024	5.81	9.53
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
		08/23/2023	7.25	8.71
		11/15/2023	6.55	9.41
		02/07/2024	5.78	10.18
		05/08/2024	6.27	9.69
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
		08/23/2023	7.06	8.41
		11/15/2023	6.56	8.91
		02/07/2024	6.06	9.41
		05/08/2024	6.44	9.03
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
		08/23/2023	6.84	7.52
		11/15/2023	5.11	9.25
		02/07/2024	5.12	9.24
		05/08/2024	5.01	9.35
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
		08/23/2023	6.83	8.52
		11/15/2023	6.24	9.11
		02/07/2024	5.65	9.70
		05/08/2024	6.03	9.32

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, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-01							
Sample Name:									MW-01	MW-01	MW-01	MW-01	MW-01-DUP	MW-01	MW-01	MW-01-DUP
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/23/2022	02/08/2023	05/03/2023	08/23/2023	08/23/2023	11/15/2023	02/07/2024	02/07/2024
TPH (ug/L)																
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	**17,100**	**13,900**	**14,400**	**13,000**	**14,300**	**12,200**	**2,050**	**1,950 J**
TPH with Silica Gel Cleanup (ug/L)																
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	**2,250 J**	**1,670**	**1,530**	**1,110 J-**	**771 J-**	**1,650**	**246**	**242**
Residual-range hydrocarbons	NV	NV	NV	NV	400[a]	1,700[a]	NV	NV	**252 J**	**239 J**	**312 J+**	83.3 UJ	83.3 UJ	**267**	83.3 U	83.3 U
Dissolved Metals (ug/L)																
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	0.150 U	--	--	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	**2.58**	--	--	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	**4.48**	--	--	--	--	--	--	--
VOCs (ug/L)																
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	0.147 U	2.94 U	2.94 U	2.94 U	2.94 U	2.94 U	2.94 U	2.94 U
1,1,1-Trichloroethane	NV	NV	NV	1,100,000	13,000	53,000	28,000	80,000	0.149 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	6.8	30	NV	NV	0.133 U	2.66 U	2.66 U	2.66 U	2.66 U	2.66 U	2.66 U	2.66 U
1,1,2-Trichloroethane	4,700	5,600	21,000	49	10	44	NV	NV	0.158 U	3.16 U	3.16 U	3.16 U	3.16 U	3.16 U	3.16 U	3.16 U
1,1-Dichloroethane	16,000	37,000	68,000	10,000	13	55	NV	NV	0.100 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	0.188 U	3.76 U	3.76 U	3.76 U	3.76 U	3.76 U	3.76 U	3.76 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.142 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.230 U	4.60 U	4.60 U	4.60 U	4.60 U	4.60 U	4.60 U	4.60 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	0.237 U	4.74 U	4.74 U	4.74 U	4.74 U	4.74 U	4.74 U	4.74 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	990	4,100	NV	NV	**1,050**	**753**	**1,160**	**479**	**526**	**776**	**101**	**101**
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	0.481 U	9.62 U	9.62 U	9.62 U	9.62 U	9.62 U	9.62 U	9.62 U
1,2,4-Trimethylbenzene	NV	NV	NV	6,300	560	2,400	NV	NV	**2,840**	**2,170**	**2,690**	**1,310**	**1,410**	**1,910**	**327**	**309**
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	0.276 UJ	5.52 U	5.52 U	5.52 U	5.52 U	5.52 U	5.52 U	5.52 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	0.126 U	2.52 U	2.52 U	2.52 U	2.52 U	2.52 U	2.52 U	2.52 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	**0.504 J**	2.14 U	2.14 U	2.14 U	2.14 U	2.14 U	2.14 U	2.14 U
1,2-Dichloroethane	2,100	4,900	9,000	630	4	18	NV	NV	0.0819 U	1.64 U	1.64 U	1.64 U	1.64 U	1.64 U	1.64 U	1.64 U
1,2-Dichloropropane	NV	NV	NV	NV	12	52	3,600	11,000	0.149 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U
1,3,5-Trimethylbenzene	NV	NV	NV	7,500	400	1,700	NV	NV	**564**	**439**	**599**	**291**	**326**	**385**	**57.1**	**52.3**
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	**0.150 J**	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.161 U	3.22 U	3.22 U	3.22 U	3.22 U	3.22 U	3.22 U	3.22 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	**11.1**	23.8 U	23.8 U	23.8 U	23.8 U	23.8 U	23.8 U	23.8 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.106 U	2.12 U	2.12 U	2.12 U	2.12 U	2.12 U	2.12 U	2.12 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.114 U	2.28 U	2.28 U	2.28 U	2.28 U	2.28 U	2.28 U	2.28 U
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	NV	**9.68**	**5.86 J**	**9.12 J**	**15.3 J**	**5.67 J**	**9.97 J**	2.40 U	2.40 U
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	**1.93 J**	9.56 U	9.56 U	9.56 U	9.56 U	9.56 U	9.56 U	9.56 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, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-01							
Sample Name:									MW-01	MW-01	MW-01	MW-01	MW-01-DUP	MW-01	MW-01	MW-01-DUP
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/23/2022	02/08/2023	05/03/2023	08/23/2023	08/23/2023	11/15/2023	02/07/2024	02/07/2024
VOCs, continued (ug/L)																
Acetone	NV	NV	NV	NV	NV	NV	NV	NV	11.3 U	226 U	226 U	226 U	226 U	226 U	226 U	226 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	2.54 U	50.8 UJ	50.8 U	50.8 U	50.8 U	50.8 U	50.8 U	50.8 U
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	0.671 U	13.4 U	13.4 UJ	13.4 U	13.4 U	13.4 U	13.4 U	13.4 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	**4.22**	1.88 U	1.88 U	**2.29 J**	**2 J**	**3.05 J**	1.88 U	1.88 U
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	0.118 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	0.136 U	2.72 U	2.72 U	2.72 U	2.72 U	2.72 U	2.72 U	2.72 U
Bromoform	130,000	300,000	550,000	14,000	250	1,100	NV	NV	0.129 U	2.58 U	2.58 UJ	2.58 U	2.58 U	2.58 U	2.58 U	2.58 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	0.605 U	12.1 U	12.1 U	12.1 U	12.1 U	12.1 U	12.1 U	12.1 U
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	0.0962 U	1.92 U	1.92 U	1.92 U	1.92 U	1.92 U	1.92 U	1.92 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	0.128 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	0.116 U	2.32 U	2.32 U	2.32 U	2.32 U	2.32 U	2.32 U	2.32 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	0.192 U	3.84 U	3.84 U	3.84 U	3.84 U	3.84 U	3.84 U	3.84 U
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	0.111 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U
Chloromethane	440,000	440,000	1,800,000	22,000	350	1,500	3,700	12,000	0.960 U	19.2 U	19.2 U	19.2 U	19.2 U	19.2 U	19.2 U	19.2 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	0.126 U	2.52 U	2.52 U	2.52 U	2.52 U	**3.42 J**	2.52 U	2.52 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.111 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U
Dibromochloromethane	3,900	9,300	17,000	610	NV	NV	NV	NV	0.140 U	2.80 U	2.80 U	2.80 U	2.80 U	2.80 U	2.80 U	2.80 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	0.122 U	2.44 U	2.44 U	2.44 U	2.44 U	2.44 U	2.44 U	2.44 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	9.8	41	NV	NV	0.374 U	7.48 UJ	7.48 U	7.48 U	7.48 U	7.48 U	7.48 U	7.48 U
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	0.105 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U
Ethylbenzene	9,900	23,000	43,000	4,500	7.1	31	140,000	420,000	**714**	**793**	**1,180**	**416**	**488**	**856**	**66.7**	**64.2**
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	0.180 U	3.60 U	3.60 U	3.60 U	3.60 U	3.60 U	3.60 U	3.60 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	0.337 U	6.74 U	6.74 U	6.74 U	6.74 U	6.74 U	6.74 U	6.74 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**158**	**76.3**	**141**	**104**	**117**	**158**	**17.6 J**	**16.2 J**
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	0.101 U	2.02 U	2.02 U	2.02 U	2.02 U	2.02 U	2.02 U	2.02 U
Methylene chloride	1,000,000	2,000,000	13,000,000	79,000	1,200	15,000	25,000	79,000	0.430 U	8.60 U	8.60 U	8.60 U	8.60 U	8.60 U	8.60 U	8.60 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**858**	**528**	**912 J-**	**640**	**700**	**989**	**109**	**103**
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**28.6**	**17.4 J**	**24.2**	**195**	**216**	**21.0**	3.14 U	3.14 U
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	**619**	**342**	**473**	**475 J+**	**524 J+**	**485**	**49.1**	**43.4**
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**26.2**	**17.2 J**	**25.6**	**17.4 J**	**18.4 J**	**20.8**	2.50 U	**2.98 J**
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	0.118 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.127 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	15.0 U	6.00 U	6.00 U	6.00 U	6.00 U	6.00 U	6.00 U	6.00 U
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	**8.61**	20.0 U	5.56 U	5.56 U	5.56 U	5.56 U	5.56 U	5.56 U
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	0.149 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.118 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U

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Sample Name:									MW-01	MW-01	MW-01	MW-01	MW-01-DUP	MW-01	MW-01	MW-01-DUP
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/23/2022	02/08/2023	05/03/2023	08/23/2023	08/23/2023	11/15/2023	02/07/2024	02/07/2024
VOCs, continued (ug/L)																
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	0.190 U	3.80 U	3.80 U	3.80 U	3.80 U	3.80 U	3.80 U	3.80 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	5.00 U	3.20 U	3.20 U	3.20 U	3.20 U	3.20 U	3.20 U	3.20 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	0.234 U	4.68 U	4.68 U	4.68 UJ	4.68 UJ	4.68 U	4.68 U	4.68 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	**648**	**571**	**902**	**259**	**291**	**545**	**61.7**	**58.5 J**
PAHs (ug/L)																
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**54.5 J-**	**49.3**	**45.3**	**65.8 J**	**69.5 J**	**70.4 J**	**12.1**	**9.92**
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	2.73 U	0.136 U	**0.126 J**	0.0682 UJ	0.0682 UJ	0.136 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**70.7 J-**	**60.5**	**68.5**	**135 J**	**140 J**	**184**	**21.6**	**17.8**
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	0.760 U	**0.617**	**0.600**	**0.881 J**	**0.982 J**	**1.24 J**	**0.183**	**0.170**
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.684 U	0.0342 U	0.0171 U	0.0171 UJ	0.0171 UJ	0.0342 U	0.0171 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	NV	**0.140 J-**	**0.214**	**0.120**	**0.170 J**	**0.185 J**	**0.310 J**	**0.0835**	**0.0608**
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	**0.124 J-**	**0.206**	**0.130**	**0.114 J**	**0.125 J**	**0.128 J**	**0.0906**	**0.0635**
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.0846 J-**	**0.143**	**0.109**	**0.0632 J**	**0.0689 J**	**0.110 J**	**0.0875**	**0.0727**
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	**0.105 J-**	**0.159**	**0.133**	**0.0826 J**	**0.0924 J**	**0.128 J**	**0.128 J**	0.0168 UJ
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	NV	**0.0448 J-**	**0.0795 J**	**0.0681**	**0.0317 J**	**0.0358 J**	**0.0684 J**	**0.0590**	**0.0424 J**
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0404 UJ	**0.0565 J**	**0.0494 J**	**0.0209 J**	**0.0208 J**	0.0404 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	**0.162 J-**	**0.222**	**0.133**	**0.127 J**	**0.152 J**	**0.134 J**	**0.102**	**0.0850**
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0320 UJ	0.0320 U	**0.0173 J**	0.0160 UJ	0.0160 UJ	0.0320 U	0.0160 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	**0.443 J-**	**0.763**	**0.466**	**0.477 J**	**0.545 J**	**0.507 J**	**0.272**	**0.234**
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	0.676 U	**0.514**	**0.557**	**0.851 J**	**0.919 J**	**1.09 J**	**0.189**	**0.163**
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.0354 J-**	**0.0748 J**	**0.0626**	**0.0310 J**	**0.0348 J**	**0.0615 J**	**0.0535**	**0.045 J**
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**244**	**391 J-**	**462**	**509 J**	**503 J**	**756**	**81.8**	**67.5**
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.589 J-**	**0.699**	**0.628**	**1.35 J**	**1.50 J**	**1.47 J**	**0.356**	**0.317**
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.425 J-**	**0.632**	**0.392**	**0.388 J**	**0.433 J**	**0.462 J**	**0.266**	**0.218**

Table 2
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Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-01		MW-02						
Sample Name:									MW-01	MW-01-DUP	MW-02	MW-02	MW-02	MW-02	MW-02	MW-02	MW-02
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	05/08/2024	05/08/2024	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024	05/08/2024
TPH (ug/L)																	
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	**5,930**	**6,380**	31.6 U	100 U	**38.1 J**	31.6 U	31.6 U	31.6 U	31.6 U
TPH with Silica Gel Cleanup (ug/L)																	
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	**891**	**925**	111 U	100 U	37.0 U	33.3 UJ	**132**	33.3 U	33.3 U
Residual-range hydrocarbons	NV	NV	NV	NV	400[a]	1,700[a]	NV	NV	**384**	**402**	92.7 U	83.3 U	92.7 U	83.3 UJ	83.3 U	83.3 U	**237 J**
Dissolved Metals (ug/L)																	
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	--	--	0.150 U	--	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	--	--	1.24 U	--	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	--	--	0.849 U	--	--	--	--	--	--
VOCs (ug/L)																	
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	2.94 U	2.94 U	0.147 U	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	1,100,000	13,000	53,000	28,000	80,000	2.98 U	2.98 U	0.149 U	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	6.8	30	NV	NV	2.66 U	2.66 U	0.133 U	0.133 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	49	10	44	NV	NV	3.16 U	3.16 U	0.158 U	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	10,000	13	55	NV	NV	2.00 U	2.00 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	3.76 U	3.76 U	0.188 U	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	NV	2.84 U	2.84 U	0.142 U	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	NV	4.60 U	4.60 U	0.230 U	0.230 UJ	0.230 U	0.230 U	0.230 U	0.230 U	0.230 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	4.74 U	4.74 U	0.237 U	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	990	4,100	NV	NV	**310**	**301**	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	9.62 U	9.62 U	0.481 U	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	6,300	560	2,400	NV	NV	**1,100 J-**	**1,040 J-**	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 UJ
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	5.52 U	5.52 U	0.276 UJ	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	2.52 U	2.52 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	2.14 U	2.14 U	0.107 U	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	630	4	18	NV	NV	1.64 U	1.64 U	0.0819 U	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	12	52	3,600	11,000	2.98 U	2.98 U	0.149 U	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	7,500	400	1,700	NV	NV	**197**	**174**	0.104 U	0.104 U	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	NV	2.20 U	2.20 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	2.20 U	2.20 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	2.40 U	2.40 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	3.22 U	3.22 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	23.8 U	23.8 U	1.19 U	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	NV	2.12 U	2.12 U	0.106 U	0.106 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	NV	2.28 U	2.28 U	0.114 U	0.114 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	NV	**4.14 J**	**3.70 J**	**0.146 J**	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	9.56 U	9.56 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 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, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-01		MW-02						
Sample Name:									MW-01	MW-01-DUP	MW-02	MW-02	MW-02	MW-02	MW-02	MW-02	MW-02
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	05/08/2024	05/08/2024	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024	05/08/2024
VOCs, continued (ug/L)																	
Acetone	NV	NV	NV	NV	NV	NV	NV	NV	226 U	226 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	50.8 UJ	50.8 UJ	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 UJ
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	13.4 U	13.4 U	0.671 U	0.671 U	0.671 UJ	0.671 U	0.671 U	0.671 U	0.671 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	1.88 U	1.88 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	2.36 U	2.36 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	2.72 U	2.72 U	0.136 U	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	14,000	250	1,100	NV	NV	2.58 U	2.58 U	0.129 U	0.129 U	0.129 UJ	0.129 U	0.129 U	0.129 U	0.129 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	12.1 UJ	12.1 UJ	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 UJ
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	1.92 U	1.92 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	2.56 U	2.56 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	2.32 U	2.32 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	3.84 UJ	3.84 UJ	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 UJ
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	2.22 U	2.22 U	0.111 U	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	22,000	350	1,500	3,700	12,000	19.2 U	19.2 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	2.52 U	2.52 U	0.126 U	0.126 U	0.126 U	0.126 U	1.00 U	0.126 U	0.126 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	2.22 U	2.22 U	0.111 U	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	610	NV	NV	NV	NV	2.80 U	2.80 U	0.14 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	2.44 U	2.44 U	0.122 U	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	9.8	41	NV	NV	7.48 UJ	7.48 UJ	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 UJ
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	2.10 U	2.10 U	0.105 U	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	4,500	7.1	31	140,000	420,000	**381**	**358**	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	3.60 U	3.60 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	6.74 U	6.74 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**75.2**	**69.3**	**0.709 J**	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	2.02 U	2.02 U	0.101 U	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	79,000	1,200	15,000	25,000	79,000	8.60 U	8.60 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**455 J-**	**437 J-**	**60.7 J-**	**112 J-**	1.00 UJ	1.00 U	1.00 U	1.00 U	1.00 U
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	3.14 UJ	3.14 UJ	**0.461 J**	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 UJ
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	**293**	**275**	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**10.7 J**	**9.30 J**	**0.367 J**	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	2.36 U	2.36 U	0.118 U	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	NV	2.54 UJ	2.54 UJ	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 UJ
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	6.00 U	6.00 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	5.56 U	5.56 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	2.98 U	2.98 U	0.149 U	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	NV	2.36 U	2.36 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U

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Sample Name:									MW-01	MW-01-DUP	MW-02	MW-02	MW-02	MW-02	MW-02	MW-02	MW-02
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	05/08/2024	05/08/2024	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024	05/08/2024
VOCs, continued (ug/L)																	
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	3.80 U	3.80 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	3.20 U	3.20 U	5.00 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	4.68 U	4.68 U	0.234 U	0.234 U	0.234 U	0.234 UJ	0.234 U	0.234 U	0.234 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	**285**	**281**	0.174 U	0.174 U	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	NV	**49.7**	**49.8**	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.136 U	0.136 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**79.7**	**81.0**	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	**0.543**	**0.551**	0.0190 U	0.019 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0342 U	0.0342 U	0.0171 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	NV	**0.163**	**0.157**	0.0190 U	0.019 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	**0.114**	**0.113**	0.0203 U	0.0203 U	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	NV	**0.100 J**	**0.0899 J**	0.0184 U	0.0184 U	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	NV	**0.123**	**0.117**	0.0168 U	0.0168 U	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	NV	**0.0622 J**	**0.0602 J**	0.0184 U	0.0184 U	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	NV	**0.0451 J**	**0.0466 J**	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	**0.124**	**0.115**	0.0179 U	0.0179 U	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	NV	0.0320 U	0.0320 U	0.0160 U	0.016 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	**0.327**	**0.344**	0.0270 U	0.027 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	**0.451**	**0.455**	0.0169 U	0.0169 U	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	NV	**0.0540 J**	**0.0468 J**	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**416**	**447**	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.700**	**0.710**	**0.0286 J**	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.267**	**0.266**	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U

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Sample Name:									MW-04	MW-04-DUP	MW-04	MW-04	MW-04-DUP	MW-04	MW-04	MW-04	MW-04
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/24/2022	12/24/2022	02/08/2023	05/03/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024	05/08/2024
TPH (ug/L)																	
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	31.6 U	31.6 U	100 U	**36.4 J**	**38.7 J**	31.6 U	31.6 U	31.6 U	31.6 U
TPH with Silica Gel Cleanup (ug/L)																	
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	37.0 U	111 U	100 U	35.0 U	35.0 U	33.3 UJ	33.3 U	33.3 U	33.3 U
Residual-range hydrocarbons	NV	NV	NV	NV	400[a]	1,700[a]	NV	NV	92.7 U	**93.8 J**	**198 J**	87.7 U	263 U	83.3 UJ	83.3 U	83.3 U	**202 J**
Dissolved Metals (ug/L)																	
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	0.150 U	0.150 U	--	--	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	1.24 U	1.24 U	--	--	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	0.849 U	0.849 U	--	--	--	--	--	--	--
VOCs (ug/L)																	
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	0.147 U	0.147 U	0.147 U	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	1,100,000	13,000	53,000	28,000	80,000	0.149 U	0.149 U	0.149 U	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	6.8	30	NV	NV	0.133 U	0.133 U	0.133 U	0.133 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	49	10	44	NV	NV	0.158 U	0.158 U	0.158 U	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	10,000	13	55	NV	NV	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	0.188 U	0.188 U	0.188 U	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	NV	0.142 U	0.142 U	0.142 U	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	NV	0.230 U	0.230 U	0.230 UJ	0.230 U	0.230 U	0.230 U	0.230 U	0.230 U	0.230 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	0.237 U	0.237 U	0.237 U	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	990	4,100	NV	NV	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	0.481 U	0.481 U	0.481 U	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	6,300	560	2,400	NV	NV	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 UJ
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	0.276 UJ	0.276 UJ	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	0.107 U	0.107 U	0.107 U	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	630	4	18	NV	NV	0.0819 U	0.0819 U	0.0819 U	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	12	52	3,600	11,000	0.149 U	0.149 U	0.149 U	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	7,500	400	1,700	NV	NV	0.104 U	0.104 U	0.104 U	0.104 U	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	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
2,2-Dichloropropane	NV	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	0.161 U	0.161 U	0.161 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	1.19 U	1.19 U	1.19 U	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	NV	0.106 U	0.106 U	0.106 U	0.106 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	NV	0.114 U	0.114 U	0.114 U	0.114 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	NV	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 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, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-04								
Sample Name:									MW-04	MW-04-DUP	MW-04	MW-04	MW-04-DUP	MW-04	MW-04	MW-04	MW-04
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/24/2022	12/24/2022	02/08/2023	05/03/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024	05/08/2024
VOCs, continued (ug/L)																	
Acetone	NV	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	11.3 U	11.3 U	11.3 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 UJ
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	0.671 U	0.671 U	0.671 U	0.671 UJ	0.671 UJ	0.671 U	0.671 U	0.671 U	0.671 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	0.136 U	0.136 U	0.136 U	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	14,000	250	1,100	NV	NV	0.129 U	0.129 U	0.129 U	0.129 UJ	0.129 UJ	0.129 U	0.129 U	0.129 U	0.129 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 UJ
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 UJ
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	0.111 U	0.111 U	0.111 U	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	22,000	350	1,500	3,700	12,000	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	1.00 U	0.126 U	0.126 U
cis-1,3-Dichloropropene	NV	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	0.111 U	0.111 U	0.111 U
Dibromochloromethane	3,900	9,300	17,000	610	NV	NV	NV	NV	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	0.122 U	0.122 U	0.122 U	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	9.8	41	NV	NV	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 UJ
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	0.105 U	0.105 U	0.105 U	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	4,500	7.1	31	140,000	420,000	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**0.111 J**	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	0.101 U	0.101 U	0.101 U	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	79,000	1,200	15,000	25,000	79,000	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	1.00 U	1.00 U	1.00 U	1.00 UJ	1.00 UJ	1.00 U	1.00 U	1.00 U	1.00 UJ
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 UJ
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	0.118 U	0.118 U	0.118 U	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	NV	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 UJ
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	0.149 U	0.149 U	0.149 U	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	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U

Table 2
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Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-04								
Sample Name:									MW-04	MW-04-DUP	MW-04	MW-04	MW-04-DUP	MW-04	MW-04	MW-04	MW-04
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/24/2022	12/24/2022	02/08/2023	05/03/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024	05/08/2024
VOCs, continued (ug/L)																	
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	5.00 U	5.00 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	0.234 U	0.234 U	0.234 U	0.234 U	0.234 U	0.234 UJ	0.234 U	0.234 U	0.234 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	0.174 U	0.174 U	0.174 U	0.174 U	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	NV	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0171 U	0.0171 U	0.0171 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	NV	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	0.0203 U	0.0203 U	0.0203 U	0.0203 U	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	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	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	NV	0.0168 U	0.0168 U	0.0168 U	0.0168 U	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	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	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	NV	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	0.0179 U	0.0179 U	0.0179 U	0.0179 U	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	NV	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0169 U	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	NV	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U

Table 2
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Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-06						
Sample Name:									MW-06	MW-06	MW-06	MW-06	MW-06	MW-06	MW-06
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024	05/08/2024
TPH (ug/L)															
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	**1,390**	**1,280**	**938**	**363**	**622**	**986**	**1,190**
TPH with Silica Gel Cleanup (ug/L)															
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	100 U	100 U	**204**	33.3 UJ	33.3 U	33.3 U	33.3 U
Residual-range hydrocarbons	NV	NV	NV	NV	400[a]	1,700[a]	NV	NV	**150 J-**	**106 J**	**381 J+**	83.3 UJ	83.3 U	83.3 U	**179 J**
Dissolved Metals (ug/L)															
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	0.150 U	--	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	**14.0**	--	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	**16.3**	--	--	--	--	--	--
VOCs (ug/L)															
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	0.147 U	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	1,100,000	13,000	53,000	28,000	80,000	0.149 U	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	6.8	30	NV	NV	0.133 U	0.133 UJ	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	49	10	44	NV	NV	0.158 U	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	10,000	13	55	NV	NV	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	0.188 U	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	NV	0.142 U	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	NV	0.230 U	0.230 U	0.230 U	0.230 U	0.230 U	0.230 U	0.230 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	0.237 U	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	990	4,100	NV	NV	**15.4**	0.104 UJ	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	0.481 U	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	6,300	560	2,400	NV	NV	**31.7**	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 UJ
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	0.276 UJ	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	0.107 U	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	630	4	18	NV	NV	0.0819 U	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	12	52	3,600	11,000	0.149 U	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	7,500	400	1,700	NV	NV	**7.04**	0.104 U	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	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
2,2-Dichloropropane	NV	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	0.161 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	1.19 U	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	NV	0.106 U	0.106 UJ	0.106 U	0.106 U	0.106 U	0.106 U	0.106 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.114 U	0.114 UJ	0.114 U	0.114 U	0.114 U	0.114 U	0.114 U
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	NV	**0.252 J**	0.120 U	0.120 U	0.120 U	0.120 U	**0.148 J**	0.120 U
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	**0.544 J**	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	**1.15 J**

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, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-06						
Sample Name:									MW-06	MW-06	MW-06	MW-06	MW-06	MW-06	MW-06
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024	05/08/2024
VOCs, continued (ug/L)															
Acetone	NV	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	11.3 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 UJ
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	0.671 U	0.671 U	0.671 UJ	0.671 U	0.671 U	0.671 U	0.671 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	**18.3**	**0.105 J**	0.0941 U	**0.111 J**	**0.111 J**	**0.147 J**	**0.100 J**
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	0.118 U	0.118 UJ	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	0.136 U	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	14,000	250	1,100	NV	NV	0.129 U	0.129 U	0.129 UJ	0.129 U	0.129 U	0.129 U	0.129 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 UJ
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	**0.129 J**	0.0962 U	0.0962 U	0.0962 U	0.0962 U	1.00 U	0.0962 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 UJ
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	**1.40 J**
Chloromethane	440,000	440,000	1,800,000	22,000	350	1,500	3,700	12,000	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	1.00 U	0.126 U	0.126 U
cis-1,3-Dichloropropene	NV	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	0.111 U
Dibromochloromethane	3,900	9,300	17,000	610	NV	NV	NV	NV	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	0.122 U	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	9.8	41	NV	NV	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 UJ
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	0.105 U	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	4,500	7.1	31	140,000	420,000	**73.8**	**0.312 J**	0.137 U	**1.67**	**0.174 J**	**0.182 J**	0.137 U
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**5.86**	**0.356 J**	**0.334 J**	**2.10**	**0.725 J**	**1.01**	**0.234 J**
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	0.101 U	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	79,000	1,200	15,000	25,000	79,000	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**14.9 J-**	1.00 UJ	1.00 UJ	1.00 U	1.00 U	1.00 U	1.00 UJ
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**0.715 J**	0.157 UJ	0.157 U	0.157 U	0.157 U	0.157 U	0.157 UJ
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	**16.4**	**0.644 J-**	**0.644 J**	**4.89 J+**	**1.25**	**1.92**	**0.441 J**
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**1.03**	**0.234 J-**	**0.261 J**	**0.440 J**	**0.298 J**	**0.435 J**	**0.307 J**
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	0.118 U	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	NV	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 UJ
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	**18.0**	1.90 U	**1.92**	**1.10**	**2.16**	**2.43**	**2.75**
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	0.149 U	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	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 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, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-06						
Sample Name:									MW-06	MW-06	MW-06	MW-06	MW-06	MW-06	MW-06
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024	05/08/2024
VOCs, continued (ug/L)															
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	5.00 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	0.234 U	0.234 U	0.234 U	0.234 UJ	0.234 U	0.234 U	0.234 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	**165**	3.00 U	0.174 U	**0.300 J**	**0.237 J**	**0.230 J**	0.174 U
PAHs (ug/L)															
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**0.905 J**	0.0687 U	0.0687 U	**0.147 J**	0.137 U	**0.0777 J**	0.0687 U
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.273 U	0.0682 U	0.0682 U	0.0682 U	0.136 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**1.40**	0.0674 U	**0.0693 J**	0.0674 U	0.135 U	0.0674 U	0.0674 U
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0760 U	0.0190 U	0.0190 U	0.0190 U	0.0380 U	0.0190 U	0.0190 U
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0684 U	0.0171 U	0.0171 U	0.0171 U	0.0342 U	0.0171 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0760 U	0.0190 U	0.0190 U	0.0190 U	0.0380 U	0.0190 U	0.0190 U
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	0.0812 U	0.0203 U	0.0203 U	0.0203 U	0.0406 U	0.0203 U	0.0203 U
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0736 U	0.0184 U	0.0184 U	0.0184 U	0.0368 U	0.0184 U	0.0184 U
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0672 U	0.0168 U	0.0168 U	0.0168 U	0.0336 U	0.0168 U	0.0168 U
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0736 U	0.0184 U	0.0184 U	0.0184 U	0.0368 U	0.0184 U	0.0184 U
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0808 U	0.0202 U	0.0202 U	0.0202 U	0.0404 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	0.0716 U	0.0179 U	0.0179 U	0.0179 U	0.0358 U	0.0179 U	0.0179 U
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.064 U	0.0160 U	0.0160 U	0.0160 U	0.0320 U	0.0160 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.108 U	0.0270 U	0.0270 U	0.0270 U	0.0540 U	0.0270 U	0.0270 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	0.0676 U	0.0169 U	0.0169 U	0.0169 U	0.03380 U	0.0169 U	0.0169 U
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0632 U	0.0158 U	0.0158 U	0.0158 U	0.0316 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**11.0**	0.0917 U	**0.148 J**	**0.291**	0.183 U	**0.132 J**	0.0917 U
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	0.072 U	0.0180 U	0.0180 U	0.0180 U	0.0360 U	0.0180 U	0.0180 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0676 U	0.0169 U	0.0169 U	0.0169 U	0.0338 U	0.0169 U	0.0169 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, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-07								
Sample Name:									MW-07	MW-07	MW-07-DUP	MW-07	MW-07	MW-07	MW-07-DUP	MW-07	MW-07
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/23/2022	02/08/2023	02/08/2023	05/03/2023	08/23/2023	11/15/2023	11/15/2023	02/07/2024	05/08/2024
TPH (ug/L)																	
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	**39,300**	**15,300**	**14,500**	**9,500**	**12,800**	**5,970**	**6,230**	**8,530**	**17,300**
TPH with Silica Gel Cleanup (ug/L)																	
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	**625 J**	**171**	**159**	**137 J+**	**274 J+**	33.3 U	33.3 U	**36.5 J**	**111**
Residual-range hydrocarbons	NV	NV	NV	NV	400[a]	1,700[a]	NV	NV	87.7 U	**86.1 J**	83.3 U	263 U	250 U	83.3 U	83.3 U	83.3 U	**159 J**
Dissolved Metals (ug/L)																	
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	0.150 U	--	--	--	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	1.24 U	--	--	--	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	**9.92**	--	--	--	--	--	--	--	--
VOCs (ug/L)																	
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	1.47 U	1.47 U	0.147 U	1.47 U	1.47 U	1.47 U	1.47 U	1.47 U	1.47 U
1,1,1-Trichloroethane	NV	NV	NV	1,100,000	13,000	53,000	28,000	80,000	1.49 U	1.49 U	0.149 U	1.49 U	1.49 U	1.49 U	1.49 U	1.49 U	1.49 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	6.8	30	NV	NV	1.33 U	1.33 U	0.133 U	1.33 U	1.33 U	1.33 U	1.33 U	1.33 U	1.33 U
1,1,2-Trichloroethane	4,700	5,600	21,000	49	10	44	NV	NV	1.58 U	1.58 U	0.158 U	1.58 U	1.58 U	1.58 U	1.58 U	1.58 U	1.58 U
1,1-Dichloroethane	16,000	37,000	68,000	10,000	13	55	NV	NV	1.00 U	1.00 U	0.100 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	1.88 U	1.88 U	0.188 U	1.88 U	1.88 U	1.88 U	1.88 U	1.88 U	1.88 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	1.42 U	1.42 U	0.142 U	1.42 U	1.42 U	1.42 U	1.42 U	1.42 U	1.42 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	2.30 U	2.30 UJ	0.230 UJ	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	2.37 U	2.37 U	0.237 U	2.37 U	2.37 U	2.37 U	2.37 U	2.37 U	2.37 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	990	4,100	NV	NV	**450**	**91.9**	**81.1**	**47.8**	**55.8**	**38.9**	**38.3**	**56.4**	**81.8**
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	4.81 U	4.81 U	0.481 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U
1,2,4-Trimethylbenzene	NV	NV	NV	6,300	560	2,400	NV	NV	**2,030**	**342**	**333**	**204**	**285**	**157**	**156**	**234**	**356 J-**
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	2.76 UJ	2.76 U	0.276 U	2.76 U	2.76 U	2.76 U	2.76 U	2.76 U	2.76 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	1.26 U	1.26 U	0.126 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	1.07 U	1.07 U	0.107 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U
1,2-Dichloroethane	2,100	4,900	9,000	630	4	18	NV	NV	0.819 U	0.819 U	0.0819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U
1,2-Dichloropropane	NV	NV	NV	NV	12	52	3,600	11,000	1.49 U	1.49 U	0.149 U	1.49 U	1.49 U	1.49 U	1.49 U	1.49 U	1.49 U
1,3,5-Trimethylbenzene	NV	NV	NV	7,500	400	1,700	NV	NV	**552**	**115**	**94.0**	**50.0**	**60.0**	**39.3**	**39.4**	**51.5**	**99.9**
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	1.10 U	1.10 U	0.110 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	1.10 U	1.10 U	0.110 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	1.20 U	1.20 U	0.120 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	1.61 U	1.61 U	0.161 U	1.61 U	1.61 U	1.61 U	1.61 U	1.61 U	1.61 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	11.9 U	11.9 U	1.19 U	11.9 U	11.9 U	11.9 U	11.9 U	11.9 U	11.9 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	1.06 U	1.06 U	0.106 U	1.06 U	1.06 U	1.06 U	1.06 U	1.06 U	1.06 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	1.14 U	1.14 U	0.114 U	1.14 U	1.14 U	1.14 U	1.14 U	1.14 U	1.14 U
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	NV	**4.04 J**	**1.67 J**	**1.62**	1.20 U	**8.64 J**	**2.34 J**	**2.28 J**	1.20 U	**1.46 J**
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	4.78 U	4.78 U	0.478 U	4.78 U	4.78 U	4.78 U	4.78 U	4.78 U	4.78 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, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-07								
Sample Name:									MW-07	MW-07	MW-07-DUP	MW-07	MW-07	MW-07	MW-07-DUP	MW-07	MW-07
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/23/2022	02/08/2023	02/08/2023	05/03/2023	08/23/2023	11/15/2023	11/15/2023	02/07/2024	05/08/2024
VOCs, continued (ug/L)																	
Acetone	NV	NV	NV	NV	NV	NV	NV	NV	113 U	113 U	11.3 U	113 U	113 U	113 U	113 U	113 U	113 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	25.4 U	25.4 U	2.54 U	25.4 U	25.4 U	25.4 U	25.4 U	25.4 U	25.4 UJ
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	6.71 U	6.71 U	0.671 U	6.71 U	6.71 U	6.71 U	6.71 U	6.71 U	6.71 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	**262**	**130**	**125**	**115**	**77.4**	**112**	**111**	**137**	**219**
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	1.18 U	1.18 U	0.118 U	1.18 U	1.18 U	1.18 U	1.18 U	1.18 U	1.18 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	1.36 U	1.36 U	0.136 U	1.36 U	1.36 U	1.36 U	1.36 U	1.36 U	1.36 U
Bromoform	130,000	300,000	550,000	14,000	250	1,100	NV	NV	1.29 U	1.29 U	0.129 U	1.29 UJ	1.29 U	1.29 U	1.29 U	1.29 U	1.29 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	6.05 U	6.05 U	0.605 U	6.05 UJ	6.05 U	6.05 U	6.05 U	6.05 U	6.05 UJ
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	0.962 U	0.962 U	1.00 U	0.962 U	0.962 U	0.962 U	0.962 U	0.962 U	0.962 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	1.28 U	1.28 U	0.128 U	1.28 U	1.28 U	1.28 U	1.28 U	1.28 U	1.28 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	1.16 U	1.16 U	0.116 U	1.16 U	1.16 U	1.16 U	1.16 U	1.16 U	1.16 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	1.92 U	1.92 U	0.192 U	1.92 U	1.92 U	1.92 U	1.92 U	1.92 U	1.92 UJ
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	1.11 U	1.11 U	0.111 U	1.11 U	1.11 U	1.11 U	1.11 U	1.11 U	1.11 U
Chloromethane	440,000	440,000	1,800,000	22,000	350	1,500	3,700	12,000	9.60 U	9.60 U	0.960 U	9.60 U	9.60 U	9.60 U	9.60 U	9.60 U	9.60 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	1.26 U	1.26 U	0.126 U	1.26 U	1.26 U	**1.46 J**	**1.45 J**	1.26 U	1.26 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	1.11 U	1.11 U	0.111 U	1.11 U	1.11 U	1.11 U	1.11 U	1.11 U	1.11 U
Dibromochloromethane	3,900	9,300	17,000	610	NV	NV	NV	NV	1.40 U	1.40 U	0.140 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	1.22 U	1.22 U	0.122 U	1.22 U	1.22 U	1.22 U	1.22 U	1.22 U	1.22 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	9.8	41	NV	NV	3.74 U	3.74 U	0.374 U	3.74 U	3.74 U	3.74 U	3.74 U	3.74 U	3.74 UJ
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	1.05 U	1.05 U	0.105 U	1.05 U	1.05 U	1.05 U	1.05 U	1.05 U	1.05 U
Ethylbenzene	9,900	23,000	43,000	4,500	7.1	31	140,000	420,000	**1,880**	**404**	**288**	**275**	**242**	**231**	**228**	**386**	**550**
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	1.80 U	1.80 U	0.180 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	3.37 U	3.37 U	0.337 U	3.37 U	3.37 U	3.37 U	3.37 U	3.37 U	3.37 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**88.4**	**13.1**	**17.4**	**12.8**	**15.6**	**11.1**	**11.0**	**16.6**	**26.4**
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	1.01 U	1.01 U	0.101 U	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U
Methylene chloride	1,000,000	2,000,000	13,000,000	79,000	1,200	15,000	25,000	79,000	4.30 U	4.30 U	0.430 U	4.30 U	4.30 U	4.30 U	4.30 U	4.30 U	4.30 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**377 J-**	**52.8**	**64.3 J-**	**30.2 J**	**63.3**	**59.1**	**41.9 J**	**64.8**	**112 J-**
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**39**	**9.16 J**	**8.81**	**2.51 J**	1.57 U	**2.04 J**	**2.70 J**	1.57 U	**4.65 J**
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	**297**	**65.2**	**51.9**	**35.3**	**59.9 J+**	**24.3**	**25.0**	**39.1**	**68.8**
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**18.3**	**3.99 J**	**3.79**	**3.22 J**	**5.65 J**	**2.08 J**	**2.61 J**	**2.62 J**	**4.66 J**
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	1.18 U	1.18 U	0.118 U	1.18 U	1.18 U	1.18 U	1.18 U	1.18 U	1.18 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	1.27 U	1.27 U	0.127 U	1.27 U	1.27 U	1.27 U	1.27 U	1.27 U	1.27 UJ
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	3.00 U	3.00 U	0.300 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	**4,970**	**1,770**	**1,380**	**1,160**	**718**	**877**	**890**	**1,410**	**2,340**
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	1.49 U	1.49 U	0.149 U	1.49 U	1.49 U	1.49 U	1.49 U	1.49 U	1.49 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	1.18 U	1.18 U	0.118 U	1.18 U	1.18 U	1.18 U	1.18 U	1.18 U	1.18 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, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-07								
Sample Name:									MW-07	MW-07	MW-07-DUP	MW-07	MW-07	MW-07	MW-07-DUP	MW-07	MW-07
Sample Date:	Res.	Urban Res.	Occ.	Con. & Exc. Worker	Res.	Comm.	Res.	Comm.	12/23/2022	02/08/2023	02/08/2023	05/03/2023	08/23/2023	11/15/2023	11/15/2023	02/07/2024	05/08/2024
VOCs, continued (ug/L)																	
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	1.90 U	1.90 U	0.19 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	50 U	1.60 U	0.16 U	1.60 U	1.60 U	1.60 U	1.60 U	1.60 U	1.60 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	2.34 U	2.34 U	0.234 U	2.34 U	2.34 UJ	2.34 U	2.34 U	2.34 U	2.34 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	**7,840**	**2,170**	**1,470**	**1,280**	**1,000**	**1,010**	**979**	**1,550**	**2,410**
PAHs (ug/L)																	
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**25.2**	**4.76**	**4.51**	**2.98**	**7.99**	**2.07**	**2.09**	**1.84**	**5.50**
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**56.6**	**8.37**	**7.97**	**3.98**	**12.1**	**1.08**	**0.987**	**1.21**	**9.74**
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	**0.106**	**0.0292 J**	**0.0269 J**	0.0190 U	**0.0579**	**0.0264 J**	**0.0226 J**	**0.0204 J**	**0.0317 J**
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0171 U	0.0171 U	0.0171 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	NV	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	0.0203 U	0.0203 U	0.0203 U	0.0203 U	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	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	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	NV	0.0168 U	0.0168 U	0.0168 U	0.0168 U	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	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	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	NV	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	0.0179 U	0.0179 U	0.0179 U	0.0179 U	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	NV	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	**0.105**	**0.0229 J**	**0.0198 J**	0.0169 U	**0.0428 J**	**0.0170 J**	0.0169 U	0.0169 U	**0.0272 J**
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**393**	**69.4**	**66.1**	**46.6**	**55.3**	**27.0**	**26.7**	**32.4**	**82.8**
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.0889**	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U

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

Notes

Detected results are **bolded**.

Sample results were compared to screening criteria based on the significant figures of the screening criteria.

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, results are shaded based on the highest RBC.

RBC, Groundwater in Excavation, Construction & Excavation Worker

RBC, Groundwater Volatilization to Indoor Air, Chronic, Residential

RBC, Groundwater Volatilization to Indoor Air, Chronic, Commercial

RBC, Groundwater Volatilization to Indoor Air, Acute, Residential

-- = not analyzed.

Comm. = commercial.

Con. = construction.

Exc. = excavation.

GW = groundwater.

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.

Res. = residential.

RBC = risk-based concentration.

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]Value is for generic diesel/heating oil, since a generic residual-range hydrocarbons value is not available.

[b]Total xylenes are reported by the laboratory.

References

[1]DEQ. 2023. Table: *Risk-Based Concentrations for Individual Chemicals* . Oregon Department of Environmental Quality. June.

[2]DEQ. 2023. Table 1: *Chronic and Acute Vapor Intrusion Risk-Based Concentrations.* Oregon Department of Environmental Quality. June.

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

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-01						
Sample Name:					SVW-01	SVW-01	SVW-01	SVW-01	SVW-01	SVW-01	SVW-01
Sample Date:	Residential	Commercial	Residential	Commercial	12/21/2022	02/07/2023	05/02/2023	08/22/2023	11/14/2023	02/06/2024	05/07/2024
TPH (ug/m^3)											
Gasoline-range hydrocarbons	10,000	40,000	NV	NV	826 U	826 U	826 U	826 U	826 U	826 UJ	826 U
VOCs (ug/m^3)											
1,1,1-Trichloroethane	170,000	730,000	370,000	1,100,000	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 UJ	1.09 U
1,1,2,2-Tetrachloroethane	1.6	7.1	NV	NV	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 UJ	1.37 U
1,1,2-Trichloroethane	5.9	26	NV	NV	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 UJ	1.09 U
1,1-Dichloroethane	59	260	NV	NV	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 UJ	0.802 U
1,1-Dichloroethene	7,000	29,000	6,700	20,000	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 UJ	0.793 U
1,2,4-Trichlorobenzene	70	290	NV	NV	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 UJ	4.66 U
1,2,4-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 UJ	0.982 U
1,2-Dibromoethane	0.16	0.68	NV	NV	**3.59**	1.54 U	1.54 U	1.54 U	1.54 U	1.54 UJ	1.54 U
1,2-Dichlorobenzene	7,000	29,000	NV	NV	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 UJ	1.20 U
1,2-Dichloroethane	3.6	16	NV	NV	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.810 UJ	0.81 U
1,2-Dichloropropane	25	110	7,700	23,000	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 UJ	0.924 U
1,3,5-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 UJ	0.982 U
1,3-Butadiene	3.1	14	22,000	67,000	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 UJ	4.43 U
1,3-Dichlorobenzene	NV	NV	NV	NV	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 UJ	1.20 U
1,4-Dichlorobenzene	8.5	37	400,000	1,200,000	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 UJ	1.20 U
1,4-Dioxane	19	82	240,000	730,000	0.721 U	0.721 U	0.721 U	0.721 U	2.27 U	2.27 UJ	2.27 U
2,2,4-Trimethylpentane	NV	NV	NV	NV	**2.49**	0.934 U	0.934 U	0.934 U	**3.50**	0.934 UJ	**8.41**
2-Butanone	170,000	730,000	170,000	500,000	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 UJ	3.69 U
2-Chlorotoluene	NV	NV	NV	NV	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 UJ	1.03 U
2-Hexanone	1,000	4,400	NV	NV	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 UJ	5.11 U
2-Propanol	7,000	29,000	110,000	320,000	3.07 U	3.07 U	3.07 U	3.07 U	3.07 U	3.07 UJ	3.07 U
4-Ethyltoluene	NV	NV	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 UJ	0.982 U
4-Methyl-2-pentanone	100,000	440,000	NV	NV	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 UJ	5.12 U
Acetone	NV	NV	2,100,000	6,300,000	2.97 U	2.97 U	**5.32**	**7.03**	2.97 U	**4.44 J**	**3.54**
Allyl Chloride	16	68	NV	NV	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 UJ	0.626 U
Benzene	12	52	970	2900	0.639 U	0.639 U	0.639 U	0.639 U	0.639 U	0.639 UJ	0.639 U
Benzyl Chloride	1.9	8.3	8,000	24,000	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 UJ	1.04 U
Bromodichloromethane	2.5	11	NV	NV	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 UJ	1.34 U
Bromoform	85	370	NV	NV	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 UJ	6.21 U
Bromomethane	170	730	130,000	400,000	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 UJ	0.776 U
Carbon disulfide	24,000	100,000	210,000	630,000	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	**11.3 J**	0.622 U
Carbon tetrachloride	16	68	63,000	190,000	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 UJ	1.26 U
Chlorobenzene	1,700	7,300	NV	NV	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 UJ	0.924 U
Chloroethane	140,000	580,000	1,300,000	4,000,000	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 UJ	0.528 U
Chloroform	4.1	18	16,000	50,000	0.973 U	0.973 U	0.973 U	0.973 U	0.973 U	0.973 UJ	0.973 U

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

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-01						
Sample Name:					SVW-01	SVW-01	SVW-01	SVW-01	SVW-01	SVW-01	SVW-01
Sample Date:	Residential	Commercial	Residential	Commercial	12/21/2022	02/07/2023	05/02/2023	08/22/2023	11/14/2023	02/06/2024	05/07/2024
VOCs, continued (ug/m^3)											
Chloromethane	3,100	13,000	33,000	100,000	0.413 U	0.413 U	0.413 U	0.413 U	0.413 U	0.413 UJ	0.413 U
cis-1,2-Dichloroethene	1,400	5,800	NV	NV	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 UJ	0.793 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 UJ	0.908 U
Cyclohexane	210,000	880,000	NV	NV	0.689 U	0.689 U	0.689 U	0.689 U	0.689 U	0.689 UJ	0.689 U
Dibromochloromethane	NV	NV	NV	NV	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 UJ	1.70 U
Dichlorodifluoromethane (Freon 12)	3,500	15,000	NV	NV	0.989 U	**2.38**	**2.02**	0.989 U	**1.75**	**1.37 J**	**2.26**
Ethanol	NV	NV	NV	NV	2.36 U	**3.02**	**4.86 J+**	**12.3**	**5.00 J+**	**7.77 J**	**10.2**
Ethylbenzene	37	160	730,000	2,200,000	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 UJ	0.867 U
Freon 113	170,000	730,000	NV	NV	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 UJ	1.53 U
Freon 114	NV	NV	NV	NV	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 UJ	1.40 U
Heptane	14,000	58,000	NV	NV	0.818 U	0.818 U	0.818 U	0.818 U	0.818 U	0.818 UJ	0.818 U
Hexachlorobutadiene	4.3	19	NV	NV	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 UJ	6.73 U
Isopropylbenzene	14,000	58,000	NV	NV	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 UJ	0.983 U
m,p-Xylene	3,500	15,000	290,000	870,000	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 UJ	1.73 U
Methyl methacrylate	24,000	100,000	NV	NV	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 UJ	0.819 U
Methyl tert-butyl ether	360	1,600	270,000	800,000	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 UJ	0.721 U
Methylene chloride	3,400	41,000	70,000	210,000	0.694 U	0.694 U	0.694 U	0.694 U	0.694 U	0.694 UJ	**3.32**
Naphthalene	2.8	12	6,700	20,000	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U	3.30 UJ	3.30 U
n-Hexane	24,000	100,000	NV	NV	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 UJ	2.22 U
n-Propylbenzene	35,000	150,000	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 UJ	0.982 U
o-Xylene	3,500	15,000	NV	NV	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 UJ	0.867 U
Propylene	100,000	440,000	NV	NV	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 UJ	2.15 U
Styrene	35,000	150,000	700,000	2,100,000	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 UJ	0.851 U
Tetrachloroethene	360	1,600	1,400	4,000	1.36 U	1.36 U	**2.07**	1.36 U	1.36 U	1.36 UJ	**2.68**
Tetrahydrofuran	70,000	290,000	NV	NV	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.590 UJ	0.590 U
Toluene	170,000	730,000	250,000	770,000	1.88 U	1.88 U	1.88 U	1.88 U	1.88 U	1.88 UJ	1.88 U
trans-1,2-Dichloroethene	1,400	5,800	26,000	80,000	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 UJ	0.793 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 UJ	0.908 U
Trichloroethene	16	100	70	210	1.07 U	1.07 U	**24.6**	**7.93**	1.07 U	1.07 UJ	1.07 U
Trichlorofluoromethane (Freon 11)	NV	NV	NV	NV	1.12 U	**1.19**	**1.31**	1.12 U	1.12 U	1.12 UJ	1.12 U
Vinyl Acetate	7,000	29,000	6,700	20,000	0.704 U	0.704 U	0.704 U	0.704 U	2.22 U	2.22 UJ	2.22 U
Vinyl Bromide	6.2	27	NV	NV	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 UJ	0.875 U
Vinyl chloride	5.6	93	43,000	130,000	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 UJ	0.511 U
Xylenes (total)[a]	3,500	15,000	290,000	870,000	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 UJ	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 Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-02						
Sample Name:					SVW-02	SVW-02	SVW-02	SVW-02	SVW-02	SVW-02	SVW-02
Sample Date:	Residential	Commercial	Residential	Commercial	12/21/2022	02/07/2023	05/02/2023	08/22/2023	11/14/2023	02/06/2024	05/07/2024
TPH (ug/m^3)											
Gasoline-range hydrocarbons	10,000	40,000	NV	NV	826 U	826 U	826 U	826 R	826 R	826 UJ	826 U
VOCs (ug/m^3)											
1,1,1-Trichloroethane	170,000	730,000	370,000	1,100,000	1.09 U	1.09 U	1.09 U	1.09 R	1.09 R	1.09 UJ	1.09 U
1,1,2,2-Tetrachloroethane	1.6	7.1	NV	NV	1.37 U	1.37 U	1.37 U	1.37 R	1.37 R	1.37 UJ	1.37 U
1,1,2-Trichloroethane	5.9	26	NV	NV	1.09 U	1.09 U	1.09 U	1.09 R	1.09 R	1.09 UJ	1.09 U
1,1-Dichloroethane	59	260	NV	NV	0.802 U	0.802 U	0.802 U	0.802 R	0.802 R	0.802 UJ	0.802 U
1,1-Dichloroethene	7,000	29,000	6,700	20,000	0.793 U	0.793 U	0.793 U	0.793 R	0.793 R	0.793 UJ	0.793 U
1,2,4-Trichlorobenzene	70	290	NV	NV	4.66 U	4.66 U	4.66 U	4.66 R	4.66 R	4.66 UJ	4.66 U
1,2,4-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 R	0.982 R	0.982 UJ	0.982 U
1,2-Dibromoethane	0.16	0.68	NV	NV	1.54 U	1.54 U	1.54 U	1.54 R	1.54 R	1.54 UJ	1.54 U
1,2-Dichlorobenzene	7,000	29,000	NV	NV	1.20 U	1.20 U	1.20 U	1.20 R	1.20 R	1.20 UJ	1.20 U
1,2-Dichloroethane	3.6	16	NV	NV	0.81 U	0.81 U	0.81 U	0.81 R	0.81 R	0.810 UJ	0.81 U
1,2-Dichloropropane	25	110	7,700	23,000	0.924 U	0.924 U	0.924 U	0.924 R	0.924 R	0.924 UJ	0.924 U
1,3,5-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 R	0.982 R	0.982 UJ	0.982 U
1,3-Butadiene	3.1	14	22,000	67,000	4.43 U	4.43 U	4.43 U	4.43 R	4.43 R	4.43 UJ	4.43 U
1,3-Dichlorobenzene	NV	NV	NV	NV	1.20 U	1.20 U	1.20 U	1.20 R	1.20 R	1.20 UJ	1.20 U
1,4-Dichlorobenzene	8.5	37	400,000	1,200,000	1.20 U	1.20 U	1.20 U	1.20 R	1.20 R	1.20 UJ	1.20 U
1,4-Dioxane	19	82	240,000	730,000	0.721 U	0.721 U	0.721 U	0.721 R	2.27 R	2.27 UJ	2.27 U
2,2,4-Trimethylpentane	NV	NV	NV	NV	0.934 U	0.934 U	0.934 U	0.934 R	0.934 R	0.934 UJ	**1.81**
2-Butanone	170,000	730,000	170,000	500,000	3.69 U	3.69 U	3.69 U	3.69 R	3.69 R	3.69 UJ	3.69 U
2-Chlorotoluene	NV	NV	NV	NV	1.03 U	1.03 U	1.03 U	1.03 R	1.03 R	1.03 UJ	1.03 U
2-Hexanone	1,000	4,400	NV	NV	5.11 U	5.11 U	5.11 U	5.11 R	5.11 R	5.11 UJ	5.11 U
2-Propanol	7,000	29,000	110,000	320,000	3.07 U	3.07 U	3.07 U	3.07 R	**6.86 J**	3.07 UJ	3.07 U
4-Ethyltoluene	NV	NV	NV	NV	0.982 U	0.982 U	0.982 U	0.982 R	0.982 R	0.982 UJ	0.982 U
4-Methyl-2-pentanone	100,000	440,000	NV	NV	5.12 U	5.12 U	5.12 U	5.12 R	5.12 R	5.12 UJ	5.12 U
Acetone	NV	NV	2,100,000	6,300,000	2.97 U	2.97 U	**3.42**	**6.08 J**	**12.2 J**	**17.4 J**	**36.8**
Allyl Chloride	16	68	NV	NV	0.626 U	0.626 U	0.626 U	0.626 R	0.626 R	0.626 UJ	0.626 U
Benzene	12	52	970	2900	**1.34**	**3.26**	0.639 U	0.639 R	**1.81 J**	0.639 UJ	0.639 U
Benzyl Chloride	1.9	8.3	8,000	24,000	1.04 U	1.04 U	1.04 U	1.04 R	1.04 R	1.04 UJ	1.04 U
Bromodichloromethane	2.5	11	NV	NV	1.34 U	1.34 U	1.34 U	1.34 R	1.34 R	1.34 UJ	1.34 U
Bromoform	85	370	NV	NV	6.21 U	6.21 U	6.21 U	6.21 R	6.21 R	6.21 UJ	6.21 U
Bromomethane	170	730	130,000	400,000	0.776 U	0.776 U	0.776 U	0.776 R	0.776 R	0.776 UJ	0.776 U
Carbon disulfide	24,000	100,000	210,000	630,000	0.622 U	**1.07**	**1.46**	0.622 R	0.622 R	0.622 UJ	0.622 U
Carbon tetrachloride	16	68	63,000	190,000	1.26 U	1.26 U	1.26 U	1.26 R	1.26 R	1.26 UJ	1.26 U
Chlorobenzene	1,700	7,300	NV	NV	0.924 U	0.924 U	0.924 U	0.924 R	0.924 R	0.924 UJ	0.924 U
Chloroethane	140,000	580,000	1,300,000	4,000,000	0.528 U	0.528 U	0.528 U	0.528 R	0.528 R	0.528 UJ	0.528 U
Chloroform	4.1	18	16,000	50,000	0.973 U	0.973 U	0.973 U	0.973 R	0.973 R	0.973 UJ	0.973 U

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

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-02						
Sample Name:					SVW-02	SVW-02	SVW-02	SVW-02	SVW-02	SVW-02	SVW-02
Sample Date:	Residential	Commercial	Residential	Commercial	12/21/2022	02/07/2023	05/02/2023	08/22/2023	11/14/2023	02/06/2024	05/07/2024
VOCs, continued (ug/m^3)											
Chloromethane	3,100	13,000	33,000	100,000	0.413 U	**1.14**	0.413 U	**0.682 J**	**0.785 J**	**1.16 J**	**0.733**
cis-1,2-Dichloroethene	1,400	5,800	NV	NV	0.793 U	0.793 U	0.793 U	0.793 R	0.793 R	0.793 UJ	0.793 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 R	0.908 R	0.908 UJ	0.908 U
Cyclohexane	210,000	880,000	NV	NV	0.689 U	0.689 U	0.689 U	0.689 R	0.689 R	0.689 UJ	0.689 U
Dibromochloromethane	NV	NV	NV	NV	1.70 U	1.70 U	1.70 U	1.70 R	1.70 R	1.70 UJ	1.70 U
Dichlorodifluoromethane (Freon 12)	3,500	15,000	NV	NV	0.989 U	**2.15**	**1.73**	**1.74 J**	**1.78 J**	**1.05 J**	**1.57**
Ethanol	NV	NV	NV	NV	2.36 U	**4.92**	**12.0**	**9.48 J**	**42.4 J**	**18.8 J**	**5.86**
Ethylbenzene	37	160	730,000	2,200,000	**5.98**	0.867 U	0.867 U	0.867 R	**0.910 J**	0.867 UJ	0.867 U
Freon 113	170,000	730,000	NV	NV	1.53 U	1.53 U	1.53 U	1.53 R	1.53 R	1.53 UJ	1.53 U
Freon 114	NV	NV	NV	NV	1.40 U	1.40 U	1.40 U	1.40 R	1.40 R	1.40 UJ	1.40 U
Heptane	14,000	58,000	NV	NV	**9.12**	0.818 U	0.818 U	0.818 R	**0.871 J**	0.818 UJ	0.818 U
Hexachlorobutadiene	4.3	19	NV	NV	6.73 U	6.73 U	6.73 U	6.73 R	6.73 R	6.73 UJ	6.73 U
Isopropylbenzene	14,000	58,000	NV	NV	**6.15**	**8.80**	0.983 U	0.983 R	0.983 R	0.983 UJ	0.983 U
m,p-Xylene	3,500	15,000	290,000	870,000	**3.86**	1.73 U	1.73 U	1.73 R	**2.49 J**	1.73 UJ	1.73 U
Methyl methacrylate	24,000	100,000	NV	NV	0.819 U	0.819 U	0.819 U	0.819 R	0.819 R	0.819 UJ	0.819 U
Methyl tert-butyl ether	360	1,600	270,000	800,000	0.721 U	0.721 U	0.721 U	0.721 R	0.721 R	0.721 UJ	0.721 U
Methylene chloride	3,400	41,000	70,000	210,000	0.694 U	0.694 U	0.694 U	**0.740 J**	**2.57 J**	0.694 UJ	0.694 U
Naphthalene	2.8	12	6,700	20,000	3.30 U	3.30 U	3.30 U	3.30 R	3.30 R	3.30 UJ	3.30 U
n-Hexane	24,000	100,000	NV	NV	2.22 U	2.22 U	2.22 U	2.22 R	**3.06 J**	2.22 UJ	2.22 U
n-Propylbenzene	35,000	150,000	NV	NV	0.982 U	0.982 U	0.982 U	0.982 R	0.982 R	0.982 UJ	0.982 U
o-Xylene	3,500	15,000	NV	NV	**2.01**	0.867 U	0.867 U	0.867 R	0.867 R	0.867 UJ	0.867 U
Propylene	100,000	440,000	NV	NV	2.15 U	2.15 U	2.15 U	2.15 R	2.15 R	2.15 UJ	2.15 U
Styrene	35,000	150,000	700,000	2,100,000	**3.48**	0.851 U	0.851 U	0.851 R	0.851 R	0.851 UJ	0.851 U
Tetrachloroethene	360	1,600	1,400	4,000	1.36 U	1.36 U	1.36 U	1.36 R	1.36 R	1.36 UJ	**1.97**
Tetrahydrofuran	70,000	290,000	NV	NV	0.59 U	0.59 U	0.59 U	0.59 R	0.590 R	0.590 UJ	0.590 U
Toluene	170,000	730,000	250,000	770,000	**3.71**	1.88 U	1.88 U	1.88 R	**13.1 J**	1.88 UJ	1.88 U
trans-1,2-Dichloroethene	1,400	5,800	26,000	80,000	0.793 U	0.793 U	**2.79 J+**	0.793 R	0.793 R	0.793 UJ	0.793 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 R	0.908 R	0.908 UJ	0.908 U
Trichloroethene	16	100	70	210	1.07 U	1.07 U	1.07 U	1.07 R	1.07 R	1.07 UJ	1.07 U
Trichlorofluoromethane (Freon 11)	NV	NV	NV	NV	1.12 U	**1.27**	**1.29**	1.12 R	**1.34 J**	1.12 UJ	1.12 U
Vinyl Acetate	7,000	29,000	6,700	20,000	0.704 U	0.704 U	0.704 U	0.704 R	2.22 R	2.22 UJ	2.22 U
Vinyl Bromide	6.2	27	NV	NV	0.875 U	0.875 U	0.875 U	0.875 R	0.875 R	0.875 UJ	0.875 U
Vinyl chloride	5.6	93	43,000	130,000	0.511 U	0.511 U	0.511 U	0.511 R	0.511 R	0.511 UJ	0.511 U
Xylenes (total)[a]	3,500	15,000	290,000	870,000	**5.87**	1.73 U	1.73 U	1.73 R	**2.49 J**	1.73 UJ	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 Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-03						
Sample Name:					SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03
Sample Date:	Residential	Commercial	Residential	Commercial	12/22/2022	12/22/2022	02/07/2023	02/07/2023	05/02/2023	05/02/2023	08/22/2023
TPH (ug/m^3)											
Gasoline-range hydrocarbons	10,000	40,000	NV	NV	826 U	**1,360**	826 U	826 U	826 U	826 U	826 U
VOCs (ug/m^3)											
1,1,1-Trichloroethane	170,000	730,000	370,000	1,100,000	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	1.6	7.1	NV	NV	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	5.9	26	NV	NV	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1-Dichloroethane	59	260	NV	NV	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U
1,1-Dichloroethene	7,000	29,000	6,700	20,000	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	70	290	NV	NV	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	2,100	8,800	NV	NV	**2.54**	**2.77**	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
1,2-Dibromoethane	0.16	0.68	NV	NV	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U
1,2-Dichlorobenzene	7,000	29,000	NV	NV	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
1,2-Dichloroethane	3.6	16	NV	NV	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
1,2-Dichloropropane	25	110	7,700	23,000	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	2,100	8,800	NV	NV	0.982 U	**1.02**	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
1,3-Butadiene	3.1	14	22,000	67,000	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	NV	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
1,4-Dichlorobenzene	8.5	37	400,000	1,200,000	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
1,4-Dioxane	19	82	240,000	730,000	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	NV	**3.84 J**	**12.1 J**	0.934 U	0.934 U	0.934 U	0.934 U	0.934 U
2-Butanone	170,000	730,000	170,000	500,000	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	NV	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U
2-Hexanone	1,000	4,400	NV	NV	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U
2-Propanol	7,000	29,000	110,000	320,000	3.07 U	3.07 U	3.07 U	3.07 U	**6.00**	**4.28 J+**	3.07 U
4-Ethyltoluene	NV	NV	NV	NV	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	100,000	440,000	NV	NV	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U
Acetone	NV	NV	2,100,000	6,300,000	**13.9**	**14.6**	2.97 U	**3.42**	**6.25**	**3.40**	**4.75**
Allyl Chloride	16	68	NV	NV	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U
Benzene	12	52	970	2900	**1.41**	**1.39**	**1.54**	**1.40**	0.639 U	0.639 U	0.639 U
Benzyl Chloride	1.9	8.3	8,000	24,000	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U
Bromodichloromethane	2.5	11	NV	NV	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U
Bromoform	85	370	NV	NV	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U
Bromomethane	170	730	130,000	400,000	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U
Carbon disulfide	24,000	100,000	210,000	630,000	0.622 UJ	**6.51 J**	**1.38**	**1.52**	0.622 U	0.622 U	0.622 U
Carbon tetrachloride	16	68	63,000	190,000	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U
Chlorobenzene	1,700	7,300	NV	NV	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U
Chloroethane	140,000	580,000	1,300,000	4,000,000	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U
Chloroform	4.1	18	16,000	50,000	**2.20**	**2.99**	0.973 U	0.973 U	0.973 U	0.973 U	0.973 U

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

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-03						
Sample Name:					SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03
Sample Date:	Residential	Commercial	Residential	Commercial	12/22/2022	12/22/2022	02/07/2023	02/07/2023	05/02/2023	05/02/2023	08/22/2023
VOCs, continued (ug/m^3)											
Chloromethane	3,100	13,000	33,000	100,000	0.413 U	0.413 U	**1.13**	**1.26**	0.413 U	0.413 U	0.413 U
cis-1,2-Dichloroethene	1,400	5,800	NV	NV	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Cyclohexane	210,000	880,000	NV	NV	0.689 UJ	**1.29 J**	0.689 U	0.689 U	0.689 U	0.689 U	0.689 U
Dibromochloromethane	NV	NV	NV	NV	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Dichlorodifluoromethane (Freon 12)	3,500	15,000	NV	NV	0.989 U	0.989 U	**2.29**	**2.33**	**2.17**	**2.11**	**1.94**
Ethanol	NV	NV	NV	NV	**12.4**	**10.2**	**4.54**	**5.54**	**38.5**	**26.8**	**6.52**
Ethylbenzene	37	160	730,000	2,200,000	**2.93**	**2.39**	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U
Freon 113	170,000	730,000	NV	NV	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	NV	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Heptane	14,000	58,000	NV	NV	**2.49 J**	**5.24 J**	0.818 U	0.818 U	0.818 U	0.818 U	0.818 U
Hexachlorobutadiene	4.3	19	NV	NV	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U
Isopropylbenzene	14,000	58,000	NV	NV	**1.6**	**1.18**	**1.32**	0.983 U	0.983 U	0.983 U	0.983 U
m,p-Xylene	3,500	15,000	290,000	870,000	**6.24**	**6.11**	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U
Methyl methacrylate	24,000	100,000	NV	NV	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	360	1,600	270,000	800,000	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U
Methylene chloride	3,400	41,000	70,000	210,000	0.694 U	0.694 U	0.694 U	0.694 U	**1.55**	**1.06**	0.694 U
Naphthalene	2.8	12	6,700	20,000	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U
n-Hexane	24,000	100,000	NV	NV	2.22 U	**2.93**	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U
n-Propylbenzene	35,000	150,000	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
o-Xylene	3,500	15,000	NV	NV	**2.69**	**2.27**	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U
Propylene	100,000	440,000	NV	NV	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U
Styrene	35,000	150,000	700,000	2,100,000	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U
Tetrachloroethene	360	1,600	1,400	4,000	1.36 U	1.36 U	1.36 U	1.36 U	**5.87 J**	1.36 UJ	**4.73**
Tetrahydrofuran	70,000	290,000	NV	NV	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U
Toluene	170,000	730,000	250,000	770,000	1.88 U	1.88 U	**2.73**	**2.94**	1.88 U	1.88 U	1.88 U
trans-1,2-Dichloroethene	1,400	5,800	26,000	80,000	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	**0.975 J+**	0.793 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Trichloroethene	16	100	70	210	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U
Trichlorofluoromethane (Freon 11)	NV	NV	NV	NV	1.12 U	1.12 U	**1.40**	**1.43**	**1.86**	**1.81**	1.12 U
Vinyl Acetate	7,000	29,000	6,700	20,000	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U
Vinyl Bromide	6.2	27	NV	NV	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U
Vinyl chloride	5.6	93	43,000	130,000	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U
Xylenes (total)[a]	3,500	15,000	290,000	870,000	**8.93**	**8.38**	1.73 U	1.73 U	1.73 U	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 Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-03						
Sample Name:					SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP
Sample Date:	Residential	Commercial	Residential	Commercial	08/22/2023	11/14/2023	11/14/2023	02/06/2024	02/06/2024	05/07/2024	05/07/2024
TPH (ug/m^3)											
Gasoline-range hydrocarbons	10,000	40,000	NV	NV	826 U	826 U	826 U	826 UJ	826 UJ	826 U	826 U
VOCs (ug/m^3)											
1,1,1-Trichloroethane	170,000	730,000	370,000	1,100,000	1.09 U	1.09 U	1.09 U	1.09 UJ	1.09 UJ	1.09 U	1.09 U
1,1,2,2-Tetrachloroethane	1.6	7.1	NV	NV	1.37 U	1.37 U	1.37 U	1.37 UJ	1.37 UJ	1.37 U	1.37 U
1,1,2-Trichloroethane	5.9	26	NV	NV	1.09 U	1.09 U	1.09 U	1.09 UJ	1.09 UJ	1.09 U	1.09 U
1,1-Dichloroethane	59	260	NV	NV	0.802 U	0.802 U	0.802 U	0.802 UJ	0.802 UJ	0.802 U	0.802 U
1,1-Dichloroethene	7,000	29,000	6,700	20,000	0.793 U	0.793 U	0.793 U	0.793 UJ	0.793 UJ	0.793 U	0.793 U
1,2,4-Trichlorobenzene	70	290	NV	NV	4.66 U	4.66 U	4.66 U	4.66 UJ	4.66 UJ	4.66 U	4.66 U
1,2,4-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 UJ	0.982 UJ	0.982 U	0.982 U
1,2-Dibromoethane	0.16	0.68	NV	NV	1.54 U	1.54 U	1.54 U	1.54 UJ	1.54 UJ	1.54 U	1.54 U
1,2-Dichlorobenzene	7,000	29,000	NV	NV	1.20 U	1.20 U	1.20 U	1.20 UJ	1.20 UJ	1.20 U	1.20 U
1,2-Dichloroethane	3.6	16	NV	NV	0.81 U	0.810 U	0.810 U	0.810 UJ	0.810 UJ	0.81 U	0.81 U
1,2-Dichloropropane	25	110	7,700	23,000	0.924 U	0.924 U	0.924 U	0.924 UJ	0.924 UJ	0.924 U	0.924 U
1,3,5-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 UJ	0.982 UJ	0.982 U	0.982 U
1,3-Butadiene	3.1	14	22,000	67,000	4.43 U	4.43 U	4.43 U	4.43 UJ	4.43 UJ	4.43 U	4.43 U
1,3-Dichlorobenzene	NV	NV	NV	NV	1.20 U	1.20 U	1.20 U	1.20 UJ	1.20 UJ	1.20 U	1.20 U
1,4-Dichlorobenzene	8.5	37	400,000	1,200,000	1.20 U	1.20 U	1.20 U	1.20 UJ	1.20 UJ	1.20 U	1.20 U
1,4-Dioxane	19	82	240,000	730,000	0.721 U	2.27 U	2.27 U	2.27 UJ	2.27 UJ	2.27 U	2.27 U
2,2,4-Trimethylpentane	NV	NV	NV	NV	0.934 U	**1.81**	**1.43**	0.934 UJ	0.934 UJ	**10.8 J**	**5.19 J**
2-Butanone	170,000	730,000	170,000	500,000	3.69 U	3.69 U	3.69 U	3.69 UJ	3.69 UJ	3.69 U	3.69 U
2-Chlorotoluene	NV	NV	NV	NV	1.03 U	1.03 U	1.03 U	1.03 UJ	1.03 UJ	1.03 U	1.03 U
2-Hexanone	1,000	4,400	NV	NV	5.11 U	5.11 U	5.11 U	5.11 UJ	5.11 UJ	5.11 U	5.11 U
2-Propanol	7,000	29,000	110,000	320,000	3.07 U	3.07 UJ	**34.4 J**	3.07 UJ	3.07 UJ	3.07 U	3.07 U
4-Ethyltoluene	NV	NV	NV	NV	0.982 U	0.982 U	0.982 U	0.982 UJ	0.982 UJ	0.982 U	0.982 U
4-Methyl-2-pentanone	100,000	440,000	NV	NV	5.12 U	5.12 U	5.12 U	5.12 UJ	5.12 UJ	5.12 U	5.12 U
Acetone	NV	NV	2,100,000	6,300,000	**6.18**	**3.11 J**	**23.1 J**	2.97 UJ	**4.63 J**	2.97 U	**8.53**
Allyl Chloride	16	68	NV	NV	0.626 U	0.626 U	0.626 U	0.626 UJ	0.626 UJ	0.626 U	0.626 U
Benzene	12	52	970	2900	0.639 U	0.639 U	**0.700**	0.639 UJ	0.639 UJ	0.639 U	0.639 U
Benzyl Chloride	1.9	8.3	8,000	24,000	1.04 U	1.04 U	1.04 U	1.04 UJ	1.04 UJ	1.04 U	1.04 U
Bromodichloromethane	2.5	11	NV	NV	1.34 U	1.34 U	1.34 U	1.34 UJ	1.34 UJ	1.34 U	1.34 U
Bromoform	85	370	NV	NV	6.21 U	6.21 U	6.21 U	6.21 UJ	6.21 UJ	6.21 U	6.21 U
Bromomethane	170	730	130,000	400,000	0.776 U	0.776 U	0.776 U	0.776 UJ	0.776 UJ	0.776 U	0.776 U
Carbon disulfide	24,000	100,000	210,000	630,000	0.622 U	0.622 U	0.622 U	0.622 UJ	0.622 UJ	0.622 U	0.622 U
Carbon tetrachloride	16	68	63,000	190,000	1.26 U	1.26 U	1.26 U	1.26 UJ	1.26 UJ	1.26 U	1.26 U
Chlorobenzene	1,700	7,300	NV	NV	0.924 U	0.924 U	0.924 U	0.924 UJ	0.924 UJ	0.924 U	0.924 U
Chloroethane	140,000	580,000	1,300,000	4,000,000	0.528 U	0.528 U	0.528 U	0.528 UJ	0.528 UJ	0.528 U	0.528 U
Chloroform	4.1	18	16,000	50,000	0.973 U	0.973 U	0.973 U	0.973 UJ	0.973 UJ	0.973 U	0.973 U

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

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-03						
Sample Name:					SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP
Sample Date:	Residential	Commercial	Residential	Commercial	08/22/2023	11/14/2023	11/14/2023	02/06/2024	02/06/2024	05/07/2024	05/07/2024
VOCs, continued (ug/m^3)											
Chloromethane	3,100	13,000	33,000	100,000	0.413 U	0.413 U	**0.638**	0.413 UJ	**0.562 J**	0.413 U	0.413 U
cis-1,2-Dichloroethene	1,400	5,800	NV	NV	0.793 U	0.793 U	0.793 U	0.793 UJ	0.793 UJ	0.793 U	0.793 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 UJ	0.908 UJ	0.908 U	0.908 U
Cyclohexane	210,000	880,000	NV	NV	0.689 U	0.689 U	0.689 U	0.689 UJ	0.689 UJ	0.689 U	0.689 U
Dibromochloromethane	NV	NV	NV	NV	1.70 U	1.70 U	1.70 U	1.70 UJ	1.70 UJ	1.70 U	1.70 U
Dichlorodifluoromethane (Freon 12)	3,500	15,000	NV	NV	**1.86**	**1.79**	**1.89**	**1.29 J**	**1.33 J**	**2.42**	**2.46**
Ethanol	NV	NV	NV	NV	**10.5**	**8.97 J**	**125 J**	**7.43 J**	**7.09 J**	4.71 U	4.71 U
Ethylbenzene	37	160	730,000	2,200,000	0.867 U	0.867 U	0.867 U	0.867 UJ	0.867 UJ	0.867 U	0.867 U
Freon 113	170,000	730,000	NV	NV	1.53 U	1.53 U	1.53 U	1.53 UJ	1.53 UJ	1.53 U	1.53 U
Freon 114	NV	NV	NV	NV	1.40 U	1.40 U	1.40 U	1.40 UJ	1.40 UJ	1.40 U	1.40 U
Heptane	14,000	58,000	NV	NV	0.818 U	0.818 U	**0.855**	0.818 UJ	0.818 UJ	0.818 U	0.818 U
Hexachlorobutadiene	4.3	19	NV	NV	6.73 U	6.73 U	6.73 U	6.73 UJ	6.73 UJ	6.73 U	6.73 U
Isopropylbenzene	14,000	58,000	NV	NV	0.983 U	0.983 U	0.983 U	0.983 UJ	0.983 UJ	0.983 U	0.983 U
m,p-Xylene	3,500	15,000	290,000	870,000	1.73 U	1.73 U	1.73 U	1.73 UJ	1.73 UJ	1.73 U	1.73 U
Methyl methacrylate	24,000	100,000	NV	NV	0.819 U	0.819 U	0.819 U	0.819 UJ	0.819 UJ	0.819 U	0.819 U
Methyl tert-butyl ether	360	1,600	270,000	800,000	0.721 U	0.721 U	0.721 U	0.721 UJ	0.721 UJ	0.721 U	0.721 U
Methylene chloride	3,400	41,000	70,000	210,000	0.694 U	**1.84 J**	**38.2 J**	0.694 UJ	0.694 UJ	0.694 U	0.694 U
Naphthalene	2.8	12	6,700	20,000	3.30 U	3.30 U	3.30 U	3.30 UJ	3.30 UJ	3.30 U	3.30 U
n-Hexane	24,000	100,000	NV	NV	2.22 U	2.22 UJ	**19.5 J**	2.22 UJ	2.22 UJ	2.22 U	2.22 U
n-Propylbenzene	35,000	150,000	NV	NV	0.982 U	0.982 U	0.982 U	0.982 UJ	0.982 UJ	0.982 U	0.982 U
o-Xylene	3,500	15,000	NV	NV	0.867 U	0.867 U	0.867 U	0.867 UJ	0.867 UJ	0.867 U	0.867 U
Propylene	100,000	440,000	NV	NV	2.15 U	2.15 U	2.15 U	2.15 UJ	2.15 UJ	2.15 U	2.15 U
Styrene	35,000	150,000	700,000	2,100,000	0.851 U	0.851 U	0.851 U	0.851 UJ	0.851 UJ	0.851 U	0.851 U
Tetrachloroethene	360	1,600	1,400	4,000	**4.43**	**2.01**	1.36 U	1.36 UJ	1.36 UJ	**1.97**	**1.52**
Tetrahydrofuran	70,000	290,000	NV	NV	0.59 U	0.59 U	0.590 U	0.590 UJ	0.590 UJ	0.590 U	0.590 U
Toluene	170,000	730,000	250,000	770,000	1.88 U	1.88 U	**4.03**	1.88 UJ	1.88 UJ	1.88 U	1.88 U
trans-1,2-Dichloroethene	1,400	5,800	26,000	80,000	0.793 U	0.793 U	0.793 U	**61.8 J**	0.793 UJ	0.793 U	0.793 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 UJ	0.908 UJ	0.908 U	0.908 U
Trichloroethene	16	100	70	210	1.07 U	1.07 U	1.07 U	1.07 UJ	1.07 UJ	1.07 U	1.07 U
Trichlorofluoromethane (Freon 11)	NV	NV	NV	NV	1.12 U	**1.40**	**1.35**	**1.65 J**	**1.52 J**	**1.43**	**1.43**
Vinyl Acetate	7,000	29,000	6,700	20,000	0.704 U	2.22 U	2.22 U	2.22 UJ	2.22 UJ	2.22 U	2.22 U
Vinyl Bromide	6.2	27	NV	NV	0.875 U	0.875 U	0.875 U	0.875 UJ	0.875 UJ	0.875 U	0.875 U
Vinyl chloride	5.6	93	43,000	130,000	0.511 U	0.511 U	0.511 U	0.511 UJ	0.511 UJ	0.511 U	0.511 U
Xylenes (total)[a]	3,500	15,000	290,000	870,000	1.73 U	1.73 U	1.73 U	1.73 UJ	1.73 UJ	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

Detected results are **bolded**.

Shading (color key below) indicates values that exceed screening criteria; non-detects (U and UJ) and rejected results (R) were not compared with screening criteria. When multiple criteria are exceeded, results are shaded based on the highest RBC.

RBC, Soil Vapor Volatilization to Indoor Air, Chronic, Residential

RBC, Soil Vapor Volatilization to Indoor Air, Chronic, Commercial

J = result is estimated.

J+ = result is estimated, but the result may be biased high.

NV = no value.

R = result is rejected. The analyte may or may not be present in the sample. Rejected results are shown at the method reporting limit.

RBC = risk-based concentration.

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 method 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. Rejected results are not included in the calculation.

Reference

[1]DEQ. 2023. Table 1: *Chronic and Acute Vapor Intrusion Risk-Based Concentrations.* Oregon Department of Environmental Quality. June.

Table 4
Mann-Kendall Trend Test Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Gasoline-range TPH					Diesel-range TPH				
Well	Concentration Trend	Mann-Kendall S Statistic	Confidence Factor	Coefficient of Variation	Well	Concentration Trend	Mann-Kendall S Statistic	Confidence Factor	Coefficient of Variation
MW-01	**Decreasing**	**-29**	**99.5%**	**0.55**	MW-01	**Decreasing**	**-25**	**98.6%**	**0.57**
MW-02	Insufficient Data	--	--	--	MW-02	Insufficient Data	--	--	--
MW-04	Insufficient Data	--	--	--	MW-04	Insufficient Data	--	--	--
MW-06	*Stable*	*-5*	*71.9%*	*0.38*	MW-06	Insufficient Data	--	--	--
MW-07	Probably Decreasing	-14	91.0%	0.71	MW-07	**Decreasing**	**-19**	**97.0%**	**1.10**
Benzene					Ethylbenzene				
Well	Concentration Trend	Mann-Kendall S Statistic	Confidence Factor	Coefficient of Variation	Well	Concentration Trend	Mann-Kendall S Statistic	Confidence Factor	Coefficient of Variation
MW-01	*Stable*	*-14*	*87.3%*	*0.67*	MW-01	**Decreasing**	**-21**	**96.4%**	**0.67**
MW-02	Insufficient Data	--	--	--	MW-02	Insufficient Data	--	--	--
MW-04	Insufficient Data	--	--	--	MW-04	Insufficient Data	--	--	--
MW-06	*No Trend*	*-2*	*55.7%*	*2.54*	MW-06	Probably Decreasing	-10	90.7%	2.55
MW-07	*Stable*	*-6*	*69.4%*	*0.41*	MW-07	*No Trend*	*-12*	*87.0%*	*1.06*
Toluene					Xylenes (total)				
Well	Concentration Trend	Mann-Kendall S Statistic	Confidence Factor	Coefficient of Variation	Well	Concentration Trend	Mann-Kendall S Statistic	Confidence Factor	Coefficient of Variation
MW-01	Insufficient Data	--	--	--	MW-01	**Decreasing**	**-23**	**97.7%**	**0.69**
MW-02	Insufficient Data	--	--	--	MW-02	Insufficient Data	--	--	--
MW-04	Insufficient Data	--	--	--	MW-04	Insufficient Data	--	--	--
MW-06	*No Trend*	*7*	*80.9%*	*1.46*	MW-06	**Decreasing**	**-14**	**97.5%**	**2.60**
MW-07	*Stable*	*-6*	*69.4%*	*0.76*	MW-07	*Stable*	*-10*	*82.1%*	*1.00*
Naphthalene					1,2,4-Trimethylbenzene				
Well	Concentration Trend	Mann-Kendall S Statistic	Confidence Factor	Coefficient of Variation	Well	Concentration Trend	Mann-Kendall S Statistic	Confidence Factor	Coefficient of Variation
MW-01	*No Trend*	*1*	*50.0%*	*0.54*	MW-01	**Decreasing**	**-29**	**99.5%**	**0.59**
MW-02	Insufficient Data	--	--	--	MW-02	Insufficient Data	--	--	--
MW-04	Insufficient Data	--	--	--	MW-04	Insufficient Data	--	--	--
MW-06	*No Trend*	*-8*	*84.5%*	*2.45*	MW-06	Insufficient Data	--	--	--
MW-07	Probably Decreasing	-16	94.0%	1.30	MW-07	Probably Decreasing	-14	91.0%	1.31

Table 4
Mann-Kendall Trend Test Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Notes

Results with a confidence factor greater than 95% are **bolded**.

Results with a confidence factor less than 90% are *italicized* .

TPH = total petroleum hydrocarbons.

One half the method detection limit was used for non-detect values during the Mann-Kendall evaluation.

"Insufficient Data" indicates that there were fewer than four detections of that chemical analyte from the well. The GSI Mann-Kendall Toolkit requires a minimum of four datapoints for valid calcuations.

"Increasing" or "Decreasing" indicates the slope of the trend and that confidence is greater than 95%.

"Probably Increasing" or "Probably Decreasing" indicates the slope of the trend and that confidence is greater than 90% and less than 95%.

"No Trend" indicates the confidence is less than 90% and slope is negative with a coefficient of variation of greater than 1.0 or has a positive slope.

"Stable" indicates the confidence is less than 90% and with a coefficient of variation of 1.0 or less.

Attachment A

Standard Operating Procedures

MAUL FOSTER ALONGI

Standard Operating Procedure

Decontamination of Field Equipment

SOP Number: 1
Date: 03/09/2021
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: 06/29/2023
Revision Number: 0.2

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 (Heading 3 No Number Style):

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. Sample containers for gasoline and VOC analysis shall be filled to capacity without overfilling and capped so that no headspace or air bubbles remain in the container.

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

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.

Standard Operating Procedure

Monitoring Well—Water Elevation

SOP Number: 13
Date: 03/09/2021
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: 03/09/2021
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 PinTM 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

MAUL FOSTER ALONGI

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M0785.20.002	DEQ	Village Shell	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MW-01	Monitoring	Flush-mount	Top of Casing	2.0		6.5

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
05/08/2024	12:48	10.90	--	5.81	--	5.09	0.83

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: Peristaltic Pump

Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other

Purge Start Time	13:08	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*

Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
13:11	0.16	0.2	5.95	6.43	13.1	774	0.26	-17.1	5.58
13:14	0.32	0.2	5.95	6.47	15.5	757	0.17	-41.7	4.43
13:17	0.48	0.2	5.95	6.48	15.5	717	0.13	-50.2	4.98
13:20	0.64	0.2	5.95	6.48	15.5	699	0.13	-53.2	4.79
13:23	0.80	0.2	5.95	6.48	15.5	696	0.12	-55.4	4.83

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless, slight hydrocarbon-like odor.

General Comments

Collected duplicate smaple at this location (MW-01-DUP).

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MW-01		
Sample Date	05/08/2024	Sample Time	13:23

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	16
Amber glass		N	4
Poly			
		Total No. Containers:	20

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M0785.20.002	DEQ	Village Shell	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MW-02	Monitoring	Flush-mount	Top of Casing	2.0		7.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
05/08/2024	10:48	15.00	--	6.27	--	8.73	1.42

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	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*						
Purge Start Time	10:51	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*

Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
10:54	0.16	0.2	6.30	6.15	14.2	350.7	4.78	244.8	44.20
10:57	0.32	0.2	6.30	6.11	14.2	260.3	4.70	250.6	28.20
11:00	0.48	0.2	6.30	6.10	13.9	199.0	4.63	257.4	19.10
11:03	0.64	0.2	6.30	6.08	13.9	182.3	4.61	265.3	10.40
11:06	0.80	0.2	6.30	6.07	13.9	177.8	4.62	266.5	9.46
11:09	0.96	0.2	6.30	6.06	13.9	168.8	4.56	268.5	3.41
11:12	1.12	0.2	6.30	6.05	13.9	129.8	4.61	270.4	2.29
11:15	1.28	0.2	6.30	6.06	13.9	129.4	4.66	270.2	2.27
11:18	1.44	0.2	6.30	6.06	14.0	130.0	4.66	270.9	2.21

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MW-02		
Sample Date	05/08/2024	Sample Time	11:18

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	8
Amber glass		N	2
Poly			
		Total No. Containers:	10

General Comments

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M0785.20.002	DEQ	Village Shell	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MW-04	Monitoring	Flush-mount	Top of Casing	2.0		7.1

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)	
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*	*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*
05/08/2024	10:30	14.00	--	6.44	--	7.56	1.23	

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*						
Purge Start Time	12:04	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*

Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
12:07	0.16	0.2	6.46	5.72	15.1	107.1	1.09	254.4	11.0
12:10	0.32	0.2	6.48	5.80	15.2	108.8	1.33	245.1	7.86
12:13	0.48	0.2	6.48	5.83	15.2	108.3	1.32	240.8	4.93
12:16	0.64	0.2	6.48	5.90	15.1	107.3	1.38	233.6	3.76
12:19	0.80	0.2	6.48	5.90	15.2	106.6	1.43	232.7	2.30

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MW-04		
Sample Date	05/08/2024	Sample Time	12:19

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	8
Amber glass		N	2
Poly			
		Total No. Containers:	10

General Comments

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M0785.20.002	DEQ	Village Shell	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MW-06	Monitoring	Flush-mount	Top of Casing	2.0		5.8

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)	
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*	
05/08/2024	13:37	13.99	--	5.01	--	8.98	1.46	*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	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*						
Purge Start Time	14:02	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*

Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
14:05	0.16	0.2	5.60	5.52	15.3	106.3	0.24	49.4	4.33
14:08	0.32	0.2	5.65	5.51	15.1	102.3	0.22	44.2	4.13
14:11	0.48	0.2	5.68	5.54	15.2	104.1	0.21	38.3	3.00
14:14	0.64	0.2	5.70	5.59	15.2	103.7	0.13	36.1	3.15

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless, hydrocarbon-like odor.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MW-06		
Sample Date	05/08/2024	Sample Time	14:14

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	8
Amber glass		N	2
Poly			
		Total No. Containers:	10

General Comments

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M0785.20.002	DEQ	Village Shell	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MW-07	Monitoring	Flush-mount	Top of Casing	2.0		7.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
05/08/2024	13:58	15.00	--	6.03	--	8.97	1.46

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	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*						
Purge Start Time	14:46	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*

Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
14:49	0.16	0.2	6.13	6.17	15.2	354.6	0.28	-36.2	10.2
14:52	0.32	0.2	6.13	6.18	15.1	352.4	0.26	-38.0	7.44
14:55	0.48	0.2	6.13	6.20	15.1	337.9	0.14	-39.3	5.37
14:58	0.64	0.2	6.13	6.21	15.1	333.3	0.12	-40.1	4.10
15:01	0.80	0.2	6.13	6.21	15.0	331.0	0.11	-39.2	3.15
15:04	0.96	0.2	6.13	6.21	15.0	330.5	0.10	-38.7	2.22

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless, slight hydrocarbon-like odor.

General Comments

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MW-07		
Sample Date	05/08/2024	Sample Time	15:04

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	8
Amber glass		N	2
Poly			
		Total No. Containers:	10

Soil Vapor Field Sampling Data Sheet
Project: M0785.20.002
Client: Oregon Department of Environmental Quality
Location: North Bend, Oregon

Sample ID	Sample Date	Initial Vaccum ("Hg)	Shut-in Test	SUMMA Canister No.	Manifold No.	Sample Size/Rate	Purge Time		Helium Concentration		Purge		Sample Time		Sample Vaccum	
							Begin	End	Outdoor Ambient Air (ppm)	Under Shroud (%, >50%)	Purge Volume (L)	Helium Concentration in Tedlar Bag	Begin	End	Intial ("Hg)	Final ("Hg)
SVW-01	5/7/2024	-30	✔	021325	22647	6 L	14:00	14:03	0	47.5	1	0	14:05	14:30	-30	-5
SVW-02	5/7/2024	-30	✔	013709	22652	6 L	15:05	15:08	0	48.7	1	0	15:11	15:37	-30	-5
SVW-03	5/7/2024	-30	✔	022711	11496	6 L	16:50	16:53	0	45.7	1	0	16:56	17:21	-30	-5
SVW-03-DUP	5/7/2024	-30	✔	029218	11946	6 L	16:50	16:53	0	45.7	1	0	16:56	17:34	-30	-5

NOTES:
"Hg= Inches of mercury
ID= identification
L= liter
No.= number
ppm= parts per million
%= percent

Attachment C

Data Validation Memorandum

MAUL
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Data Validation Memorandum

Project No. M0785.20.002 | May 28, 2024 | 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 7 and 8, 2024, at the former Village Shell property located at 1805 Virginia Avenue, North Bend, Oregon.

The Pace National branch of Pace Analytical Services, LLC (Pace-N), performed the analyses. MFA reviewed Pace-N report numbers L1735095 and L1735180. 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	NWTPH-Gx
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.

Samples Analyzed		
Report L1735095	**Report L1735180**	
SVW-01	MW-01	MW-06
SVW-02	MW-01-DUP	MW-07
SVW-03	MW-02	TRIP BLANK
SVW-03-DUP	MW-04	--

Data Validation Procedures

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 2022).

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

Based on the data quality assurance/quality control review described herein, 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 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.

General Qualifications

Helium Results

Soil vapor samples submitted with sample delivery group L1735095 were collected under a helium shroud to detect leaks in the collection system. The associated sample results were non-detect for helium by ASTM Method D1946 in report L1735095.

Total Petroleum Hydrocarbons Results

According to report L1735180, the NWTPH-Dx diesel- and/or oil-range hydrocarbons results for samples MW-01 and MW-01-DUP were flagged by the laboratory as having chromatographic patterns that resembled the laboratory gasoline standard and hydraulic oil. Results were reported as diesel- and oil-range hydrocarbons instead of specific fuel products; thus, qualification by the reviewer was not required.

Sample Conditions

Sample Custody

Sample custody was appropriately documented on the chain-of-custody (COC) forms accompanying the reports, with the following exception: on the COC form accompanying report L1735095, there are two empty sections between relinquishment and receipt, and in the receipt section, there are only a signature and receipt date and time, but no company or name listed. The reviewer confirmed that samples were received by Pace-N staff and contacted the laboratory about proper COC procedures.

The reviewer confirmed that the gap in custody on the COC form accompanying the reports is due to shipment via a third-party service.

Holding Times

Extractions and analyses were performed within the recommended holding times.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

Reporting Limits

The laboratory evaluated groundwater results to MDLs in report L1735180 and evaluated soil vapor results to MRLs in report L173509. Pace-N reports MRLs as “RDLs,” or reported detection limits.

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 MRLs.

The laboratory qualified results between the MDL and the MRL with J, as estimated.

Blank Results

Field quality sample results may be qualified as a result of laboratory instrument or batch information, but original or unvalidated laboratory results associated with field quality control samples are used to assess impact on field samples.

Where an analyte was detected in both a sample and its associated blank, sample results were qualified if the concentration was less than five (for organics) 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 evaluate whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies, in accordance with laboratory- and method-specific requirements.

According to report L1735180, the NWTPH-Gx batch WG2285717 laboratory method blank had a gasoline-range hydrocarbons result between the MDL and the MRL, at a concentration of 58.3 micrograms per liter (ug/L). All associated sample results were non-detect or were greater than five times the blank concentration; thus, qualification by the reviewer was not required.

All remaining laboratory method blank results were non-detect.

Equipment Rinsate Blanks

Equipment rinsate blanks are used to evaluate the adequacy of the field equipment decontamination process when decontaminated sampling equipment is used to collect samples.

These blanks were not required for this sampling event, as all samples were collected using dedicated or single-use equipment.

Trip Blanks

Trip blanks are used to evaluate whether volatile organic compound contamination was introduced during shipping and field handling procedures.

A trip blank was submitted with the sample delivery group L1735180 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

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results are used to evaluate laboratory precision and accuracy. All LCSs and LCSDs were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements, with one exception noted below.

In report L1735180, Pace-N did not report LCSD results or any other measurement of precision for NWTPH-Gx batch WG2285717. The reviewer confirmed that this is in accordance with laboratory standard operating procedures. Batch quality was accepted based on the passing LCS recovery. Qualification by the reviewer was not required.

According to report L1735180, the EPA Method 8260D batch WG2285945 LCS and LCSD result for hexachloro-1,3-butadiene had a relative percent difference (RPD) result above the 20 percent

acceptance limit, at 21.1 percent. Both results were within percent recovery acceptance limits. All associated sample results were non-detect and thus did not require qualification by the reviewer.

All remaining LCS and LCSD results were within acceptance limits for percent recovery and 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 using LCS and LCSD results, with an exception noted in the LCS and LCSD Results section above.

Matrix Spike and Matrix Spike Duplicate Results

Matrix spike (MS) and matrix spike duplicate (MSD) results are used to evaluate laboratory precision, accuracy, and the effect of the sample matrix on sample preparation and analysis.

Pace-N did not report MS or MSD results for any methods; laboratory precision and accuracy were evaluated using LCS and LCSD results, with an exception noted in the LCS and LCSD Results section above.

Surrogate Results

Surrogate results are used to evaluate laboratory performance of target organic compounds for individual samples.

When surrogate results were outside percent recovery acceptance limits because of dilutions necessary to quantify high concentrations of target analytes, qualification by the reviewer was not required because surrogate concentrations could not be accurately quantified.

According to report L1735180, the EPA Method 8270E-SIM nitrobenzene-d5 surrogate results for samples MW-01 and MW-01-DUP had zero percent recovery, which is below the lower acceptance limit of 31.0 percent. These surrogates are associated with the initial analyses of MW-01 and MW-01-DUP with a dilution factor of 2. Pace-N noted that the surrogate failures were due to matrix effects. The reviewer confirmed that nitrobenzene-d5 is a base/neutral surrogate and the remaining two base/neutral surrogates were within control limits for the initial analysis of both samples; thus, qualification by the reviewer was not required.

All remaining surrogate results were within percent recovery acceptance limits.

Continuing Calibration Verification Results

Continuing calibration verification (CCV) results are used to evaluate instrument sensitivity, precision, and accuracy throughout the analytical sequence.

CCV results are not required for Stage 2A validation, however, the reviewer evaluated results flagged by the laboratory for associated CCV exceedances.

In report L1735180, Pace-N flagged several EPA Method 8260D results as estimated due to associated CCV results that responded low. Pace-N noted that the method sensitivity checks were acceptable. The reviewer qualified associated flagged sample results as shown in the following table. Results qualified by the laboratory with J due to a detection between the MDL and the MRL did not require additional qualification by the reviewer and are noted below.

Report	Sample	Analyte	Original Result (ug/L)	Qualified Result (ug/L)
L1735180	MW-01	Acrolein	50.8 U	50.8 UJ
		Bromomethane	12.1 U	12.1 UJ
		n-Butylbenzene	3.14 U	3.14 UJ
		tert-Butylbenzene	2.54 U	2.54 UJ
		Chloroethane	3.84 U	3.84 UJ
		Dichlorodifluoromethane	7.48 U	7.48 UJ
		Naphthalene	455	455 J-
		1,2,4-Trimethylbenzene	1,100	1,100 J-
	MW-01-DUP	Acrolein	50.8 U	50.8 UJ
		Bromomethane	12.1 U	12.1 UJ
		n-Butylbenzene	3.14 U	3.14 UJ
		tert-Butylbenzene	2.54 U	2.54 UJ
		Chloroethane	3.84 U	3.84 UJ
		Dichlorodifluoromethane	7.48 U	7.48 UJ
		Naphthalene	437	437 J-
		1,2,4-Trimethylbenzene	1,040	1,040 J-
	MW-02	Acrolein	2.54 U	2.54 UJ
		Bromomethane	0.605 U	0.605 UJ
		n-Butylbenzene	0.157 U	0.157 UJ
		tert-Butylbenzene	0.127 U	0.127 UJJ
		Chloroethane	0.192 U	0.192 UJ
		Dichlorodifluoromethane	0.374 U	0.374 UJ
		1,2,4-Trimethylbenzene	0.322 U	0.322 UJ
	MW-04	Acrolein	2.54 U	2.54 UJ
		Bromomethane	0.605 U	0.605 UJ
		n-Butylbenzene	0.157 U	0.157 UJ
		tert-Butylbenzene	0.127 U	0.127 UJ
		Chloroethane	0.192 U	0.192 UJ
		Dichlorodifluoromethane	0.374 U	0.374 UJ
		Naphthalene	1.00 U	1.00 UJ
		1,2,4-Trimethylbenzene	0.322 U	0.322 UJ
	MW-06	Acrolein	2.54 U	2.54 UJ
		Bromomethane	0.605 U	0.605 UJ
		n-Butylbenzene	0.157 U	0.157 UJ
		tert-Butylbenzene	0.127 U	0.127 UJ
		Chloroethane	0.192 U	0.192 UJ
		Dichlorodifluoromethane	0.374 U	0.374 UJ
		Naphthalene	1.00 U	1.00 UJ
		1,2,4-Trimethylbenzene	0.322 U	0.322 UJ
	MW-07	Acrolein	25.4 U	25.4 UJ
		Bromomethane	6.05 U	6.05 UJ
		n-Butylbenzene	4.65 J	4.65 J[(a)]
		tert-Butylbenzene	1.27 U	1.27 UJ
		Chloroethane	1.92 U	1.92 UJ

Report	Sample	Analyte	Original Result (ug/L)	Qualified Result (ug/L)
L1735180	MW-07	Dichlorodifluoromethane	3.74 U	3.74 UJ
		Naphthalene	112	112 J-
		1,2,4-Trimethylbenzene	356	356 J-
	TRIP BLANK	Acrolein	2.54 U	2.54 UJ
		Bromomethane	0.605 U	0.605 UJ
		n-Butylbenzene	0.157 U	0.157 UJ
		tert-Butylbenzene	0.127 U	0.127 UJ
		Chloroethane	0.192 U	0.192 UJ
		Dichlorodifluoromethane	0.374 U	0.374 UJ
		Naphthalene	1.00 U	1.00 UJ
		1,2,4-Trimethylbenzene	0.322 U	0.322 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.
[a]Laboratory qualification was accepted by the reviewer.

Field Duplicate Results

Field duplicate results are used to evaluate field precision and sample homogeneity. The following field duplicate and parent sample pairs were submitted for analysis:

Report	Parent Sample	Field Duplicate Sample
L1735095	SVW-03	SVW-03-DUP
L1735180	MW-01	MW-01-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 only one result in the sample pair was non-detect, RPD was evaluated using the MDL or 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/m^3)	Qualified Result (ug/m^3)
L1735095	SVW-03	2,2,4-Trimethylpentane	70.2	10.8	10.8 J
	SVW-03-DUP			5.19	5.19 J

Notes
J = result is estimated.
RPD = relative percent difference.
ug/m^3 = micrograms per cubic meter.

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

MAUL FOSTER ALONGI

ANALYTICAL REPORT

May 14, 2024

Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group:	L1735095
Samples Received:	05/10/2024
Project Number:	M0785.20.002
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 mydata.pacelabs.com

TABLE OF CONTENTS

SVW-01 L1735095-01 Air

Collected by: Connor Anderson
Collected date/time: 05/07/24 14:30
Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2284609	1	05/11/24 21:53	05/11/24 21:53	GH	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2284257	1	05/11/24 13:35	05/11/24 13:35	OK	Mt. Juliet, TN

SVW-02 L1735095-02 Air

Collected by: Connor Anderson
Collected date/time: 05/07/24 15:37
Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2284609	1	05/11/24 22:33	05/11/24 22:33	GH	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2284257	1	05/11/24 13:37	05/11/24 13:37	OK	Mt. Juliet, TN

SVW-03 L1735095-03 Air

Collected by: Connor Anderson
Collected date/time: 05/07/24 17:21
Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2284609	1	05/11/24 23:13	05/11/24 23:13	GH	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2284257	1	05/11/24 13:40	05/11/24 13:40	OK	Mt. Juliet, TN

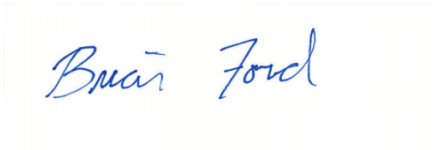
SVW-03-DUP L1735095-04 Air

Collected by: Connor Anderson
Collected date/time: 05/07/24 17:34
Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2284609	1	05/11/24 23:54	05/11/24 23:54	GH	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2284257	1	05/11/24 13:42	05/11/24 13:42	OK	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	1.49	3.54		1	WG2284609
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2284609
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2284609
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2284609
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2284609
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2284609
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2284609
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2284609
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2284609
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2284609
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2284609
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2284609
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2284609
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2284609
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2284609
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2284609
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2284609
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2284609
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2284609
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2284609
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2284609
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2284609
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2284609
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2284609
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2284609
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2284609
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2284609
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2284609
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2284609
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2284609
Ethanol	64-17-5	46.10	2.50	4.71	5.42	10.2		1	WG2284609
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2284609
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2284609
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	ND	ND		1	WG2284609
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.456	2.26		1	WG2284609
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2284609
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2284609
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2284609
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2284609
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2284609
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2284609
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.955	3.32		1	WG2284609
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2284609
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2284609
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2284609
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2284609
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2284609
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2284609
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2284609
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2284609
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2284609
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2284609
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2284609
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.394	2.68		1	WG2284609
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2284609
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2284609

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	WG2284609
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2284609
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2284609
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2284609
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2284609
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2284609
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.80	8.41		1	WG2284609
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2284609
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2284609
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2284609
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2284609
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2284609
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2284609
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.9*				WG2284609

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG2284257

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
Acetone	67-64-1	58.10	1.25	2.97	15.5	36.8		1	WG2284609
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2284609
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2284609
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2284609
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2284609
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2284609
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2284609
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2284609
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2284609
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2284609
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2284609
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2284609
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2284609
Chloromethane	74-87-3	50.50	0.200	0.413	0.355	0.733		1	WG2284609
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2284609
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2284609
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2284609
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2284609
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2284609
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2284609
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2284609
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2284609
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2284609
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2284609
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2284609
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2284609
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2284609
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2284609
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2284609
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2284609
Ethanol	64-17-5	46.10	2.50	4.71	3.11	5.86		1	WG2284609
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2284609
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2284609
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	ND	ND		1	WG2284609
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.317	1.57		1	WG2284609
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2284609
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2284609
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2284609
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2284609
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2284609
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2284609
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2284609
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2284609
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2284609
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2284609
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2284609
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2284609
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2284609
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2284609
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2284609
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2284609
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2284609
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2284609
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.290	1.97		1	WG2284609
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2284609
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2284609

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	WG2284609
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2284609
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2284609
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2284609
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2284609
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2284609
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.387	1.81		1	WG2284609
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2284609
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2284609
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2284609
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2284609
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2284609
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2284609
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.5*				WG2284609

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG2284257

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	ND	ND		1	WG2284609
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2284609
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2284609
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2284609
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2284609
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2284609
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2284609
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2284609
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2284609
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2284609
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2284609
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2284609
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2284609
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2284609
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2284609
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2284609
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2284609
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2284609
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2284609
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2284609
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2284609
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2284609
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2284609
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2284609
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2284609
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2284609
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2284609
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2284609
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2284609
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2284609
Ethanol	64-17-5	46.10	2.50	4.71	ND	ND		1	WG2284609
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2284609
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2284609
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.254	1.43		1	WG2284609
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.489	2.42		1	WG2284609
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2284609
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2284609
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2284609
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2284609
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2284609
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2284609
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2284609
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2284609
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2284609
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2284609
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2284609
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2284609
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2284609
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2284609
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2284609
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2284609
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2284609
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2284609
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.290	1.97		1	WG2284609
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2284609
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2284609

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	WG2284609
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2284609
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2284609
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2284609
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2284609
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2284609
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	2.31	10.8		1	WG2284609
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2284609
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2284609
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2284609
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2284609
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2284609
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2284609
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.8*				WG2284609

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG2284257

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	3.59	8.53		1	WG2284609
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2284609
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2284609
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2284609
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2284609
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2284609
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2284609
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2284609
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2284609
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2284609
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2284609
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2284609
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2284609
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2284609
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2284609
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2284609
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2284609
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2284609
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2284609
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2284609
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2284609
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2284609
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2284609
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2284609
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2284609
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2284609
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2284609
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2284609
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2284609
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2284609
Ethanol	64-17-5	46.10	2.50	4.71	ND	ND		1	WG2284609
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2284609
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2284609
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.255	1.43		1	WG2284609
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.497	2.46		1	WG2284609
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2284609
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2284609
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2284609
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2284609
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2284609
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2284609
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2284609
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2284609
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2284609
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2284609
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2284609
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2284609
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2284609
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2284609
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2284609
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2284609
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2284609
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2284609
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.224	1.52		1	WG2284609
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2284609
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2284609

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	WG2284609
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2284609
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2284609
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2284609
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2284609
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2284609
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.11	5.19		1	WG2284609
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2284609
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2284609
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2284609
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2284609
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2284609
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2284609
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.2*				WG2284609

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	ND		1	WG2284257

Method Blank (MB)

(MB) R4069171-3 05/11/24 11:05

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	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	0.630
Ethanol	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

Method Blank (MB)

(MB) R4069171-3 05/11/24 11:05

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	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	0.630
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	*96.7*			*60.0-140*

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

(LCS) R4069171-1 05/11/24 09:44 • (LCSD) R4069171-2 05/11/24 10:26

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	3.88	4.20	103	112	70.0-130			7.92	25
Allyl chloride	3.75	3.52	3.78	93.9	101	70.0-130			7.12	25
Benzene	3.75	4.00	4.17	107	111	70.0-130			4.16	25

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

(LCS) R4069171-1 05/11/24 09:44 • (LCSD) R4069171-2 05/11/24 10:26

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzyl Chloride	3.75	3.74	3.92	99.7	105	70.0-152			4.70	25
Bromodichloromethane	3.75	3.70	3.93	98.7	105	70.0-130			6.03	25
Bromoform	3.75	4.19	4.15	112	111	70.0-130			0.959	25
Bromomethane	3.75	3.06	3.49	81.6	93.1	70.0-130			13.1	25
1,3-Butadiene	3.75	2.88	3.33	76.8	88.8	70.0-130			14.5	25
Carbon disulfide	3.75	3.18	3.36	84.8	89.6	70.0-130			5.50	25
Carbon tetrachloride	3.75	3.81	3.99	102	106	70.0-130			4.62	25
Chlorobenzene	3.75	3.96	4.05	106	108	70.0-130			2.25	25
Chloroethane	3.75	2.83	3.17	75.5	84.5	70.0-130			11.3	25
Chloroform	3.75	3.71	3.96	98.9	106	70.0-130			6.52	25
Chloromethane	3.75	3.29	3.72	87.7	99.2	70.0-130			12.3	25
2-Chlorotoluene	3.75	4.01	4.20	107	112	70.0-130			4.63	25
Cyclohexane	3.75	4.21	4.40	112	117	70.0-130			4.41	25
Dibromochloromethane	3.75	3.96	4.07	106	109	70.0-130			2.74	25
1,2-Dibromoethane	3.75	4.01	4.17	107	111	70.0-130			3.91	25
1,2-Dichlorobenzene	3.75	4.00	4.10	107	109	70.0-130			2.47	25
1,3-Dichlorobenzene	3.75	3.96	4.00	106	107	70.0-130			1.01	25
1,4-Dichlorobenzene	3.75	3.98	4.07	106	109	70.0-130			2.24	25
1,2-Dichloroethane	3.75	3.52	3.77	93.9	101	70.0-130			6.86	25
1,1-Dichloroethane	3.75	3.69	3.93	98.4	105	70.0-130			6.30	25
1,1-Dichloroethene	3.75	3.70	4.01	98.7	107	70.0-130			8.04	25
cis-1,2-Dichloroethene	3.75	3.70	3.99	98.7	106	70.0-130			7.54	25
trans-1,2-Dichloroethene	3.75	3.77	4.08	101	109	70.0-130			7.90	25
1,2-Dichloropropane	3.75	3.74	3.91	99.7	104	70.0-130			4.44	25
cis-1,3-Dichloropropene	3.75	4.01	4.16	107	111	70.0-130			3.67	25
trans-1,3-Dichloropropene	3.75	3.88	4.09	103	109	70.0-130			5.27	25
1,4-Dioxane	3.75	4.16	4.27	111	114	70.0-140			2.61	25
Ethanol	3.75	3.03	3.72	80.8	99.2	55.0-148			20.4	25
Ethylbenzene	3.75	4.08	4.21	109	112	70.0-130			3.14	25
4-Ethyltoluene	3.75	4.13	4.39	110	117	70.0-130			6.10	25
Trichlorofluoromethane	3.75	3.14	3.51	83.7	93.6	70.0-130			11.1	25
Dichlorodifluoromethane	3.75	3.63	4.01	96.8	107	64.0-139			9.95	25
1,1,2-Trichlorotrifluoroethane	3.75	3.85	3.98	103	106	70.0-130			3.32	25
1,2-Dichlorotetrafluoroethane	3.75	3.72	4.10	99.2	109	70.0-130			9.72	25
Heptane	3.75	3.94	4.22	105	113	70.0-130			6.86	25
Hexachloro-1,3-butadiene	3.75	3.98	3.96	106	106	70.0-151			0.504	25
n-Hexane	3.75	3.94	4.24	105	113	70.0-130			7.33	25
Isopropylbenzene	3.75	4.54	4.63	121	123	70.0-130			1.96	25
Methylene Chloride	3.75	3.29	3.67	87.7	97.9	70.0-130			10.9	25
Methyl Butyl Ketone	3.75	3.61	4.01	96.3	107	70.0-149			10.5	25

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

(LCS) R4069171-1 05/11/24 09:44 • (LCSD) R4069171-2 05/11/24 10:26

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	3.96	4.17	106	111	70.0-130			5.17	25
4-Methyl-2-pentanone (MIBK)	3.75	3.66	3.98	97.6	106	70.0-139			8.38	25
Methyl methacrylate	3.75	3.74	3.89	99.7	104	70.0-130			3.93	25
MTBE	3.75	4.03	4.20	107	112	70.0-130			4.13	25
Naphthalene	3.75	4.24	4.25	113	113	70.0-159			0.236	25
2-Propanol	3.75	3.49	3.82	93.1	102	70.0-139			9.03	25
Propene	3.75	3.07	3.58	81.9	95.5	64.0-144			15.3	25
n-Propylbenzene	3.75	4.04	4.24	108	113	70.0-130			4.83	25
Styrene	3.75	4.50	4.57	120	122	70.0-130			1.54	25
1,1,2,2-Tetrachloroethane	3.75	3.75	3.94	100	105	70.0-130			4.94	25
Tetrachloroethylene	3.75	4.08	4.21	109	112	70.0-130			3.14	25
Tetrahydrofuran	3.75	3.58	3.95	95.5	105	70.0-137			9.83	25
Toluene	3.75	4.04	4.19	108	112	70.0-130			3.65	25
1,2,4-Trichlorobenzene	3.75	4.14	4.15	110	111	70.0-160			0.241	25
1,1,1-Trichloroethane	3.75	3.76	3.98	100	106	70.0-130			5.68	25
1,1,2-Trichloroethane	3.75	3.94	4.06	105	108	70.0-130			3.00	25
Trichloroethylene	3.75	3.98	4.15	106	111	70.0-130			4.18	25
1,2,4-Trimethylbenzene	3.75	4.20	4.39	112	117	70.0-130			4.42	25
1,3,5-Trimethylbenzene	3.75	4.10	4.25	109	113	70.0-130			3.59	25
2,2,4-Trimethylpentane	3.75	3.94	4.25	105	113	70.0-130			7.57	25
Vinyl chloride	3.75	2.98	3.47	79.5	92.5	70.0-130			15.2	25
Vinyl Bromide	3.75	3.16	3.55	84.3	94.7	70.0-130			11.6	25
Vinyl acetate	3.75	3.54	3.92	94.4	105	70.0-130			10.2	25
m&p-Xylene	7.50	8.54	8.82	114	118	70.0-130			3.23	25
o-Xylene	3.75	4.35	4.50	116	120	70.0-130			3.39	25
TPH (GC/MS) Low Fraction	188	174	187	92.6	99.5	70.0-130			7.20	25
(S) 1,4-Bromofluorobenzene				*94.7*	*96.7*	*60.0-140*				

QUALITY CONTROL SUMMARY

L1735095-01,02,03,04

Method Blank (MB)

(MB) R4068539-3 05/11/24 13:29

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Helium	U		0.0259	0.100

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

(LCS) R4068539-1 05/11/24 13:24 • (LCSD) R4068539-2 05/11/24 13:26

Analyte	Spike Amount %	LCS Result %	LCSD Result %	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Helium	2.50	2.34	2.38	93.6	95.2	70.0-130			1.69	25

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
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

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	LAO000356
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.

T005

State of Oregon Chain of Custody

Agency, Authorized Purchaser or Agent: Oregon DEQ	**Contract Laboratory Name:** Pace National, bda ESC	**Lab Selection Criteria:**	**Turn Around Time:**
Send Lab Report To: Anthony Chavez Address: 165 7th 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	☐ 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	☒ 10 days (std.) ☐ 5 days ☐ 72 hours ☐ 48 hours ☐ 24 hours ☐ Other

Project Name: Village Shell
Project Number: M0785.20.002
Sampler Name: Connor Anderson

Sample ID#	Collection Date/Time	Matrix	Number of Containers	Sample Preservative: Gasoline & VOCs by TO-15 Modified	Sample Preservative: Helium by ASTM D1946	Comments
SVW-01	5/7/24, 14:30	SV	1	X	X	LM35095-01
SVW-02	5/7/24, 15:37	SV	1	X	X	02
SVW-03	5/7/24, 17:21	SV	1	X	X	03
SVW-03-DUP	5/7/24, 17:34	SV	1	X	X	04

Sample Receipt Checklist
COC Seal Present/Intact: ✓Y__N Airs ✓
COC Signed/Accurate: ✓Y__N Size: ___1L ___6L ___1.4L
Bottles arrive intact: ✓Y__N Tage Color: G__ W✓ P__ B__
Correct bottles used: ✓Y__N Tubing ___ Shunt ___
Unused:_____ T/P#: P1066846

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

Relinquished By: Connor Anderson	Agency/Agent: MFA	Received By:	Agency/Agent:
Signature:	Time & Date: 11:00, 5/9/24	Signature:	Time & Date:
Relinquished By:	Agency/Agent:	Received By:	Agency/Agent: N 5/10/24
Signature:	Time & Date:	Signature:	Time & Date: 5/10/24 ~~1000~~ 0930

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.

ANALYTICAL REPORT

May 21, 2024

Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group:	L1735180
Samples Received:	05/10/2024
Project Number:	M0785.20.002
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 mydata.pacelabs.com

TABLE OF CONTENTS

MW-01 L1735180-01 GW

Collected by: Connor Anderson | Collected date/time: 05/08/24 13:23 | Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2285717	10	05/14/24 06:36	05/14/24 06:36	DSS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2285945	20	05/14/24 22:38	05/14/24 22:38	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2284650	1	05/12/24 14:25	05/14/24 18:32	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2284859	2	05/15/24 09:03	05/15/24 17:08	MBE	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2284859	20	05/15/24 09:03	05/17/24 10:00	AMS	Mt. Juliet, TN

MW-01-DUP L1735180-02 GW

Collected by: Connor Anderson | Collected date/time: 05/08/24 13:23 | Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2285717	10	05/14/24 06:59	05/14/24 06:59	DSS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2285945	20	05/14/24 22:56	05/14/24 22:56	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2284650	1	05/12/24 14:25	05/14/24 18:52	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2284859	2	05/15/24 09:03	05/15/24 17:28	MBE	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2284859	20	05/15/24 09:03	05/17/24 10:18	AMS	Mt. Juliet, TN

MW-02 L1735180-03 GW

Collected by: Connor Anderson | Collected date/time: 05/08/24 11:18 | Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2285717	1	05/14/24 03:34	05/14/24 03:34	DSS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2285945	1	05/14/24 19:31	05/14/24 19:31	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2288614	1	05/18/24 12:47	05/18/24 12:47	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2284650	1	05/12/24 14:25	05/14/24 19:12	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2284859	1	05/15/24 09:03	05/15/24 17:47	MBE	Mt. Juliet, TN

MW-04 L1735180-04 GW

Collected by: Connor Anderson | Collected date/time: 05/08/24 12:19 | Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2285717	1	05/14/24 03:57	05/14/24 03:57	DSS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2285945	1	05/14/24 19:50	05/14/24 19:50	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2284650	1	05/12/24 14:25	05/14/24 19:32	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2284859	1	05/15/24 09:03	05/15/24 18:07	MBE	Mt. Juliet, TN

MW-06 L1735180-05 GW

Collected by: Connor Anderson | Collected date/time: 05/08/24 14:14 | Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2285717	1	05/14/24 04:20	05/14/24 04:20	DSS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2285945	1	05/14/24 20:09	05/14/24 20:09	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2284650	1	05/12/24 14:25	05/14/24 19:52	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2284859	1	05/15/24 09:03	05/15/24 18:26	MBE	Mt. Juliet, TN

MW-07 L1735180-06 GW

Collected by: Connor Anderson | Collected date/time: 05/08/24 15:04 | Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2285717	10	05/14/24 07:21	05/14/24 07:21	DSS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2285945	10	05/14/24 23:15	05/14/24 23:15	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2288614	50	05/18/24 14:08	05/18/24 14:08	DYW	Mt. Juliet, TN

MW-07 L1735180-06 GW

Collected by: Connor Anderson
Collected date/time: 05/08/24 15:04
Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2284650	1	05/12/24 14:25	05/14/24 20:13	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2284859	1	05/15/24 09:03	05/15/24 18:46	MBE	Mt. Juliet, TN

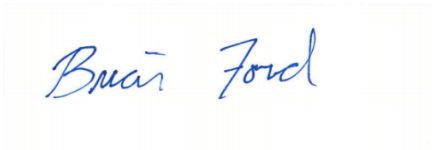
TRIP BLANK L1735180-07 GW

Collected by: Connor Anderson
Collected date/time: 05/08/24 00:00
Received date/time: 05/10/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2285945	1	05/14/24 16:25	05/14/24 16:25	DWR	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 (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	5930		316	1000	10	05/14/2024 06:36	WG2285717
(S) a,a,a-Trifluorotoluene(FID)	*108*			*78.0-120*		*05/14/2024 06:36*	WG2285717

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	05/14/2024 22:38	WG2285945
Acrolein	U	C3	50.8	1000	20	05/14/2024 22:38	WG2285945
Acrylonitrile	U		13.4	200	20	05/14/2024 22:38	WG2285945
Benzene	U		1.88	20.0	20	05/14/2024 22:38	WG2285945
Bromobenzene	U		2.36	20.0	20	05/14/2024 22:38	WG2285945
Bromodichloromethane	U		2.72	20.0	20	05/14/2024 22:38	WG2285945
Bromoform	U		2.58	20.0	20	05/14/2024 22:38	WG2285945
Bromomethane	U	C3	12.1	100	20	05/14/2024 22:38	WG2285945
n-Butylbenzene	U	C3	3.14	20.0	20	05/14/2024 22:38	WG2285945
sec-Butylbenzene	10.7	J	2.50	20.0	20	05/14/2024 22:38	WG2285945
tert-Butylbenzene	U	C3	2.54	20.0	20	05/14/2024 22:38	WG2285945
Carbon disulfide	U		1.92	20.0	20	05/14/2024 22:38	WG2285945
Carbon tetrachloride	U		2.56	20.0	20	05/14/2024 22:38	WG2285945
Chlorobenzene	U		2.32	20.0	20	05/14/2024 22:38	WG2285945
Chlorodibromomethane	U		2.80	20.0	20	05/14/2024 22:38	WG2285945
Chloroethane	U	C3	3.84	100	20	05/14/2024 22:38	WG2285945
Chloroform	U		2.22	100	20	05/14/2024 22:38	WG2285945
Chloromethane	U		19.2	50.0	20	05/14/2024 22:38	WG2285945
2-Chlorotoluene	U		2.12	20.0	20	05/14/2024 22:38	WG2285945
4-Chlorotoluene	U		2.28	20.0	20	05/14/2024 22:38	WG2285945
1,2-Dibromo-3-Chloropropane	U		5.52	100	20	05/14/2024 22:38	WG2285945
1,2-Dibromoethane	U		2.52	20.0	20	05/14/2024 22:38	WG2285945
Dibromomethane	U		2.44	20.0	20	05/14/2024 22:38	WG2285945
1,2-Dichlorobenzene	U		2.14	20.0	20	05/14/2024 22:38	WG2285945
1,3-Dichlorobenzene	U		2.20	20.0	20	05/14/2024 22:38	WG2285945
1,4-Dichlorobenzene	U		2.40	20.0	20	05/14/2024 22:38	WG2285945
Dichlorodifluoromethane	U	C3	7.48	100	20	05/14/2024 22:38	WG2285945
1,1-Dichloroethane	U		2.00	20.0	20	05/14/2024 22:38	WG2285945
1,2-Dichloroethane	U		1.64	20.0	20	05/14/2024 22:38	WG2285945
1,1-Dichloroethene	U		3.76	20.0	20	05/14/2024 22:38	WG2285945
cis-1,2-Dichloroethene	U		2.52	20.0	20	05/14/2024 22:38	WG2285945
trans-1,2-Dichloroethene	U		2.98	20.0	20	05/14/2024 22:38	WG2285945
1,2-Dichloropropane	U		2.98	20.0	20	05/14/2024 22:38	WG2285945
1,1-Dichloropropene	U		2.84	20.0	20	05/14/2024 22:38	WG2285945
1,3-Dichloropropane	U		2.20	20.0	20	05/14/2024 22:38	WG2285945
cis-1,3-Dichloropropene	U		2.22	20.0	20	05/14/2024 22:38	WG2285945
trans-1,3-Dichloropropene	U		2.36	20.0	20	05/14/2024 22:38	WG2285945
2,2-Dichloropropane	U		3.22	20.0	20	05/14/2024 22:38	WG2285945
Di-isopropyl ether	U		2.10	20.0	20	05/14/2024 22:38	WG2285945
Ethylbenzene	381		2.74	20.0	20	05/14/2024 22:38	WG2285945
Hexachloro-1,3-butadiene	U	J3	6.74	20.0	20	05/14/2024 22:38	WG2285945
Isopropylbenzene	75.2		2.10	20.0	20	05/14/2024 22:38	WG2285945
p-Isopropyltoluene	4.14	J	2.40	20.0	20	05/14/2024 22:38	WG2285945
2-Butanone (MEK)	U		23.8	200	20	05/14/2024 22:38	WG2285945
Methylene Chloride	U		8.60	100	20	05/14/2024 22:38	WG2285945
4-Methyl-2-pentanone (MIBK)	U		9.56	200	20	05/14/2024 22:38	WG2285945
Methyl tert-butyl ether	U		2.02	20.0	20	05/14/2024 22:38	WG2285945
Naphthalene	455	C3	20.0	100	20	05/14/2024 22:38	WG2285945

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	293		1.99	20.0	20	05/14/2024 22:38	WG2285945
Styrene	U		2.36	20.0	20	05/14/2024 22:38	WG2285945
1,1,1,2-Tetrachloroethane	U		2.94	20.0	20	05/14/2024 22:38	WG2285945
1,1,2,2-Tetrachloroethane	U		2.66	20.0	20	05/14/2024 22:38	WG2285945
1,1,2-Trichlorotrifluoroethane	U		3.60	20.0	20	05/14/2024 22:38	WG2285945
Tetrachloroethene	U		6.00	20.0	20	05/14/2024 22:38	WG2285945
Toluene	U		5.56	20.0	20	05/14/2024 22:38	WG2285945
1,2,3-Trichlorobenzene	U		4.60	20.0	20	05/14/2024 22:38	WG2285945
1,2,4-Trichlorobenzene	U		9.62	20.0	20	05/14/2024 22:38	WG2285945
1,1,1-Trichloroethane	U		2.98	20.0	20	05/14/2024 22:38	WG2285945
1,1,2-Trichloroethane	U		3.16	20.0	20	05/14/2024 22:38	WG2285945
Trichloroethene	U		3.80	20.0	20	05/14/2024 22:38	WG2285945
Trichlorofluoromethane	U		3.20	100	20	05/14/2024 22:38	WG2285945
1,2,3-Trichloropropane	U		4.74	50.0	20	05/14/2024 22:38	WG2285945
1,2,4-Trimethylbenzene	1100	C3	6.44	20.0	20	05/14/2024 22:38	WG2285945
1,2,3-Trimethylbenzene	310		2.08	20.0	20	05/14/2024 22:38	WG2285945
1,3,5-Trimethylbenzene	197		2.08	20.0	20	05/14/2024 22:38	WG2285945
Vinyl chloride	U		4.68	20.0	20	05/14/2024 22:38	WG2285945
Xylenes, Total	285		3.48	60.0	20	05/14/2024 22:38	WG2285945
(S) Toluene-d8	*94.6*			*80.0-120*		*05/14/2024 22:38*	WG2285945
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*05/14/2024 22:38*	WG2285945
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*05/14/2024 22:38*	WG2285945

Sample Narrative:

L1735180-01 WG2285945: 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)	891		33.3	100	1	05/14/2024 18:32	WG2284650
Residual Range Organics (RRO)	384		83.3	250	1	05/14/2024 18:32	WG2284650
(S) o-Terphenyl	*41.9*			*31.0-160*		*05/14/2024 18:32*	WG2284650

Sample Narrative:

L1735180-01 WG2284650: Sample resembles laboratory standards for Gasoline and Hydraulic Oil.

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	0.163		0.0380	0.100	2	05/15/2024 17:08	WG2284859
Acenaphthene	0.543		0.0380	0.100	2	05/15/2024 17:08	WG2284859
Acenaphthylene	U		0.0342	0.100	2	05/15/2024 17:08	WG2284859
Benzo(a)anthracene	0.114		0.0406	0.100	2	05/15/2024 17:08	WG2284859
Benzo(a)pyrene	0.100	J	0.0368	0.100	2	05/15/2024 17:08	WG2284859
Benzo(b)fluoranthene	0.123		0.0336	0.100	2	05/15/2024 17:08	WG2284859
Benzo(g,h,i)perylene	0.0622	J	0.0368	0.100	2	05/15/2024 17:08	WG2284859
Benzo(k)fluoranthene	0.0451	J	0.0404	0.100	2	05/15/2024 17:08	WG2284859
Chrysene	0.124		0.0358	0.100	2	05/15/2024 17:08	WG2284859
Dibenz(a,h)anthracene	U		0.0320	0.100	2	05/15/2024 17:08	WG2284859
Fluoranthene	0.327		0.0540	0.200	2	05/15/2024 17:08	WG2284859
Fluorene	0.451		0.0338	0.100	2	05/15/2024 17:08	WG2284859
Indeno(1,2,3-cd)pyrene	0.0540	J	0.0316	0.100	2	05/15/2024 17:08	WG2284859
Naphthalene	416		1.83	5.00	20	05/17/2024 10:00	WG2284859
Phenanthrene	0.700		0.0360	0.100	2	05/15/2024 17:08	WG2284859
Pyrene	0.267		0.0338	0.100	2	05/15/2024 17:08	WG2284859

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1-Methylnaphthalene	49.7		0.137	0.500	2	05/15/2024 17:08	WG2284859
2-Methylnaphthalene	79.7		0.135	0.500	2	05/15/2024 17:08	WG2284859
2-Chloronaphthalene	U		0.136	0.500	2	05/15/2024 17:08	WG2284859
(S) Nitrobenzene-d5	*0.000*	J7		*31.0-160*		*05/17/2024 10:00*	WG2284859
(S) Nitrobenzene-d5	*0.000*	J2		*31.0-160*		*05/15/2024 17:08*	WG2284859
(S) 2-Fluorobiphenyl	*126*	J7		*48.0-148*		*05/17/2024 10:00*	WG2284859
(S) 2-Fluorobiphenyl	*105*			*48.0-148*		*05/15/2024 17:08*	WG2284859
(S) p-Terphenyl-d14	*100*			*37.0-146*		*05/15/2024 17:08*	WG2284859
(S) p-Terphenyl-d14	*127*	J7		*37.0-146*		*05/17/2024 10:00*	WG2284859

Sample Narrative:

L1735180-01 WG2284859: Dilution due to matrix impact during extraction procedure. Surrogate failure due to matrix.

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	6380		316	1000	10	05/14/2024 06:59	WG2285717
(S) a,a,a-Trifluorotoluene(FID)	*110*			*78.0-120*		*05/14/2024 06:59*	WG2285717

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	05/14/2024 22:56	WG2285945
Acrolein	U	C3	50.8	1000	20	05/14/2024 22:56	WG2285945
Acrylonitrile	U		13.4	200	20	05/14/2024 22:56	WG2285945
Benzene	U		1.88	20.0	20	05/14/2024 22:56	WG2285945
Bromobenzene	U		2.36	20.0	20	05/14/2024 22:56	WG2285945
Bromodichloromethane	U		2.72	20.0	20	05/14/2024 22:56	WG2285945
Bromoform	U		2.58	20.0	20	05/14/2024 22:56	WG2285945
Bromomethane	U	C3	12.1	100	20	05/14/2024 22:56	WG2285945
n-Butylbenzene	U	C3	3.14	20.0	20	05/14/2024 22:56	WG2285945
sec-Butylbenzene	9.30	J	2.50	20.0	20	05/14/2024 22:56	WG2285945
tert-Butylbenzene	U	C3	2.54	20.0	20	05/14/2024 22:56	WG2285945
Carbon disulfide	U		1.92	20.0	20	05/14/2024 22:56	WG2285945
Carbon tetrachloride	U		2.56	20.0	20	05/14/2024 22:56	WG2285945
Chlorobenzene	U		2.32	20.0	20	05/14/2024 22:56	WG2285945
Chlorodibromomethane	U		2.80	20.0	20	05/14/2024 22:56	WG2285945
Chloroethane	U	C3	3.84	100	20	05/14/2024 22:56	WG2285945
Chloroform	U		2.22	100	20	05/14/2024 22:56	WG2285945
Chloromethane	U		19.2	50.0	20	05/14/2024 22:56	WG2285945
2-Chlorotoluene	U		2.12	20.0	20	05/14/2024 22:56	WG2285945
4-Chlorotoluene	U		2.28	20.0	20	05/14/2024 22:56	WG2285945
1,2-Dibromo-3-Chloropropane	U		5.52	100	20	05/14/2024 22:56	WG2285945
1,2-Dibromoethane	U		2.52	20.0	20	05/14/2024 22:56	WG2285945
Dibromomethane	U		2.44	20.0	20	05/14/2024 22:56	WG2285945
1,2-Dichlorobenzene	U		2.14	20.0	20	05/14/2024 22:56	WG2285945
1,3-Dichlorobenzene	U		2.20	20.0	20	05/14/2024 22:56	WG2285945
1,4-Dichlorobenzene	U		2.40	20.0	20	05/14/2024 22:56	WG2285945
Dichlorodifluoromethane	U	C3	7.48	100	20	05/14/2024 22:56	WG2285945
1,1-Dichloroethane	U		2.00	20.0	20	05/14/2024 22:56	WG2285945
1,2-Dichloroethane	U		1.64	20.0	20	05/14/2024 22:56	WG2285945
1,1-Dichloroethene	U		3.76	20.0	20	05/14/2024 22:56	WG2285945
cis-1,2-Dichloroethene	U		2.52	20.0	20	05/14/2024 22:56	WG2285945
trans-1,2-Dichloroethene	U		2.98	20.0	20	05/14/2024 22:56	WG2285945
1,2-Dichloropropane	U		2.98	20.0	20	05/14/2024 22:56	WG2285945
1,1-Dichloropropene	U		2.84	20.0	20	05/14/2024 22:56	WG2285945
1,3-Dichloropropane	U		2.20	20.0	20	05/14/2024 22:56	WG2285945
cis-1,3-Dichloropropene	U		2.22	20.0	20	05/14/2024 22:56	WG2285945
trans-1,3-Dichloropropene	U		2.36	20.0	20	05/14/2024 22:56	WG2285945
2,2-Dichloropropane	U		3.22	20.0	20	05/14/2024 22:56	WG2285945
Di-isopropyl ether	U		2.10	20.0	20	05/14/2024 22:56	WG2285945
Ethylbenzene	358		2.74	20.0	20	05/14/2024 22:56	WG2285945
Hexachloro-1,3-butadiene	U	J3	6.74	20.0	20	05/14/2024 22:56	WG2285945
Isopropylbenzene	69.3		2.10	20.0	20	05/14/2024 22:56	WG2285945
p-Isopropyltoluene	3.70	J	2.40	20.0	20	05/14/2024 22:56	WG2285945
2-Butanone (MEK)	U		23.8	200	20	05/14/2024 22:56	WG2285945
Methylene Chloride	U		8.60	100	20	05/14/2024 22:56	WG2285945
4-Methyl-2-pentanone (MIBK)	U		9.56	200	20	05/14/2024 22:56	WG2285945
Methyl tert-butyl ether	U		2.02	20.0	20	05/14/2024 22:56	WG2285945
Naphthalene	437	C3	20.0	100	20	05/14/2024 22:56	WG2285945

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	275		1.99	20.0	20	05/14/2024 22:56	WG2285945
Styrene	U		2.36	20.0	20	05/14/2024 22:56	WG2285945
1,1,1,2-Tetrachloroethane	U		2.94	20.0	20	05/14/2024 22:56	WG2285945
1,1,2,2-Tetrachloroethane	U		2.66	20.0	20	05/14/2024 22:56	WG2285945
1,1,2-Trichlorotrifluoroethane	U		3.60	20.0	20	05/14/2024 22:56	WG2285945
Tetrachloroethene	U		6.00	20.0	20	05/14/2024 22:56	WG2285945
Toluene	U		5.56	20.0	20	05/14/2024 22:56	WG2285945
1,2,3-Trichlorobenzene	U		4.60	20.0	20	05/14/2024 22:56	WG2285945
1,2,4-Trichlorobenzene	U		9.62	20.0	20	05/14/2024 22:56	WG2285945
1,1,1-Trichloroethane	U		2.98	20.0	20	05/14/2024 22:56	WG2285945
1,1,2-Trichloroethane	U		3.16	20.0	20	05/14/2024 22:56	WG2285945
Trichloroethene	U		3.80	20.0	20	05/14/2024 22:56	WG2285945
Trichlorofluoromethane	U		3.20	100	20	05/14/2024 22:56	WG2285945
1,2,3-Trichloropropane	U		4.74	50.0	20	05/14/2024 22:56	WG2285945
1,2,4-Trimethylbenzene	1040	C3	6.44	20.0	20	05/14/2024 22:56	WG2285945
1,2,3-Trimethylbenzene	301		2.08	20.0	20	05/14/2024 22:56	WG2285945
1,3,5-Trimethylbenzene	174		2.08	20.0	20	05/14/2024 22:56	WG2285945
Vinyl chloride	U		4.68	20.0	20	05/14/2024 22:56	WG2285945
Xylenes, Total	281		3.48	60.0	20	05/14/2024 22:56	WG2285945
(S) Toluene-d8	*93.5*			*80.0-120*		*05/14/2024 22:56*	WG2285945
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*05/14/2024 22:56*	WG2285945
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*05/14/2024 22:56*	WG2285945

Sample Narrative:

L1735180-02 WG2285945: 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)	925		33.3	100	1	05/14/2024 18:52	WG2284650
Residual Range Organics (RRO)	402		83.3	250	1	05/14/2024 18:52	WG2284650
(S) o-Terphenyl	*56.5*			*31.0-160*		*05/14/2024 18:52*	WG2284650

Sample Narrative:

L1735180-02 WG2284650: Sample resembles laboratory standards for Gasoline and Hydraulic Oil.

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	0.157		0.0380	0.100	2	05/15/2024 17:28	WG2284859
Acenaphthene	0.551		0.0380	0.100	2	05/15/2024 17:28	WG2284859
Acenaphthylene	U		0.0342	0.100	2	05/15/2024 17:28	WG2284859
Benzo(a)anthracene	0.113		0.0406	0.100	2	05/15/2024 17:28	WG2284859
Benzo(a)pyrene	0.0899	J	0.0368	0.100	2	05/15/2024 17:28	WG2284859
Benzo(b)fluoranthene	0.117		0.0336	0.100	2	05/15/2024 17:28	WG2284859
Benzo(g,h,i)perylene	0.0602	J	0.0368	0.100	2	05/15/2024 17:28	WG2284859
Benzo(k)fluoranthene	0.0466	J	0.0404	0.100	2	05/15/2024 17:28	WG2284859
Chrysene	0.115		0.0358	0.100	2	05/15/2024 17:28	WG2284859
Dibenz(a,h)anthracene	U		0.0320	0.100	2	05/15/2024 17:28	WG2284859
Fluoranthene	0.344		0.0540	0.200	2	05/15/2024 17:28	WG2284859
Fluorene	0.455		0.0338	0.100	2	05/15/2024 17:28	WG2284859
Indeno(1,2,3-cd)pyrene	0.0468	J	0.0316	0.100	2	05/15/2024 17:28	WG2284859
Naphthalene	447		1.83	5.00	20	05/17/2024 10:18	WG2284859
Phenanthrene	0.710		0.0360	0.100	2	05/15/2024 17:28	WG2284859
Pyrene	0.266		0.0338	0.100	2	05/15/2024 17:28	WG2284859

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1-Methylnaphthalene	49.8		0.137	0.500	2	05/15/2024 17:28	WG2284859
2-Methylnaphthalene	81.0		0.135	0.500	2	05/15/2024 17:28	WG2284859
2-Chloronaphthalene	U		0.136	0.500	2	05/15/2024 17:28	WG2284859
(S) Nitrobenzene-d5	*0.000*	J2		*31.0-160*		*05/15/2024 17:28*	WG2284859
(S) Nitrobenzene-d5	*0.000*	J7		*31.0-160*		*05/17/2024 10:18*	WG2284859
(S) 2-Fluorobiphenyl	*104*			*48.0-148*		*05/15/2024 17:28*	WG2284859
(S) 2-Fluorobiphenyl	*139*	J7		*48.0-148*		*05/17/2024 10:18*	WG2284859
(S) p-Terphenyl-d14	*101*			*37.0-146*		*05/15/2024 17:28*	WG2284859
(S) p-Terphenyl-d14	*135*	J7		*37.0-146*		*05/17/2024 10:18*	WG2284859

Sample Narrative:

L1735180-02 WG2284859: Dilution due to matrix impact during extraction procedure. Surrogate failure due to matrix.

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	U		31.6	100	1	05/14/2024 03:34	WG2285717
(S) a,a,a-Trifluorotoluene(FID)	*110*			*78.0-120*		*05/14/2024 03:34*	WG2285717

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	05/14/2024 19:31	WG2285945
Acrolein	U	C3	2.54	50.0	1	05/14/2024 19:31	WG2285945
Acrylonitrile	U		0.671	10.0	1	05/14/2024 19:31	WG2285945
Benzene	U		0.0941	1.00	1	05/18/2024 12:47	WG2288614
Bromobenzene	U		0.118	1.00	1	05/14/2024 19:31	WG2285945
Bromodichloromethane	U		0.136	1.00	1	05/14/2024 19:31	WG2285945
Bromoform	U		0.129	1.00	1	05/14/2024 19:31	WG2285945
Bromomethane	U	C3	0.605	5.00	1	05/14/2024 19:31	WG2285945
n-Butylbenzene	U	C3	0.157	1.00	1	05/14/2024 19:31	WG2285945
sec-Butylbenzene	U		0.125	1.00	1	05/14/2024 19:31	WG2285945
tert-Butylbenzene	U	C3	0.127	1.00	1	05/14/2024 19:31	WG2285945
Carbon disulfide	U		0.0962	1.00	1	05/14/2024 19:31	WG2285945
Carbon tetrachloride	U		0.128	1.00	1	05/14/2024 19:31	WG2285945
Chlorobenzene	U		0.116	1.00	1	05/14/2024 19:31	WG2285945
Chlorodibromomethane	U		0.140	1.00	1	05/14/2024 19:31	WG2285945
Chloroethane	U	C3	0.192	5.00	1	05/14/2024 19:31	WG2285945
Chloroform	U		0.111	5.00	1	05/14/2024 19:31	WG2285945
Chloromethane	U		0.960	2.50	1	05/14/2024 19:31	WG2285945
2-Chlorotoluene	U		0.106	1.00	1	05/14/2024 19:31	WG2285945
4-Chlorotoluene	U		0.114	1.00	1	05/14/2024 19:31	WG2285945
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/14/2024 19:31	WG2285945
1,2-Dibromoethane	U		0.126	1.00	1	05/14/2024 19:31	WG2285945
Dibromomethane	U		0.122	1.00	1	05/14/2024 19:31	WG2285945
1,2-Dichlorobenzene	U		0.107	1.00	1	05/14/2024 19:31	WG2285945
1,3-Dichlorobenzene	U		0.110	1.00	1	05/14/2024 19:31	WG2285945
1,4-Dichlorobenzene	U		0.120	1.00	1	05/14/2024 19:31	WG2285945
Dichlorodifluoromethane	U	C3	0.374	5.00	1	05/14/2024 19:31	WG2285945
1,1-Dichloroethane	U		0.100	1.00	1	05/14/2024 19:31	WG2285945
1,2-Dichloroethane	U		0.0819	1.00	1	05/14/2024 19:31	WG2285945
1,1-Dichloroethene	U		0.188	1.00	1	05/14/2024 19:31	WG2285945
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/14/2024 19:31	WG2285945
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/14/2024 19:31	WG2285945
1,2-Dichloropropane	U		0.149	1.00	1	05/14/2024 19:31	WG2285945
1,1-Dichloropropene	U		0.142	1.00	1	05/14/2024 19:31	WG2285945
1,3-Dichloropropane	U		0.110	1.00	1	05/14/2024 19:31	WG2285945
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/14/2024 19:31	WG2285945
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/14/2024 19:31	WG2285945
2,2-Dichloropropane	U		0.161	1.00	1	05/14/2024 19:31	WG2285945
Di-isopropyl ether	U		0.105	1.00	1	05/14/2024 19:31	WG2285945
Ethylbenzene	U		0.137	1.00	1	05/18/2024 12:47	WG2288614
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	05/14/2024 19:31	WG2285945
Isopropylbenzene	U		0.105	1.00	1	05/14/2024 19:31	WG2285945
p-Isopropyltoluene	U		0.120	1.00	1	05/14/2024 19:31	WG2285945
2-Butanone (MEK)	U		1.19	10.0	1	05/14/2024 19:31	WG2285945
Methylene Chloride	U		0.430	5.00	1	05/14/2024 19:31	WG2285945
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/14/2024 19:31	WG2285945
Methyl tert-butyl ether	U		0.101	1.00	1	05/14/2024 19:31	WG2285945
Naphthalene	U		1.00	5.00	1	05/18/2024 12:47	WG2288614

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	U		0.0993	1.00	1	05/14/2024 19:31	WG2285945
Styrene	U		0.118	1.00	1	05/14/2024 19:31	WG2285945
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/14/2024 19:31	WG2285945
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/14/2024 19:31	WG2285945
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/14/2024 19:31	WG2285945
Tetrachloroethene	U		0.300	1.00	1	05/14/2024 19:31	WG2285945
Toluene	U		0.278	1.00	1	05/18/2024 12:47	WG2288614
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/14/2024 19:31	WG2285945
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/14/2024 19:31	WG2285945
1,1,1-Trichloroethane	U		0.149	1.00	1	05/14/2024 19:31	WG2285945
1,1,2-Trichloroethane	U		0.158	1.00	1	05/14/2024 19:31	WG2285945
Trichloroethene	U		0.190	1.00	1	05/14/2024 19:31	WG2285945
Trichlorofluoromethane	U		0.160	5.00	1	05/14/2024 19:31	WG2285945
1,2,3-Trichloropropane	U		0.237	2.50	1	05/14/2024 19:31	WG2285945
1,2,4-Trimethylbenzene	U	C3	0.322	1.00	1	05/14/2024 19:31	WG2285945
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/18/2024 12:47	WG2288614
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/14/2024 19:31	WG2285945
Vinyl chloride	U		0.234	1.00	1	05/14/2024 19:31	WG2285945
Xylenes, Total	U		0.174	3.00	1	05/18/2024 12:47	WG2288614
(S) Toluene-d8	*87.1*			*80.0-120*		*05/14/2024 19:31*	WG2285945
(S) Toluene-d8	*104*			*80.0-120*		*05/18/2024 12:47*	WG2288614
(S) 4-Bromofluorobenzene	*81.8*			*77.0-126*		*05/14/2024 19:31*	WG2285945
(S) 4-Bromofluorobenzene	*92.4*			*77.0-126*		*05/18/2024 12:47*	WG2288614
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*05/14/2024 19:31*	WG2285945
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*		*05/18/2024 12:47*	WG2288614

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Diesel Range Organics (DRO)	U		33.3	100	1	05/14/2024 19:12	WG2284650
Residual Range Organics (RRO)	237	J	83.3	250	1	05/14/2024 19:12	WG2284650
(S) o-Terphenyl	*50.5*			*31.0-160*		*05/14/2024 19:12*	WG2284650

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Anthracene	U		0.0190	0.0500	1	05/15/2024 17:47	WG2284859
Acenaphthene	U		0.0190	0.0500	1	05/15/2024 17:47	WG2284859
Acenaphthylene	U		0.0171	0.0500	1	05/15/2024 17:47	WG2284859
Benzo(a)anthracene	U		0.0203	0.0500	1	05/15/2024 17:47	WG2284859
Benzo(a)pyrene	U		0.0184	0.0500	1	05/15/2024 17:47	WG2284859
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/15/2024 17:47	WG2284859
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/15/2024 17:47	WG2284859
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/15/2024 17:47	WG2284859
Chrysene	U		0.0179	0.0500	1	05/15/2024 17:47	WG2284859
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/15/2024 17:47	WG2284859
Fluoranthene	U		0.0270	0.100	1	05/15/2024 17:47	WG2284859
Fluorene	U		0.0169	0.0500	1	05/15/2024 17:47	WG2284859
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/15/2024 17:47	WG2284859
Naphthalene	U		0.0917	0.250	1	05/15/2024 17:47	WG2284859
Phenanthrene	U		0.0180	0.0500	1	05/15/2024 17:47	WG2284859
Pyrene	U		0.0169	0.0500	1	05/15/2024 17:47	WG2284859
1-Methylnaphthalene	U		0.0687	0.250	1	05/15/2024 17:47	WG2284859
2-Methylnaphthalene	U		0.0674	0.250	1	05/15/2024 17:47	WG2284859
2-Chloronaphthalene	U		0.0682	0.250	1	05/15/2024 17:47	WG2284859

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) Nitrobenzene-d5	*83.7*			*31.0-160*		*05/15/2024 17:47*	WG2284859
(S) 2-Fluorobiphenyl	*112*			*48.0-148*		*05/15/2024 17:47*	WG2284859
(S) p-Terphenyl-d14	*110*			*37.0-146*		*05/15/2024 17:47*	WG2284859

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	U		31.6	100	1	05/14/2024 03:57	WG2285717
(S) a,a,a-Trifluorotoluene(FID)	*110*			*78.0-120*		*05/14/2024 03:57*	WG2285717

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	05/14/2024 19:50	WG2285945
Acrolein	U	C3	2.54	50.0	1	05/14/2024 19:50	WG2285945
Acrylonitrile	U		0.671	10.0	1	05/14/2024 19:50	WG2285945
Benzene	U		0.0941	1.00	1	05/14/2024 19:50	WG2285945
Bromobenzene	U		0.118	1.00	1	05/14/2024 19:50	WG2285945
Bromodichloromethane	U		0.136	1.00	1	05/14/2024 19:50	WG2285945
Bromoform	U		0.129	1.00	1	05/14/2024 19:50	WG2285945
Bromomethane	U	C3	0.605	5.00	1	05/14/2024 19:50	WG2285945
n-Butylbenzene	U	C3	0.157	1.00	1	05/14/2024 19:50	WG2285945
sec-Butylbenzene	U		0.125	1.00	1	05/14/2024 19:50	WG2285945
tert-Butylbenzene	U	C3	0.127	1.00	1	05/14/2024 19:50	WG2285945
Carbon disulfide	U		0.0962	1.00	1	05/14/2024 19:50	WG2285945
Carbon tetrachloride	U		0.128	1.00	1	05/14/2024 19:50	WG2285945
Chlorobenzene	U		0.116	1.00	1	05/14/2024 19:50	WG2285945
Chlorodibromomethane	U		0.140	1.00	1	05/14/2024 19:50	WG2285945
Chloroethane	U	C3	0.192	5.00	1	05/14/2024 19:50	WG2285945
Chloroform	U		0.111	5.00	1	05/14/2024 19:50	WG2285945
Chloromethane	U		0.960	2.50	1	05/14/2024 19:50	WG2285945
2-Chlorotoluene	U		0.106	1.00	1	05/14/2024 19:50	WG2285945
4-Chlorotoluene	U		0.114	1.00	1	05/14/2024 19:50	WG2285945
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/14/2024 19:50	WG2285945
1,2-Dibromoethane	U		0.126	1.00	1	05/14/2024 19:50	WG2285945
Dibromomethane	U		0.122	1.00	1	05/14/2024 19:50	WG2285945
1,2-Dichlorobenzene	U		0.107	1.00	1	05/14/2024 19:50	WG2285945
1,3-Dichlorobenzene	U		0.110	1.00	1	05/14/2024 19:50	WG2285945
1,4-Dichlorobenzene	U		0.120	1.00	1	05/14/2024 19:50	WG2285945
Dichlorodifluoromethane	U	C3	0.374	5.00	1	05/14/2024 19:50	WG2285945
1,1-Dichloroethane	U		0.100	1.00	1	05/14/2024 19:50	WG2285945
1,2-Dichloroethane	U		0.0819	1.00	1	05/14/2024 19:50	WG2285945
1,1-Dichloroethene	U		0.188	1.00	1	05/14/2024 19:50	WG2285945
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/14/2024 19:50	WG2285945
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/14/2024 19:50	WG2285945
1,2-Dichloropropane	U		0.149	1.00	1	05/14/2024 19:50	WG2285945
1,1-Dichloropropene	U		0.142	1.00	1	05/14/2024 19:50	WG2285945
1,3-Dichloropropane	U		0.110	1.00	1	05/14/2024 19:50	WG2285945
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/14/2024 19:50	WG2285945
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/14/2024 19:50	WG2285945
2,2-Dichloropropane	U		0.161	1.00	1	05/14/2024 19:50	WG2285945
Di-isopropyl ether	U		0.105	1.00	1	05/14/2024 19:50	WG2285945
Ethylbenzene	U		0.137	1.00	1	05/14/2024 19:50	WG2285945
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	05/14/2024 19:50	WG2285945
Isopropylbenzene	U		0.105	1.00	1	05/14/2024 19:50	WG2285945
p-Isopropyltoluene	U		0.120	1.00	1	05/14/2024 19:50	WG2285945
2-Butanone (MEK)	U		1.19	10.0	1	05/14/2024 19:50	WG2285945
Methylene Chloride	U		0.430	5.00	1	05/14/2024 19:50	WG2285945
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/14/2024 19:50	WG2285945
Methyl tert-butyl ether	U		0.101	1.00	1	05/14/2024 19:50	WG2285945
Naphthalene	U	C3	1.00	5.00	1	05/14/2024 19:50	WG2285945

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	05/14/2024 19:50	WG2285945
Styrene	U		0.118	1.00	1	05/14/2024 19:50	WG2285945
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/14/2024 19:50	WG2285945
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/14/2024 19:50	WG2285945
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/14/2024 19:50	WG2285945
Tetrachloroethene	U		0.300	1.00	1	05/14/2024 19:50	WG2285945
Toluene	U		0.278	1.00	1	05/14/2024 19:50	WG2285945
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/14/2024 19:50	WG2285945
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/14/2024 19:50	WG2285945
1,1,1-Trichloroethane	U		0.149	1.00	1	05/14/2024 19:50	WG2285945
1,1,2-Trichloroethane	U		0.158	1.00	1	05/14/2024 19:50	WG2285945
Trichloroethene	U		0.190	1.00	1	05/14/2024 19:50	WG2285945
Trichlorofluoromethane	U		0.160	5.00	1	05/14/2024 19:50	WG2285945
1,2,3-Trichloropropane	U		0.237	2.50	1	05/14/2024 19:50	WG2285945
1,2,4-Trimethylbenzene	U	C3	0.322	1.00	1	05/14/2024 19:50	WG2285945
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/14/2024 19:50	WG2285945
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/14/2024 19:50	WG2285945
Vinyl chloride	U		0.234	1.00	1	05/14/2024 19:50	WG2285945
Xylenes, Total	U		0.174	3.00	1	05/14/2024 19:50	WG2285945
(S) Toluene-d8	*94.6*			*80.0-120*		*05/14/2024 19:50*	WG2285945
(S) 4-Bromofluorobenzene	*98.0*			*77.0-126*		*05/14/2024 19:50*	WG2285945
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*05/14/2024 19:50*	WG2285945

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		33.3	100	1	05/14/2024 19:32	WG2284650
Residual Range Organics (RRO)	202	J	83.3	250	1	05/14/2024 19:32	WG2284650
(S) o-Terphenyl	*41.6*			*31.0-160*		*05/14/2024 19:32*	WG2284650

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	05/15/2024 18:07	WG2284859
Acenaphthene	U		0.0190	0.0500	1	05/15/2024 18:07	WG2284859
Acenaphthylene	U		0.0171	0.0500	1	05/15/2024 18:07	WG2284859
Benzo(a)anthracene	U		0.0203	0.0500	1	05/15/2024 18:07	WG2284859
Benzo(a)pyrene	U		0.0184	0.0500	1	05/15/2024 18:07	WG2284859
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/15/2024 18:07	WG2284859
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/15/2024 18:07	WG2284859
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/15/2024 18:07	WG2284859
Chrysene	U		0.0179	0.0500	1	05/15/2024 18:07	WG2284859
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/15/2024 18:07	WG2284859
Fluoranthene	U		0.0270	0.100	1	05/15/2024 18:07	WG2284859
Fluorene	U		0.0169	0.0500	1	05/15/2024 18:07	WG2284859
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/15/2024 18:07	WG2284859
Naphthalene	U		0.0917	0.250	1	05/15/2024 18:07	WG2284859
Phenanthrene	U		0.0180	0.0500	1	05/15/2024 18:07	WG2284859
Pyrene	U		0.0169	0.0500	1	05/15/2024 18:07	WG2284859
1-Methylnaphthalene	U		0.0687	0.250	1	05/15/2024 18:07	WG2284859
2-Methylnaphthalene	U		0.0674	0.250	1	05/15/2024 18:07	WG2284859
2-Chloronaphthalene	U		0.0682	0.250	1	05/15/2024 18:07	WG2284859
(S) Nitrobenzene-d5	*83.7*			*31.0-160*		*05/15/2024 18:07*	WG2284859
(S) 2-Fluorobiphenyl	*113*			*48.0-148*		*05/15/2024 18:07*	WG2284859
(S) p-Terphenyl-d14	*113*			*37.0-146*		*05/15/2024 18:07*	WG2284859

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	1190		31.6	100	1	05/14/2024 04:20	WG2285717
(S) a,a,a-Trifluorotoluene(FID)	*111*			*78.0-120*		*05/14/2024 04:20*	WG2285717

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	05/14/2024 20:09	WG2285945
Acrolein	U	C3	2.54	50.0	1	05/14/2024 20:09	WG2285945
Acrylonitrile	U		0.671	10.0	1	05/14/2024 20:09	WG2285945
Benzene	0.100	J	0.0941	1.00	1	05/14/2024 20:09	WG2285945
Bromobenzene	U		0.118	1.00	1	05/14/2024 20:09	WG2285945
Bromodichloromethane	U		0.136	1.00	1	05/14/2024 20:09	WG2285945
Bromoform	U		0.129	1.00	1	05/14/2024 20:09	WG2285945
Bromomethane	U	C3	0.605	5.00	1	05/14/2024 20:09	WG2285945
n-Butylbenzene	U	C3	0.157	1.00	1	05/14/2024 20:09	WG2285945
sec-Butylbenzene	0.307	J	0.125	1.00	1	05/14/2024 20:09	WG2285945
tert-Butylbenzene	U	C3	0.127	1.00	1	05/14/2024 20:09	WG2285945
Carbon disulfide	U		0.0962	1.00	1	05/14/2024 20:09	WG2285945
Carbon tetrachloride	U		0.128	1.00	1	05/14/2024 20:09	WG2285945
Chlorobenzene	U		0.116	1.00	1	05/14/2024 20:09	WG2285945
Chlorodibromomethane	U		0.140	1.00	1	05/14/2024 20:09	WG2285945
Chloroethane	U	C3	0.192	5.00	1	05/14/2024 20:09	WG2285945
Chloroform	1.40	J	0.111	5.00	1	05/14/2024 20:09	WG2285945
Chloromethane	U		0.960	2.50	1	05/14/2024 20:09	WG2285945
2-Chlorotoluene	U		0.106	1.00	1	05/14/2024 20:09	WG2285945
4-Chlorotoluene	U		0.114	1.00	1	05/14/2024 20:09	WG2285945
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/14/2024 20:09	WG2285945
1,2-Dibromoethane	U		0.126	1.00	1	05/14/2024 20:09	WG2285945
Dibromomethane	U		0.122	1.00	1	05/14/2024 20:09	WG2285945
1,2-Dichlorobenzene	U		0.107	1.00	1	05/14/2024 20:09	WG2285945
1,3-Dichlorobenzene	U		0.110	1.00	1	05/14/2024 20:09	WG2285945
1,4-Dichlorobenzene	U		0.120	1.00	1	05/14/2024 20:09	WG2285945
Dichlorodifluoromethane	U	C3	0.374	5.00	1	05/14/2024 20:09	WG2285945
1,1-Dichloroethane	U		0.100	1.00	1	05/14/2024 20:09	WG2285945
1,2-Dichloroethane	U		0.0819	1.00	1	05/14/2024 20:09	WG2285945
1,1-Dichloroethene	U		0.188	1.00	1	05/14/2024 20:09	WG2285945
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/14/2024 20:09	WG2285945
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/14/2024 20:09	WG2285945
1,2-Dichloropropane	U		0.149	1.00	1	05/14/2024 20:09	WG2285945
1,1-Dichloropropene	U		0.142	1.00	1	05/14/2024 20:09	WG2285945
1,3-Dichloropropane	U		0.110	1.00	1	05/14/2024 20:09	WG2285945
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/14/2024 20:09	WG2285945
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/14/2024 20:09	WG2285945
2,2-Dichloropropane	U		0.161	1.00	1	05/14/2024 20:09	WG2285945
Di-isopropyl ether	U		0.105	1.00	1	05/14/2024 20:09	WG2285945
Ethylbenzene	U		0.137	1.00	1	05/14/2024 20:09	WG2285945
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	05/14/2024 20:09	WG2285945
Isopropylbenzene	0.234	J	0.105	1.00	1	05/14/2024 20:09	WG2285945
p-Isopropyltoluene	U		0.120	1.00	1	05/14/2024 20:09	WG2285945
2-Butanone (MEK)	U		1.19	10.0	1	05/14/2024 20:09	WG2285945
Methylene Chloride	U		0.430	5.00	1	05/14/2024 20:09	WG2285945
4-Methyl-2-pentanone (MIBK)	1.15	J	0.478	10.0	1	05/14/2024 20:09	WG2285945
Methyl tert-butyl ether	U		0.101	1.00	1	05/14/2024 20:09	WG2285945
Naphthalene	U	C3	1.00	5.00	1	05/14/2024 20:09	WG2285945

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	0.441	J	0.0993	1.00	1	05/14/2024 20:09	WG2285945
Styrene	U		0.118	1.00	1	05/14/2024 20:09	WG2285945
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/14/2024 20:09	WG2285945
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/14/2024 20:09	WG2285945
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/14/2024 20:09	WG2285945
Tetrachloroethene	U		0.300	1.00	1	05/14/2024 20:09	WG2285945
Toluene	2.75		0.278	1.00	1	05/14/2024 20:09	WG2285945
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/14/2024 20:09	WG2285945
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/14/2024 20:09	WG2285945
1,1,1-Trichloroethane	U		0.149	1.00	1	05/14/2024 20:09	WG2285945
1,1,2-Trichloroethane	U		0.158	1.00	1	05/14/2024 20:09	WG2285945
Trichloroethene	U		0.190	1.00	1	05/14/2024 20:09	WG2285945
Trichlorofluoromethane	U		0.160	5.00	1	05/14/2024 20:09	WG2285945
1,2,3-Trichloropropane	U		0.237	2.50	1	05/14/2024 20:09	WG2285945
1,2,4-Trimethylbenzene	U	C3	0.322	1.00	1	05/14/2024 20:09	WG2285945
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/14/2024 20:09	WG2285945
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/14/2024 20:09	WG2285945
Vinyl chloride	U		0.234	1.00	1	05/14/2024 20:09	WG2285945
Xylenes, Total	U		0.174	3.00	1	05/14/2024 20:09	WG2285945
(S) Toluene-d8	*98.8*			*80.0-120*		*05/14/2024 20:09*	WG2285945
(S) 4-Bromofluorobenzene	*96.9*			*77.0-126*		*05/14/2024 20:09*	WG2285945
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*05/14/2024 20:09*	WG2285945

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		33.3	100	1	05/14/2024 19:52	WG2284650
Residual Range Organics (RRO)	179	J	83.3	250	1	05/14/2024 19:52	WG2284650
(S) o-Terphenyl	*48.6*			*31.0-160*		*05/14/2024 19:52*	WG2284650

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	05/15/2024 18:26	WG2284859
Acenaphthene	U		0.0190	0.0500	1	05/15/2024 18:26	WG2284859
Acenaphthylene	U		0.0171	0.0500	1	05/15/2024 18:26	WG2284859
Benzo(a)anthracene	U		0.0203	0.0500	1	05/15/2024 18:26	WG2284859
Benzo(a)pyrene	U		0.0184	0.0500	1	05/15/2024 18:26	WG2284859
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/15/2024 18:26	WG2284859
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/15/2024 18:26	WG2284859
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/15/2024 18:26	WG2284859
Chrysene	U		0.0179	0.0500	1	05/15/2024 18:26	WG2284859
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/15/2024 18:26	WG2284859
Fluoranthene	U		0.0270	0.100	1	05/15/2024 18:26	WG2284859
Fluorene	U		0.0169	0.0500	1	05/15/2024 18:26	WG2284859
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/15/2024 18:26	WG2284859
Naphthalene	U		0.0917	0.250	1	05/15/2024 18:26	WG2284859
Phenanthrene	U		0.0180	0.0500	1	05/15/2024 18:26	WG2284859
Pyrene	U		0.0169	0.0500	1	05/15/2024 18:26	WG2284859
1-Methylnaphthalene	U		0.0687	0.250	1	05/15/2024 18:26	WG2284859
2-Methylnaphthalene	U		0.0674	0.250	1	05/15/2024 18:26	WG2284859
2-Chloronaphthalene	U		0.0682	0.250	1	05/15/2024 18:26	WG2284859
(S) Nitrobenzene-d5	*80.0*			*31.0-160*		*05/15/2024 18:26*	WG2284859
(S) 2-Fluorobiphenyl	*106*			*48.0-148*		*05/15/2024 18:26*	WG2284859
(S) p-Terphenyl-d14	*103*			*37.0-146*		*05/15/2024 18:26*	WG2284859

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	17300		316	1000	10	05/14/2024 07:21	WG2285717
(S) a,a,a-Trifluorotoluene(FID)	*109*			*78.0-120*		*05/14/2024 07:21*	WG2285717

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	05/14/2024 23:15	WG2285945
Acrolein	U	C3	25.4	500	10	05/14/2024 23:15	WG2285945
Acrylonitrile	U		6.71	100	10	05/14/2024 23:15	WG2285945
Benzene	219		0.941	10.0	10	05/14/2024 23:15	WG2285945
Bromobenzene	U		1.18	10.0	10	05/14/2024 23:15	WG2285945
Bromodichloromethane	U		1.36	10.0	10	05/14/2024 23:15	WG2285945
Bromoform	U		1.29	10.0	10	05/14/2024 23:15	WG2285945
Bromomethane	U	C3	6.05	50.0	10	05/14/2024 23:15	WG2285945
n-Butylbenzene	4.65	C3 J	1.57	10.0	10	05/14/2024 23:15	WG2285945
sec-Butylbenzene	4.66	J	1.25	10.0	10	05/14/2024 23:15	WG2285945
tert-Butylbenzene	U	C3	1.27	10.0	10	05/14/2024 23:15	WG2285945
Carbon disulfide	U		0.962	10.0	10	05/14/2024 23:15	WG2285945
Carbon tetrachloride	U		1.28	10.0	10	05/14/2024 23:15	WG2285945
Chlorobenzene	U		1.16	10.0	10	05/14/2024 23:15	WG2285945
Chlorodibromomethane	U		1.40	10.0	10	05/14/2024 23:15	WG2285945
Chloroethane	U	C3	1.92	50.0	10	05/14/2024 23:15	WG2285945
Chloroform	U		1.11	50.0	10	05/14/2024 23:15	WG2285945
Chloromethane	U		9.60	25.0	10	05/14/2024 23:15	WG2285945
2-Chlorotoluene	U		1.06	10.0	10	05/14/2024 23:15	WG2285945
4-Chlorotoluene	U		1.14	10.0	10	05/14/2024 23:15	WG2285945
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	05/14/2024 23:15	WG2285945
1,2-Dibromoethane	U		1.26	10.0	10	05/14/2024 23:15	WG2285945
Dibromomethane	U		1.22	10.0	10	05/14/2024 23:15	WG2285945
1,2-Dichlorobenzene	U		1.07	10.0	10	05/14/2024 23:15	WG2285945
1,3-Dichlorobenzene	U		1.10	10.0	10	05/14/2024 23:15	WG2285945
1,4-Dichlorobenzene	U		1.20	10.0	10	05/14/2024 23:15	WG2285945
Dichlorodifluoromethane	U	C3	3.74	50.0	10	05/14/2024 23:15	WG2285945
1,1-Dichloroethane	U		1.00	10.0	10	05/14/2024 23:15	WG2285945
1,2-Dichloroethane	U		0.819	10.0	10	05/14/2024 23:15	WG2285945
1,1-Dichloroethene	U		1.88	10.0	10	05/14/2024 23:15	WG2285945
cis-1,2-Dichloroethene	U		1.26	10.0	10	05/14/2024 23:15	WG2285945
trans-1,2-Dichloroethene	U		1.49	10.0	10	05/14/2024 23:15	WG2285945
1,2-Dichloropropane	U		1.49	10.0	10	05/14/2024 23:15	WG2285945
1,1-Dichloropropene	U		1.42	10.0	10	05/14/2024 23:15	WG2285945
1,3-Dichloropropane	U		1.10	10.0	10	05/14/2024 23:15	WG2285945
cis-1,3-Dichloropropene	U		1.11	10.0	10	05/14/2024 23:15	WG2285945
trans-1,3-Dichloropropene	U		1.18	10.0	10	05/14/2024 23:15	WG2285945
2,2-Dichloropropane	U		1.61	10.0	10	05/14/2024 23:15	WG2285945
Di-isopropyl ether	U		1.05	10.0	10	05/14/2024 23:15	WG2285945
Ethylbenzene	550		1.37	10.0	10	05/14/2024 23:15	WG2285945
Hexachloro-1,3-butadiene	U	J3	3.37	10.0	10	05/14/2024 23:15	WG2285945
Isopropylbenzene	26.4		1.05	10.0	10	05/14/2024 23:15	WG2285945
p-Isopropyltoluene	1.46	J	1.20	10.0	10	05/14/2024 23:15	WG2285945
2-Butanone (MEK)	U		11.9	100	10	05/14/2024 23:15	WG2285945
Methylene Chloride	U		4.30	50.0	10	05/14/2024 23:15	WG2285945
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	05/14/2024 23:15	WG2285945
Methyl tert-butyl ether	U		1.01	10.0	10	05/14/2024 23:15	WG2285945
Naphthalene	112	C3	10.0	50.0	10	05/14/2024 23:15	WG2285945

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	68.8		0.993	10.0	10	05/14/2024 23:15	WG2285945
Styrene	U		1.18	10.0	10	05/14/2024 23:15	WG2285945
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	05/14/2024 23:15	WG2285945
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	05/14/2024 23:15	WG2285945
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	05/14/2024 23:15	WG2285945
Tetrachloroethene	U		3.00	10.0	10	05/14/2024 23:15	WG2285945
Toluene	2340		13.9	50.0	50	05/18/2024 14:08	WG2288614
1,2,3-Trichlorobenzene	U		2.30	10.0	10	05/14/2024 23:15	WG2285945
1,2,4-Trichlorobenzene	U		4.81	10.0	10	05/14/2024 23:15	WG2285945
1,1,1-Trichloroethane	U		1.49	10.0	10	05/14/2024 23:15	WG2285945
1,1,2-Trichloroethane	U		1.58	10.0	10	05/14/2024 23:15	WG2285945
Trichloroethene	U		1.90	10.0	10	05/14/2024 23:15	WG2285945
Trichlorofluoromethane	U		1.60	50.0	10	05/14/2024 23:15	WG2285945
1,2,3-Trichloropropane	U		2.37	25.0	10	05/14/2024 23:15	WG2285945
1,2,4-Trimethylbenzene	356	C3	3.22	10.0	10	05/14/2024 23:15	WG2285945
1,2,3-Trimethylbenzene	81.8		1.04	10.0	10	05/14/2024 23:15	WG2285945
1,3,5-Trimethylbenzene	99.9		1.04	10.0	10	05/14/2024 23:15	WG2285945
Vinyl chloride	U		2.34	10.0	10	05/14/2024 23:15	WG2285945
Xylenes, Total	2410		1.74	30.0	10	05/14/2024 23:15	WG2285945
(S) Toluene-d8	*93.8*			*80.0-120*		*05/14/2024 23:15*	WG2285945
(S) Toluene-d8	*101*			*80.0-120*		*05/18/2024 14:08*	WG2288614
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*05/14/2024 23:15*	WG2285945
(S) 4-Bromofluorobenzene	*91.4*			*77.0-126*		*05/18/2024 14:08*	WG2288614
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*05/14/2024 23:15*	WG2285945
(S) 1,2-Dichloroethane-d4	*97.0*			*70.0-130*		*05/18/2024 14:08*	WG2288614

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Diesel Range Organics (DRO)	111		33.3	100	1	05/14/2024 20:13	WG2284650
Residual Range Organics (RRO)	159	J	83.3	250	1	05/14/2024 20:13	WG2284650
(S) o-Terphenyl	*41.7*			*31.0-160*		*05/14/2024 20:13*	WG2284650

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Anthracene	U		0.0190	0.0500	1	05/15/2024 18:46	WG2284859
Acenaphthene	0.0317	J	0.0190	0.0500	1	05/15/2024 18:46	WG2284859
Acenaphthylene	U		0.0171	0.0500	1	05/15/2024 18:46	WG2284859
Benzo(a)anthracene	U		0.0203	0.0500	1	05/15/2024 18:46	WG2284859
Benzo(a)pyrene	U		0.0184	0.0500	1	05/15/2024 18:46	WG2284859
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/15/2024 18:46	WG2284859
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/15/2024 18:46	WG2284859
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/15/2024 18:46	WG2284859
Chrysene	U		0.0179	0.0500	1	05/15/2024 18:46	WG2284859
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/15/2024 18:46	WG2284859
Fluoranthene	U		0.0270	0.100	1	05/15/2024 18:46	WG2284859
Fluorene	0.0272	J	0.0169	0.0500	1	05/15/2024 18:46	WG2284859
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/15/2024 18:46	WG2284859
Naphthalene	82.8		0.0917	0.250	1	05/15/2024 18:46	WG2284859
Phenanthrene	U		0.0180	0.0500	1	05/15/2024 18:46	WG2284859
Pyrene	U		0.0169	0.0500	1	05/15/2024 18:46	WG2284859
1-Methylnaphthalene	5.50		0.0687	0.250	1	05/15/2024 18:46	WG2284859
2-Methylnaphthalene	9.74		0.0674	0.250	1	05/15/2024 18:46	WG2284859
2-Chloronaphthalene	U		0.0682	0.250	1	05/15/2024 18:46	WG2284859

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) Nitrobenzene-d5	*78.9*			*31.0-160*		*05/15/2024 18:46*	WG2284859
(S) 2-Fluorobiphenyl	*95.3*			*48.0-148*		*05/15/2024 18:46*	WG2284859
(S) p-Terphenyl-d14	*78.9*			*37.0-146*		*05/15/2024 18:46*	WG2284859

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	05/14/2024 16:25	WG2285945
Acrolein	U	C3	2.54	50.0	1	05/14/2024 16:25	WG2285945
Acrylonitrile	U		0.671	10.0	1	05/14/2024 16:25	WG2285945
Benzene	U		0.0941	1.00	1	05/14/2024 16:25	WG2285945
Bromobenzene	U		0.118	1.00	1	05/14/2024 16:25	WG2285945
Bromodichloromethane	U		0.136	1.00	1	05/14/2024 16:25	WG2285945
Bromoform	U		0.129	1.00	1	05/14/2024 16:25	WG2285945
Bromomethane	U	C3	0.605	5.00	1	05/14/2024 16:25	WG2285945
n-Butylbenzene	U	C3	0.157	1.00	1	05/14/2024 16:25	WG2285945
sec-Butylbenzene	U		0.125	1.00	1	05/14/2024 16:25	WG2285945
tert-Butylbenzene	U	C3	0.127	1.00	1	05/14/2024 16:25	WG2285945
Carbon disulfide	U		0.0962	1.00	1	05/14/2024 16:25	WG2285945
Carbon tetrachloride	U		0.128	1.00	1	05/14/2024 16:25	WG2285945
Chlorobenzene	U		0.116	1.00	1	05/14/2024 16:25	WG2285945
Chlorodibromomethane	U		0.140	1.00	1	05/14/2024 16:25	WG2285945
Chloroethane	U	C3	0.192	5.00	1	05/14/2024 16:25	WG2285945
Chloroform	U		0.111	5.00	1	05/14/2024 16:25	WG2285945
Chloromethane	U		0.960	2.50	1	05/14/2024 16:25	WG2285945
2-Chlorotoluene	U		0.106	1.00	1	05/14/2024 16:25	WG2285945
4-Chlorotoluene	U		0.114	1.00	1	05/14/2024 16:25	WG2285945
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/14/2024 16:25	WG2285945
1,2-Dibromoethane	U		0.126	1.00	1	05/14/2024 16:25	WG2285945
Dibromomethane	U		0.122	1.00	1	05/14/2024 16:25	WG2285945
1,2-Dichlorobenzene	U		0.107	1.00	1	05/14/2024 16:25	WG2285945
1,3-Dichlorobenzene	U		0.110	1.00	1	05/14/2024 16:25	WG2285945
1,4-Dichlorobenzene	U		0.120	1.00	1	05/14/2024 16:25	WG2285945
Dichlorodifluoromethane	U	C3	0.374	5.00	1	05/14/2024 16:25	WG2285945
1,1-Dichloroethane	U		0.100	1.00	1	05/14/2024 16:25	WG2285945
1,2-Dichloroethane	U		0.0819	1.00	1	05/14/2024 16:25	WG2285945
1,1-Dichloroethene	U		0.188	1.00	1	05/14/2024 16:25	WG2285945
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/14/2024 16:25	WG2285945
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/14/2024 16:25	WG2285945
1,2-Dichloropropane	U		0.149	1.00	1	05/14/2024 16:25	WG2285945
1,1-Dichloropropene	U		0.142	1.00	1	05/14/2024 16:25	WG2285945
1,3-Dichloropropane	U		0.110	1.00	1	05/14/2024 16:25	WG2285945
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/14/2024 16:25	WG2285945
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/14/2024 16:25	WG2285945
2,2-Dichloropropane	U		0.161	1.00	1	05/14/2024 16:25	WG2285945
Di-isopropyl ether	U		0.105	1.00	1	05/14/2024 16:25	WG2285945
Ethylbenzene	U		0.137	1.00	1	05/14/2024 16:25	WG2285945
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	05/14/2024 16:25	WG2285945
Isopropylbenzene	U		0.105	1.00	1	05/14/2024 16:25	WG2285945
p-Isopropyltoluene	U		0.120	1.00	1	05/14/2024 16:25	WG2285945
2-Butanone (MEK)	U		1.19	10.0	1	05/14/2024 16:25	WG2285945
Methylene Chloride	U		0.430	5.00	1	05/14/2024 16:25	WG2285945
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/14/2024 16:25	WG2285945
Methyl tert-butyl ether	U		0.101	1.00	1	05/14/2024 16:25	WG2285945
Naphthalene	U	C3	1.00	5.00	1	05/14/2024 16:25	WG2285945
n-Propylbenzene	U		0.0993	1.00	1	05/14/2024 16:25	WG2285945
Styrene	U		0.118	1.00	1	05/14/2024 16:25	WG2285945
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/14/2024 16:25	WG2285945
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/14/2024 16:25	WG2285945
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/14/2024 16:25	WG2285945
Tetrachloroethene	U		0.300	1.00	1	05/14/2024 16:25	WG2285945
Toluene	U		0.278	1.00	1	05/14/2024 16:25	WG2285945
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/14/2024 16:25	WG2285945

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/14/2024 16:25	WG2285945
1,1,1-Trichloroethane	U		0.149	1.00	1	05/14/2024 16:25	WG2285945
1,1,2-Trichloroethane	U		0.158	1.00	1	05/14/2024 16:25	WG2285945
Trichloroethene	U		0.190	1.00	1	05/14/2024 16:25	WG2285945
Trichlorofluoromethane	U		0.160	5.00	1	05/14/2024 16:25	WG2285945
1,2,3-Trichloropropane	U		0.237	2.50	1	05/14/2024 16:25	WG2285945
1,2,4-Trimethylbenzene	U	C3	0.322	1.00	1	05/14/2024 16:25	WG2285945
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/14/2024 16:25	WG2285945
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/14/2024 16:25	WG2285945
Vinyl chloride	U		0.234	1.00	1	05/14/2024 16:25	WG2285945
Xylenes, Total	U		0.174	3.00	1	05/14/2024 16:25	WG2285945
(S) Toluene-d8	*96.5*			*80.0-120*		*05/14/2024 16:25*	WG2285945
(S) 4-Bromofluorobenzene	*92.1*			*77.0-126*		*05/14/2024 16:25*	WG2285945
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*05/14/2024 16:25*	WG2285945

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4069652-3 05/14/24 00:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	58.3	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*110*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R4069652-2 05/13/24 23:04

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5000	4950	99.0	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*114*	*78.0-120*	

Method Blank (MB)

(MB) R4071067-3 05/14/24 13:28

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

Method Blank (MB)

(MB) R4071067-3 05/14/24 13:28

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	*95.8*			*80.0-120*
(S) 4-Bromofluorobenzene	*86.5*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*

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

(LCS) R4071067-1 05/14/24 12:15 • (LCSD) R4071067-2 05/14/24 12:34

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 %
Acetone	25.0	38.3	33.9	153	136	19.0-160	J	J	12.2	27
Acrolein	25.0	16.8	15.0	67.2	60.0	10.0-160	J	J	11.3	26
Acrylonitrile	25.0	23.7	25.1	94.8	100	55.0-149			5.74	20

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

(LCS) R4071067-1 05/14/24 12:15 • (LCSD) R4071067-2 05/14/24 12:34

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 %
Benzene	5.00	4.98	5.10	99.6	102	70.0-123			2.38	20
Bromobenzene	5.00	4.38	4.65	87.6	93.0	73.0-121			5.98	20
Bromodichloromethane	5.00	5.29	5.37	106	107	75.0-120			1.50	20
Bromoform	5.00	5.41	5.50	108	110	68.0-132			1.65	20
Bromomethane	5.00	3.66	4.18	73.2	83.6	10.0-160	J	J	13.3	25
n-Butylbenzene	5.00	3.88	4.29	77.6	85.8	73.0-125			10.0	20
sec-Butylbenzene	5.00	4.46	4.68	89.2	93.6	75.0-125			4.81	20
tert-Butylbenzene	5.00	3.87	4.20	77.4	84.0	76.0-124			8.18	20
Carbon disulfide	5.00	5.18	5.15	104	103	61.0-128			0.581	20
Carbon tetrachloride	5.00	5.85	5.86	117	117	68.0-126			0.171	20
Chlorobenzene	5.00	4.40	4.57	88.0	91.4	80.0-121			3.79	20
Chlorodibromomethane	5.00	4.56	4.80	91.2	96.0	77.0-125			5.13	20
Chloroethane	5.00	3.69	4.17	73.8	83.4	47.0-150	J	J	12.2	20
Chloroform	5.00	5.11	5.08	102	102	73.0-120			0.589	20
Chloromethane	5.00	4.57	4.57	91.4	91.4	41.0-142			0.000	20
2-Chlorotoluene	5.00	4.01	4.19	80.2	83.8	76.0-123			4.39	20
4-Chlorotoluene	5.00	4.12	4.44	82.4	88.8	75.0-122			7.48	20
1,2-Dibromo-3-Chloropropane	5.00	4.64	4.44	92.8	88.8	58.0-134	J	J	4.41	20
1,2-Dibromoethane	5.00	4.43	4.47	88.6	89.4	80.0-122			0.899	20
Dibromomethane	5.00	4.77	5.12	95.4	102	80.0-120			7.08	20
1,2-Dichlorobenzene	5.00	4.60	4.77	92.0	95.4	79.0-121			3.63	20
1,3-Dichlorobenzene	5.00	4.48	4.51	89.6	90.2	79.0-120			0.667	20
1,4-Dichlorobenzene	5.00	4.39	4.53	87.8	90.6	79.0-120			3.14	20
Dichlorodifluoromethane	5.00	3.97	4.26	79.4	85.2	51.0-149	J	J	7.05	20
1,1-Dichloroethane	5.00	5.27	5.38	105	108	70.0-126			2.07	20
1,2-Dichloroethane	5.00	5.85	6.22	117	124	70.0-128			6.13	20
1,1-Dichloroethene	5.00	4.63	4.87	92.6	97.4	71.0-124			5.05	20
cis-1,2-Dichloroethene	5.00	4.99	5.42	99.8	108	73.0-120			8.26	20
trans-1,2-Dichloroethene	5.00	4.75	4.77	95.0	95.4	73.0-120			0.420	20
1,2-Dichloropropane	5.00	5.45	5.61	109	112	77.0-125			2.89	20
1,1-Dichloropropene	5.00	5.51	5.81	110	116	74.0-126			5.30	20
1,3-Dichloropropane	5.00	4.71	4.63	94.2	92.6	80.0-120			1.71	20
cis-1,3-Dichloropropene	5.00	5.48	5.85	110	117	80.0-123			6.53	20
trans-1,3-Dichloropropene	5.00	5.23	5.46	105	109	78.0-124			4.30	20
2,2-Dichloropropane	5.00	5.50	5.58	110	112	58.0-130			1.44	20
Di-isopropyl ether	5.00	5.03	5.02	101	100	58.0-138			0.199	20
Ethylbenzene	5.00	4.30	4.45	86.0	89.0	79.0-123			3.43	20
Hexachloro-1,3-butadiene	5.00	4.97	6.14	99.4	123	54.0-138		J3	21.1	20
Isopropylbenzene	5.00	4.12	4.44	82.4	88.8	76.0-127			7.48	20
p-Isopropyltoluene	5.00	4.20	4.54	84.0	90.8	76.0-125			7.78	20

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

(LCS) R4071067-1 05/14/24 12:15 • (LCSD) R4071067-2 05/14/24 12:34

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 %
2-Butanone (MEK)	25.0	27.6	30.6	110	122	44.0-160			10.3	20
Methylene Chloride	5.00	4.77	4.47	95.4	89.4	67.0-120	J	J	6.49	20
4-Methyl-2-pentanone (MIBK)	25.0	24.4	24.3	97.6	97.2	68.0-142			0.411	20
Methyl tert-butyl ether	5.00	4.90	4.64	98.0	92.8	68.0-125			5.45	20
Naphthalene	5.00	3.35	3.64	67.0	72.8	54.0-135	J	J	8.30	20
n-Propylbenzene	5.00	4.43	4.60	88.6	92.0	77.0-124			3.77	20
Styrene	5.00	4.33	4.70	86.6	94.0	73.0-130			8.19	20
1,1,1,2-Tetrachloroethane	5.00	4.60	4.84	92.0	96.8	75.0-125			5.08	20
1,1,2,2-Tetrachloroethane	5.00	4.48	4.31	89.6	86.2	65.0-130			3.87	20
1,1,2-Trichlorotrifluoroethane	5.00	4.99	4.65	99.8	93.0	69.0-132			7.05	20
Tetrachloroethene	5.00	4.83	5.14	96.6	103	72.0-132			6.22	20
Toluene	5.00	4.91	4.89	98.2	97.8	79.0-120			0.408	20
1,2,3-Trichlorobenzene	5.00	4.42	4.84	88.4	96.8	50.0-138			9.07	20
1,2,4-Trichlorobenzene	5.00	4.31	5.02	86.2	100	57.0-137			15.2	20
1,1,1-Trichloroethane	5.00	5.47	5.59	109	112	73.0-124			2.17	20
1,1,2-Trichloroethane	5.00	4.60	4.75	92.0	95.0	80.0-120			3.21	20
Trichloroethene	5.00	5.11	5.09	102	102	78.0-124			0.392	20
Trichlorofluoromethane	5.00	4.54	4.49	90.8	89.8	59.0-147	J	J	1.11	20
1,2,3-Trichloropropane	5.00	4.58	4.55	91.6	91.0	73.0-130			0.657	20
1,2,4-Trimethylbenzene	5.00	3.96	4.26	79.2	85.2	76.0-121			7.30	20
1,2,3-Trimethylbenzene	5.00	4.27	4.35	85.4	87.0	77.0-120			1.86	20
1,3,5-Trimethylbenzene	5.00	4.24	4.62	84.8	92.4	76.0-122			8.58	20
Vinyl chloride	5.00	4.10	4.35	82.0	87.0	67.0-131			5.92	20
Xylenes, Total	15.0	12.7	13.4	84.7	89.3	79.0-123			5.36	20
(S) Toluene-d8				*94.1*	*90.6*	*80.0-120*				
(S) 4-Bromofluorobenzene				*94.3*	*95.0*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*109*	*110*	*70.0-130*				

Method Blank (MB)

(MB) R4071838-3 05/18/24 11:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.278	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*102*			*80.0-120*
(S) 4-Bromofluorobenzene	*94.0*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*97.9*			*70.0-130*

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

(LCS) R4071838-1 05/18/24 09:43 • (LCSD) R4071838-2 05/18/24 10:03

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 %
Benzene	5.00	5.82	5.75	116	115	70.0-123			1.21	20
Ethylbenzene	5.00	4.83	4.56	96.6	91.2	79.0-123			5.75	20
Naphthalene	5.00	4.34	4.47	86.8	89.4	54.0-135	J	J	2.95	20
Toluene	5.00	5.60	5.48	112	110	79.0-120			2.17	20
1,2,3-Trimethylbenzene	5.00	5.08	5.22	102	104	77.0-120			2.72	20
Xylenes, Total	15.0	14.9	14.0	99.3	93.3	79.0-123			6.23	20
(S) Toluene-d8				*97.0*	*98.1*	*80.0-120*				
(S) 4-Bromofluorobenzene				*88.8*	*91.1*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*96.2*	*100*	*70.0-130*				

Method Blank (MB)

(MB) R4068979-1 05/13/24 08:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		33.3	100
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	*52.0*			*31.0-160*

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

(LCS) R4068979-2 05/13/24 09:19 • (LCSD) R4068979-3 05/13/24 09:39

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	854	845	56.9	56.3	50.0-150			1.06	20
(S) o-Terphenyl				*50.5*	*50.5*	*31.0-160*				

Method Blank (MB)

(MB) R4070549-3 05/15/24 14:52

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	*91.0*			*31.0-160*
(S) 2-Fluorobiphenyl	*116*			*48.0-148*
(S) p-Terphenyl-d14	*117*			*37.0-146*

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

(LCS) R4070549-1 05/15/24 14:13 • (LCSD) R4070549-2 05/15/24 14:32

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	2.06	2.13	103	106	67.0-150			3.34	20
Acenaphthene	2.00	1.92	1.96	96.0	98.0	65.0-138			2.06	20
Acenaphthylene	2.00	1.95	1.98	97.5	99.0	66.0-140			1.53	20
Benzo(a)anthracene	2.00	1.93	1.96	96.5	98.0	61.0-140			1.54	20
Benzo(a)pyrene	2.00	1.87	1.88	93.5	94.0	60.0-143			0.533	20
Benzo(b)fluoranthene	2.00	1.98	1.94	99.0	97.0	58.0-141			2.04	20
Benzo(g,h,i)perylene	2.00	1.74	1.87	87.0	93.5	52.0-153			7.20	20
Benzo(k)fluoranthene	2.00	1.95	2.00	97.5	100	58.0-148			2.53	20
Chrysene	2.00	2.15	2.22	107	111	64.0-144			3.20	20
Dibenz(a,h)anthracene	2.00	2.11	2.12	105	106	52.0-155			0.473	20
Fluoranthene	2.00	2.02	2.13	101	106	69.0-153			5.30	20

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

(LCS) R4070549-1 05/15/24 14:13 • (LCSD) R4070549-2 05/15/24 14:32

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 %
Fluorene	2.00	2.17	2.20	108	110	64.0-136			1.37	20
Indeno(1,2,3-cd)pyrene	2.00	1.81	1.79	90.5	89.5	54.0-153			1.11	20
Naphthalene	2.00	1.88	1.91	94.0	95.5	61.0-137			1.58	20
Phenanthrene	2.00	2.02	2.09	101	104	62.0-137			3.41	20
Pyrene	2.00	1.71	1.74	85.5	87.0	60.0-142			1.74	20
1-Methylnaphthalene	2.00	2.00	2.06	100	103	66.0-142			2.96	20
2-Methylnaphthalene	2.00	1.89	1.92	94.5	96.0	62.0-136			1.57	20
2-Chloronaphthalene	2.00	2.08	2.12	104	106	64.0-140			1.90	20
(S) Nitrobenzene-d5				*91.5*	*91.5*	*31.0-160*				
(S) 2-Fluorobiphenyl				*113*	*116*	*48.0-148*				
(S) p-Terphenyl-d14				*110*	*111*	*37.0-146*				

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
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.
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

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	LAO000356
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.

C246

State of Oregon Chain of Custody

Agency, Authorized Purchaser or Agent: Oregon DEQ

Send Lab Report To: Anthony Chavez
Address: 165 7th Avenue, Suite 100, Eugene, OR 97401
Tel. #: 541-687-7348
E-mail: Anthony.Chavez@deq.oregon.gov

Contract Laboratory Name: Pace National, bda ESC

Lab Batch #:

Invoice To: ODEQ/Business Office
Address: 700 NE Multnomah St, Suite 600, Portland, OR 97232
Tel. #: 503-229-5696

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

Project Name: Village Shell
Project Number: M0785.20.002
Sampler Name: Connor Anderson

L1735180

Sample ID#	Collection Date/Time	Matrix	Number of Containers	NWTPH-Gx	NWTPH-Dx (with Silica Gel)	VOCs (EPA 8260)	PAHs (EPA 8270D-SIM)	Sample Preservative: HCl	HCl	HCl	None						
MW-01	5/8/24, 13:23	GW	10	X	X	X	X										-01
MW-01-DUP	5/8/24, 13:23	GW	10	X	X	X	X										-02
MW-02	5/8/24, 11:18	GW	10	X	X	X	X										-03
MW-04	5/8/24, 12:19	GW	10	X	X	X	X										-04
MW-06	5/8/24, 14:14	GW	10	X	X	X	X										-05
MW-07	5/8/24, 15:04	GW	10	X	X	X	X										-06
TRIP BLANK	5/8/24	W	2			X											-07

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

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

Relinquished By: Connor Anderson	Agency/Agent: MFA	Received By: Alexa Mitchell	Agency/Agent: PACE
Signature: Connor Anderson	Time & Date: 11:00, 5/9/24	Signature: Alexa Mitchell	Time & Date: 5/10/24 0930
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.

7359 4598 1675

Attachment E

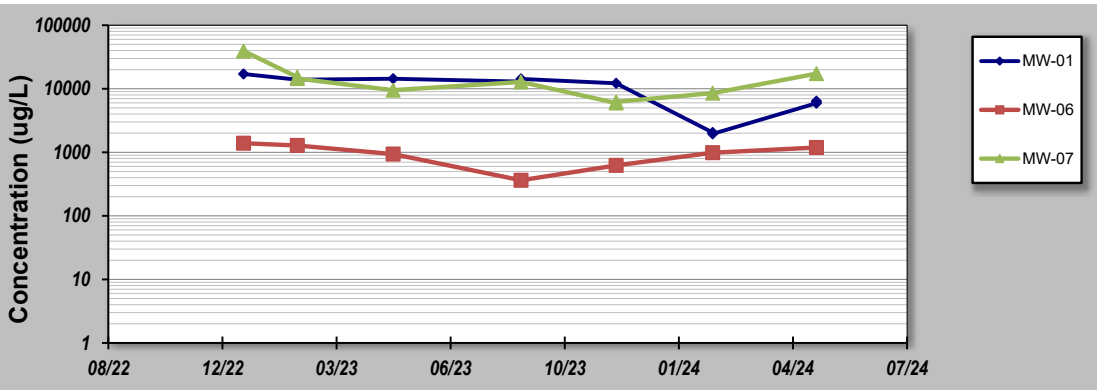
Mann-Kendall Trend Test Output

MAUL FOSTER ALONGI

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	May-24	Job ID:	M0785.20.002
Facility Name:	MFA	Constituent:	Gasoline
Conducted By:	Chris Clough	Concentration Units:	ug/L

Sampling Point ID:	MW-01	MW-06	MW-07				
Sampling Event	Sampling Date	GASOLINE CONCENTRATION (ug/L)						
1	########	17100	1390	39300				
2	########							
3	2/8/2023	13900	1280	15300				
4	2/8/2023			14500				
5	5/3/2023	14400	938	9500				
6	5/3/2023							
7	8/23/2023	13000	363	12800				
8	8/23/2023	14300						
9	########	12200	622	5970				
10	########			6230				
11	2/7/2024	2050	986	8530				
12	2/7/2024	1950						
13	5/8/2024	5930	1190	17300				
14	5/8/2024	6380						
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.55	0.38	0.71				
Mann-Kendall Statistic (S):		-29	-5	-14				
Confidence Factor:		99.5%	71.9%	91.0%				
Concentration Trend:		Decreasing	Stable	Prob. Decreasing				



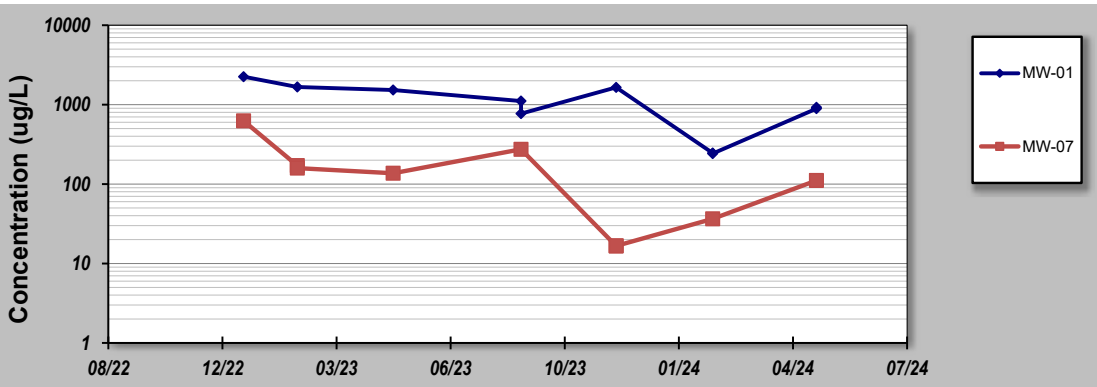
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	May-24	Job ID:	M0785.20.002
Facility Name:	MFA	Constituent:	Diesel
Conducted By:	Chris Clough	Concentration Units:	ug/L

Sampling Point ID:	MW-01	MW-07					
Sampling Event	Sampling Date	DIESEL CONCENTRATION (ug/L)					
1	########	2250	625				
2	########						
3	2/8/2023	1670	171				
4	2/8/2023		159				
5	5/3/2023	1530	137				
6	5/3/2023						
7	8/23/2023	1110	274				
8	8/23/2023	771					
9	########	1650	16.65				
10	########		16.65				
11	2/7/2024	246	36.5				
12	2/7/2024	242					
13	5/8/2024	891	111				
14	5/8/2024	925					
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		0.57	1.10				
Mann-Kendall Statistic (S):		-25	-19				
Confidence Factor:		98.6%	97.0%				
Concentration Trend:		Decreasing	Decreasing				



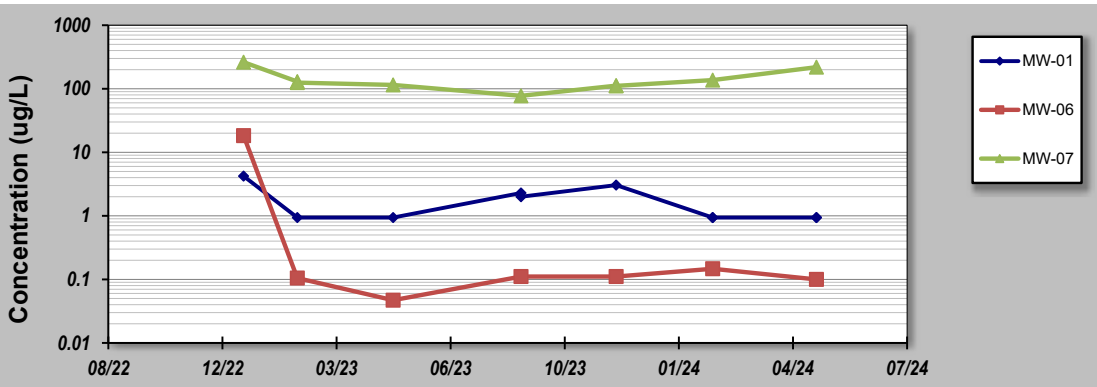
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	May-24	Job ID:	M0785.20.002
Facility Name:	MFA	Constituent:	Benzene
Conducted By:	Chris Clough	Concentration Units:	ug/L

Sampling Point ID:	MW-01	MW-06	MW-07				
Sampling Event	Sampling Date	BENZENE CONCENTRATION (ug/L)						
1	########	4.22	18.3	262				
2	########							
3	2/8/2023	0.94	0.105	130				
4	2/8/2023			125				
5	5/3/2023	0.94	0.04705	115				
6	5/3/2023							
7	8/23/2023	2.29	0.111	77.4				
8	8/23/2023	2						
9	########	3.05	0.111	112				
10	########			111				
11	2/7/2024	0.94	0.147	137				
12	2/7/2024	0.94						
13	5/8/2024	0.94	0.1	219				
14	5/8/2024	0.94						
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.67	2.54	0.41				
Mann-Kendall Statistic (S):		-14	-2	-6				
Confidence Factor:		87.3%	55.7%	69.4%				
Concentration Trend:		Stable	No Trend	Stable				



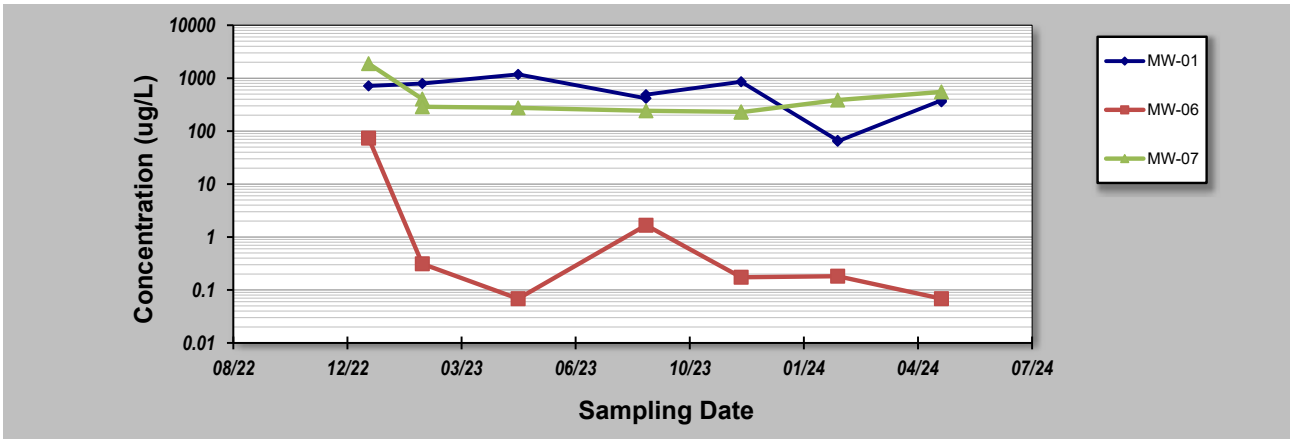
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	May-24	Job ID:	M0785.20.002
Facility Name:	MFA	Constituent:	Ethylbenzene
Conducted By:	Chris Clough	Concentration Units:	ug/L

Sampling Point ID:	MW-01	MW-06	MW-07				
Sampling Event	Sampling Date	ETHYLBENZENE CONCENTRATION (ug/L)						
1	########	714	73.8	1880				
2	########							
3	2/8/2023	793	0.312	404				
4	2/8/2023			288				
5	5/3/2023	1180	0.0685	275				
6	5/3/2023							
7	8/23/2023	416	1.67	242				
8	8/23/2023	488						
9	########	856	0.174	231				
10	########			228				
11	2/7/2024	66.7	0.182	386				
12	2/7/2024	64.2						
13	5/8/2024	381	0.0685	550				
14	5/8/2024	358						
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.67	2.55	1.06				
Mann-Kendall Statistic (S):		-21	-10	-12				
Confidence Factor:		96.4%	90.7%	87.0%				
Concentration Trend:		Decreasing	Prob. Decreasing	No Trend				



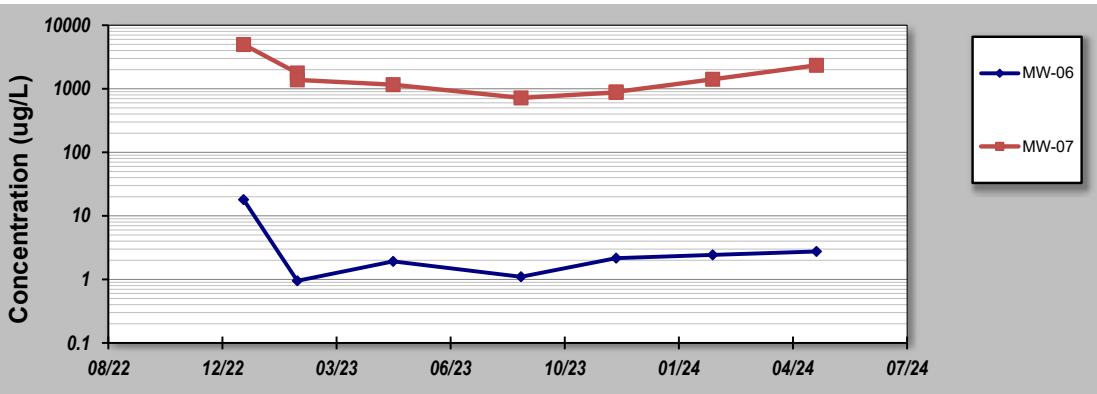
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	May-24	Job ID:	M0785.20.002
Facility Name:	MFA	Constituent:	Toluene
Conducted By:	Chris Clough	Concentration Units:	ug/L

Sampling Point ID:	MW-06	MW-07					
Sampling Event	Sampling Date	TOLUENE CONCENTRATION (ug/L)					
1	########	18	4970				
2	########						
3	2/8/2023	0.95	1770				
4	2/8/2023		1380				
5	5/3/2023	1.92	1160				
6	5/3/2023						
7	8/23/2023	1.1	718				
8	8/23/2023						
9	########	2.16	877				
10	########		890				
11	2/7/2024	2.43	1410				
12	2/7/2024						
13	5/8/2024	2.75	2340				
14	5/8/2024						
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		1.46	0.76				
Mann-Kendall Statistic (S):		7	-6				
Confidence Factor:		80.9%	69.4%				
Concentration Trend:		No Trend	Stable				



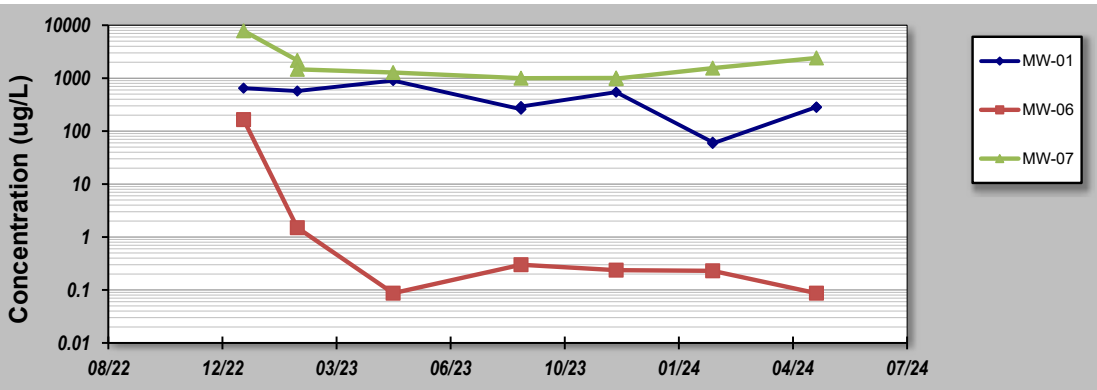
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	May-24	Job ID:	M0785.20.002
Facility Name:	MFA	Constituent:	Xylenes
Conducted By:	Chris Clough	Concentration Units:	ug/L

Sampling Point ID:	MW-01	MW-06	MW-07				
Sampling Event	Sampling Date	XYLENES CONCENTRATION (ug/L)						
1	########	648	165	7840				
2	########							
3	2/8/2023	571	1.5	2170				
4	2/8/2023			1470				
5	5/3/2023	902	0.087	1280				
6	5/3/2023							
7	8/23/2023	259	0.3	1000				
8	8/23/2023	291						
9	########	545	0.237	1010				
10	########			979				
11	2/7/2024	61.7	0.23	1550				
12	2/7/2024	58.5						
13	5/8/2024	285	0.087	2410				
14	5/8/2024	281						
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.69	2.60	1.00				
Mann-Kendall Statistic (S):		-23	-14	-10				
Confidence Factor:		97.7%	97.5%	82.1%				
Concentration Trend:		Decreasing	Decreasing	Stable				



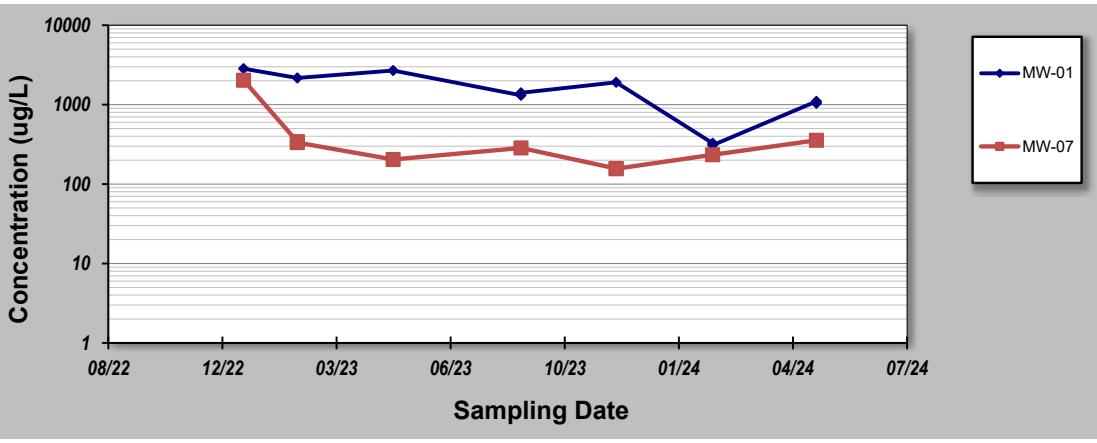
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	May-24	Job ID:	M0785.20.002
Facility Name:	MFA	Constituent:	1,2,4-Trimethylbenzene
Conducted By:	Chris Clough	Concentration Units:	ug/L

Sampling Point ID:	MW-01	MW-07					
Sampling Event	Sampling Date	1,2,4-TRIMETHYLBENZENE CONCENTRATION (ug/L)						
1	########	2840	2030					
2	########							
3	2/8/2023	2170	342					
4	2/8/2023		333					
5	5/3/2023	2690	204					
6	5/3/2023							
7	8/23/2023	1310	285					
8	8/23/2023	1410						
9	########	1910	157					
10	########		156					
11	2/7/2024	327	234					
12	2/7/2024	309						
13	5/8/2024	1100	356					
14	5/8/2024	1040						
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.59	1.31					
Mann-Kendall Statistic (S):		-29	-14					
Confidence Factor:		99.5%	91.0%					
Concentration Trend:		Decreasing	Prob. Decreasing					



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
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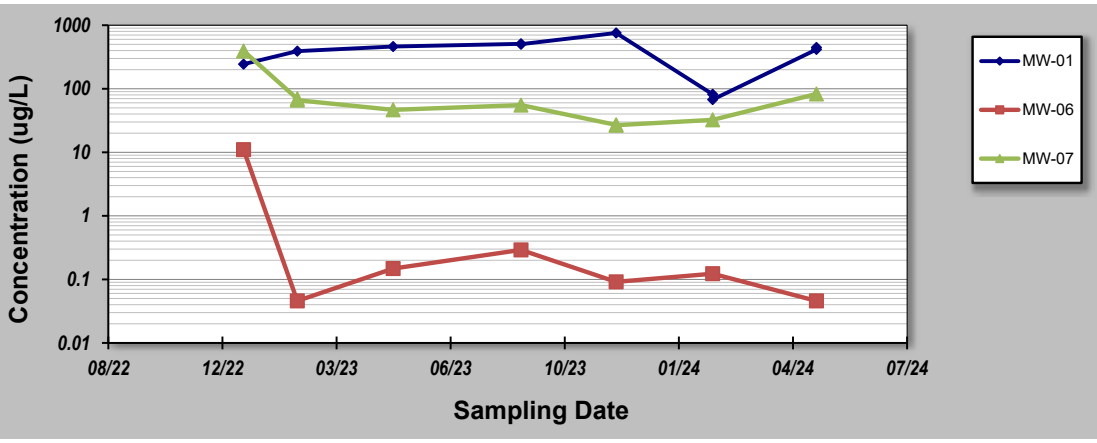
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	May-24	Job ID:	M0785.20.002
Facility Name:	MFA	Constituent:	Naphthalene
Conducted By:	Chris Clough	Concentration Units:	ug/L

Sampling Point ID:	MW-01	MW-06	MW-07				
Sampling Event	Sampling Date	NAPHTHALENE CONCENTRATION (ug/L)						
1	########	244	11	393				
2	########							
3	2/8/2023	391	0.04585	69.4				
4	2/8/2023			66.1				
5	5/3/2023	462	0.148	46.6				
6	5/3/2023							
7	8/23/2023	509	0.291	55.3				
8	8/23/2023	503						
9	########	756	0.0915	27				
10	########			26.7				
11	2/7/2024	81.8	0.123	32.4				
12	2/7/2024	67.5						
13	5/8/2024	416	0.04585	82.8				
14	5/8/2024	447						
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.54	2.45	1.30				
Mann-Kendall Statistic (S):		1	-8	-16				
Confidence Factor:		50.0%	84.5%	94.0%				
Concentration Trend:		No Trend	No Trend	Prob. Decreasing				



Notes:

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