



**SEMI-ANNUAL STATUS REPORT**

**Second Half 2022**

**March 8, 2023**

Facility No: Cowlitz Food & Fuel  
(Former Texaco Service  
Station No. 211556)

Address: 101 Mulford Road, Toledo, Washington

Arcadis Contact Person / Phone No.:

Ada Hamilton / (206) 413-6430

Arcadis Project No.:

30064316

Primary Agency / Regulatory ID No.:

Washington State Department of Ecology (Ecology)  
Southwest Regional Office, Toxics Cleanup Program /  
Steve Teel / Agreed Order No. DE5236

**WORK CONDUCTED THIS PERIOD:**

1. Conducted semi-annual groundwater monitoring and sampling activities on November 29<sup>th</sup>, 2022.
2. Collected additional groundwater and LNAPL samples on January 20, 2023, to confirm exceedances.
3. Prepared the *Semi-Annual Status Report, First Half 2022*.
4. Submitted the draft State Environmental Protection Act (SEPA) Checklist for the proposed cleanup action.

Current Phase of Project:

Monitoring/cleanup evaluation

Frequency of Monitoring / Sampling:

Semi-Annual (Q2/Q4)

Is Light Non-Aqueous Phase Liquid (LNAPL) Present On-site:

0.2 foot in B-4, January 20, 2023

Cumulative LNAPL Recovered to Date:

None

(gallons)

Depth to Groundwater:

6.49 (MW-114) to 8.79 (MW-110)

(feet below top of casing)

Groundwater Elevation:

100.04 (MW-B-4) to 100.93 (B-2)

(feet above NAVD88)

Groundwater Flow Direction

Southeast

Groundwater Gradient	0.006	(feet per foot)
Current Remediation Techniques:	None	
Permits for Discharge:	Not Applicable	
Summary of Unusual Activity:	Groundwater data suggests potential new release, see below	
Agency Directive Requirements:	Agreed Order No. DE5236	

**NOVEMBER 2022 GROUNDWATER SAMPLING**

Blaine Tech Services, Inc. (BTS) conducted semi-annual groundwater monitoring activities on November 29<sup>th</sup>, 2022. Nine (9) monitoring wells (MW-109, MW-110, MW-112, MW-113, MW-114, and B-1 through B-4) were gauged and five (5) monitoring wells (MW-112, MW-113, B-2, B-3, and B-4) were purged and sampled by BTS representatives. MW-111 was submerged in a puddle and was not able to be accessed for gauging or sampling. The groundwater monitoring field data sheets and general field procedures are included as Attachment A. The site location and site plan are presented on Figures 1 and 2, respectively.

Groundwater samples were submitted to Ecology-accredited Pace Analytical Laboratory in Mount Juliet, Tennessee (Pace) under standard chain-of-custody protocol and analyzed for the following constituents of potential concern (COPCs):

- Gasoline-range organics (GRO) by method NWTPH-Gx,
- Diesel-range organics (DRO) and heavy oil-range organics (HRO) by method NWTPH-Dx both with and without silica gel cleanup,
- Benzene, toluene, ethylbenzene, xylene (collectively BTEX) by United States Environmental Protection Agency (USEPA) Method 8260D
- Dissolved lead by USEPA Method 6010D.

Purge water generated during this sampling event was containerized and taken offsite by BTS for treatment and proper disposal.

Light non-aqueous phase liquid (LNAPL) was not observed in any of the monitoring wells during this sampling event. The direction of groundwater flow was to the southeast, and the flow direction and calculated gradient of 0.006 feet per foot (feet/foot) were generally consistent with previous monitoring events as depicted on the rose diagram within Figure 3. The groundwater elevation contour map is presented on Figure 3.

Groundwater gauging and analytical data obtained during the second semi-annual gauging and sampling event of 2022 are summarized in Table 1. Historical groundwater gauging and analytical data are

summarized in Table 2. The groundwater analytical results from this event are presented on Figure 4. Copies of the laboratory analytical report and chain-of-custody documentation are included as Attachment B.

## NOVEMBER 2022 ANALYTICAL RESULTS

COPCs in wells B-2 and MW-113 continue to either not be detected at or above laboratory reporting limits or are detected at concentrations below the MTCA Method A CULs.

GRO, DRO and BTEX concentrations in B-3 and B-4, located down-gradient of the USTs and dispensers, significantly increased from the previous event and exceeded MTCA Method A CULs. The concentrations of GRO, DRO, and BTEX in B-3 and B-4 were generally two to three orders of magnitude higher than those during the May 2022 event and in many cases were the historical maximums in these wells. The groundwater elevations in these wells during the November 2022 event were within the historical ranges.

GRO and BTEX also increased in MW-112 during the November 2022 event; with the GRO and benzene concentrations exceeding MTCA Method A CULs. BTEX had not been detected in this well for many years, and the concentrations were the historical maximums. Again, the groundwater elevation was within the historical range. COPCs in MW-112 had not exceeded MTCA Method A CULs since 2011.

Concentrations of GRO ranged from to 57.7 BJ micrograms per liter [ $\mu\text{g/L}$ ] in B-2 to 219,000  $\mu\text{g/L}$  in B-3. Concentration of DRO ranged from 1,400  $\mu\text{g/L}$  in B-4 to 6,640  $\mu\text{g/L}$  in B-3. BTEX concentrations in B-3 were 6,770  $\mu\text{g/L}$ , 48,300  $\mu\text{g/L}$ , 3,280  $\mu\text{g/L}$ , and 20,400  $\mu\text{g/L}$ , respectively. BTEX concentrations in B-4 were 3,050  $\mu\text{g/L}$ , 19,600  $\mu\text{g/L}$ , 1,450  $\mu\text{g/L}$ , and 8,750  $\mu\text{g/L}$  respectively. The concentrations of GRO and benzene in MW-112 were 3,470  $\mu\text{g/L}$  and 33  $\mu\text{g/L}$  respectively.

## JANUARY 2023 GROUNDWATER SAMPLING

Based on the observed significant increases in concentrations of GRO, DRO, and/or BTEX in MW-112, B-3, and B-4 during the November 2022 event, BTS conducted a follow-up sampling event on January 20, 2023 to confirm the prior results. MW-111 was able to be gauged and sampled during this event.

During this event, 0.2 foot of LNAPL was measured in B-4; thus, this well was not sampled. However, a sample of the LNAPL was collected for analysis. Prior to this event, LNAPL had not been observed at the site since 2004 (MW-111). LNAPL has not been observed in any of the site wells other than a few events in MW-111 in the early 2000s. Groundwater samples collected from MW-111, MW-112, and B-3 were submitted to Alpha Analytical, Inc. of Manchester, Massachusetts for Paraffins, Isoparaffins, Aromatics, Naphthalenes, and Olefins (PIANO) analysis by USEPA Method 8260 modified. The LNAPL sample was submitted for PIANO as well as Whole Oil analysis by USEPA Method 8015 modified.

Groundwater samples from MW-111, MW-112, MW-113, B-2, and B-3 were also submitted to Pace under standard chain-of-custody protocol and analyzed for the following COPCs:

- GRO by method NWTPH-Gx,
- DRO and HRO by method NWTPH-Dx both with and without silica gel cleanup,

- BTEX by USEPA Method 8260D
- Dissolved lead by USEPA Method 6010D.

The groundwater analytical results from this event are presented on Figure 5.

## JANUARY 2023 ANALYTICAL RESULTS

COPCs in B-2 and MW-113 continue to either not be detected at or above laboratory reporting limits or are detected at concentrations below the MTCA Method A CULs.

Elevated GRO, DRO, and BTEX concentrations similar to those during the November 2022 event and above MTCA Method A CULs were again detected in B-3 (Table 1). Elevated concentrations of GRO, DRO, and BTEX exceeding MTCA Method A CULs were also detected in MW-111, with concentrations generally significantly greater than those from the last time this well was sampled (May 2022) and in some cases historical maximums. MW-111 is also located downgradient of the current active USTs and dispensers.

Conversely, the detected GRO, toluene, ethylbenzene, and xylenes concentrations in MW-112 decreased significantly (two to three orders of magnitude) from the November 2022 event. A similar benzene concentration to that during the November 2022 event was detected in MW-112, slightly exceeding the MTCA Method A CUL.

Detected concentrations of GRO ranged from to 37.9 BJ  $\mu\text{g/L}$  in B-2 to 130,000  $\mu\text{g/L}$  in B-3. Concentrations of DRO were 3,010  $\mu\text{g/L}$  in MW-111 and 3,520  $\mu\text{g/L}$  in B-3. BTEX concentrations in B-3 were 2,230  $\mu\text{g/L}$ , 28,800  $\mu\text{g/L}$ , 3,010  $\mu\text{g/L}$ , and 19,000  $\mu\text{g/L}$ , respectively. BTEX concentrations in MW-111 were 2,610  $\mu\text{g/L}$ , 17,300  $\mu\text{g/L}$ , 1,070  $\mu\text{g/L}$ , and 5,650  $\mu\text{g/L}$  respectively. The concentration of benzene in MW-112 was 17.5  $\mu\text{g/L}$ .

PIANO analysis provides quantified concentrations for approximately 140 individual compounds in the gasoline range (~C4 to C15), including the PIANO compound classes as well as select oxygenates and lead scavengers. Oxygenates included in the PIANO analysis are methyl tert-butyl ether (MTBE), tertiary butyl alcohol (TBA), diisopropyl ether (DIPE), tertiary amyl methyl ether (TAME), and methylcyclopentadienyl manganese tricarbonyl (MMT). Lead scavenger additives included in the PIANO analysis are 1,2-dichloroethane (EDC) and 1,2-dibromoethane (EDB). PIANO analysis results are used to evaluate similarities and differences in distributions and concentrations of gasoline-related compounds in groundwater. PIANO compound concentrations are plotted by compound class with the lowest molecular weight compounds plotted on the left-hand side of each group with higher molecular weight compounds plotting to the right of each compound class.

The PIANO analysis results are presented on Figure 8. The PIANO distribution of the LNAPL sample collected from B-4 is consistent with a mildly weathered premium grade gasoline (recent release less than one year old), as shown on Figure 9. Weathering of gasoline in the environment results in preferential removal of lower molecular weight compounds in each compound class. Limited removal of lower molecular weight compounds is observed in the B-4 sample indicating the LNAPL is mildly weathered, consistent with a recent gasoline release. The B-4 LNAPL sample appears to be a premium grade



gasoline based on the prevalence of isoparaffins including 2,2,4-trimethylpentane (isooctane), 2,3,3-trimethylpentane, and 2,3,4-trimethylpentane. These compounds are added to gasoline to boost octane rating.

Chromatograms show detections of various chemical components of petroleum. Chromatograms for November 2021, May 2022, November 2022, and January 2023 monitoring events were reviewed to determine whether these chromatograms indicated substantial differences in composition between the events to identify a potential new release. Chromatograms for select samples for November 2021, May 2022, November 2022, and January 2023 are presented on Figures 10 through 13, respectively. Comparisons of chromatograms for B-4, B-3, and MW-112 are presented on Figures 14 through 16, respectively.

Ethanol was detected in B-3 at a concentration of 986 µg/L in January 2023, indicating the presence of oxygenated fuel with added ethanol. Although ethanol was not included as a reported analyte during previous events, a review of the chromatograms from November 2021 and May 2022 confirmed that ethanol was not present at detectable concentrations. Ethanol degrades rapidly in the environment, indicating a recent release.

Chromatograms of the recent samples from B-3, B-4, and MW-112 in November 2022 and January 2023 show the presence of more low molecular weight compounds than were previously detected in November 2021 and May 2022. The presence of more low molecular weight compounds indicates a less weathered gasoline source compared with previous samples, as shown on Figures 14 through 16.

## CONCLUSIONS AND RECOMMENDATIONS

There continue to be no detections of COPCs above MTCA Method A CULS in upgradient well B-2 and downgradient well MW-113.

During the November 2022 event, significant increases (generally two to three orders of magnitude) in GRO, DRO and BTEX concentrations were observed in B-3 and B-4, located down-gradient of the USTs and dispensers. In many cases the detected concentrations were the highest concentrations ever observed in these wells. Increases in GRO and BTEX were also observed in MW-112 during the November 2022 event. BTEX had not been detected in this well for many years, and the concentrations were the historical maximums. The groundwater elevations in these wells were within the historical ranges.

As a result of the observed increases, a follow-up confirmation sampling event was conducted in January 2023. Similar results were observed in B-3; however, LNAPL (0.2 feet) was observed in B-4. LNAPL had not been observed at the site since 2004 and had never been observed in this well. Elevated concentrations of GRO, DRO, and BTEX were also detected in MW-111, with concentrations generally significantly greater than the last time this well was sampled (May 2022) and in some cases historical maximums. MW-111 is also located downgradient of the current active USTs and dispensers. Conversely, the detected GRO, toluene, ethylbenzene, and xylenes concentrations in MW-112 decreased significantly (two to three orders of magnitude) from the November 2022 event.

Additional forensic analysis was performed on groundwater samples from B-3, B-4, and MW-112, as well as a sample of the LNAPL from B-4. An evaluation of the detailed hydrocarbon analyses and a comparison of chromatograms indicates that high concentrations of GRO and BTEX, as well as the LNAPL in B-4, appear to be attributable to a new gasoline release (less than one year old).

Evidence of a new release includes:

- **Significant increased concentrations of GRO and BTEX between May 2022 and November 2022 groundwater sampling events:** In November 2022, GRO and BTEX concentrations increased by two to three orders of magnitude compared to prior data. Historical concentrations of GRO and BTEX are shown on Figures 6 and 7, respectively, and are included in Table 2.
- **The presence of 0.2 foot of LNAPL in B-4:** LNAPL had not been detected at the site since 2004 and had never been observed in this well. The PIANO distribution for the LNAPL sample collected from B-4 is consistent with mildly weathered premium grade gasoline (recent release of less than one year), as shown on Figure 8.
- **The presence of ethanol in B-3:** Ethanol was detected in B-3 at a concentration of 986 µg/L, indicating the presence of oxygenated fuel with added ethanol. Ethanol degrades rapidly in the environment, and was not detected in November 2021 or May 2022, indicating a recent release.
- **Chromatogram comparisons:** The comparison of sample chromatograms from November 2021, May 2022, November 2022, and January 2023 show the presence of more low molecular weight compounds and ethanol in the November 2022 and January 2023 samples, indicating a less weathered gasoline source compared with previous samples, as shown on Figures 14 through 16.

Based on the results of the November 2022 and January 2023 groundwater monitoring events, a new release appears to have occurred at the site, likely between May and November 2022. Arcadis will conduct monthly gauging events to monitor the presence of LNAPL in existing wells at the site. Given the evidence of a new release, it would be appropriate for Ecology to contact the property owner and/or operator, so they can check their product inventory and leak detection monitoring system records. In addition, because the new release is unrelated to Texaco operations (which ended at the site in 1980), Arcadis and Chevron Environmental Management Company believe that discussions with Ecology and the owner and/or operator are warranted to evaluate how the new release may affect the Agreed Order and the proposed cleanup action at the site.

**LIMITATIONS**

This report was prepared in accordance with the scope of work outlined in Arcadis' contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the site. It was prepared for the exclusive use of Chevron Environmental Management Company for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Arcadis. To the extent that this report is based on information provided to Arcadis by third parties, Arcadis may have made efforts to verify this third-party information, but Arcadis cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the site existing at the time of the field investigation. No other warranties, expressed or implied, are made by Arcadis.

Date: March 8, 2023

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Ada Hamilton  
Project Manager

Date: March 8, 2023

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Rebecca Andresen  
Licensed Geologist

**ATTACHMENTS:**

Table 1 Current Groundwater Gauging Data and Select Analytical Results  
Table 2 Historical Groundwater Gauging Data and Select Analytical Results

Figure 1 Site Location Map  
Figure 2 Site Plan  
Figure 3 Groundwater Elevation Contour Map, November 29, 2022  
Figure 4 Groundwater Analytical Map, November 29, 2022  
Figure 5 Groundwater Analytical Map, January 20, 2023  
Figure 6 TPH-GRO Concentrations with Time  
Figure 7 BTEX Concentrations with Time  
Figure 8 January 2023 – PIANO Bar Charts  
Figure 9 PIANO Groundwater Analytical Map, January 20, 2023  
Figure 10 Chromatograms – November 2021  
Figure 11 Chromatograms – May 2022  
Figure 12 Chromatograms – November 2022  
Figure 13 Chromatograms – January 2023  
Figure 14 Chromatograms – B-4  
Figure 15 Chromatograms – B-3  
Figure 16 Chromatograms – MW-112

Attachment A Field Data Sheets and General Procedures  
Attachment B Laboratory Reports and Chain-of-Custody Documentation

# TABLES



**Table 1. Current Groundwater Gauging Data and Select Analytical Results**  
**COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556**  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/SGT	TPH-HRO	TPH-HRO w/SGT	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments	
<b>MTCA Method A CULs</b>						<b>800/1,000</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>15</b>		
MW-109	11/29/2022	107.35	7.19	0.00	100.16													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-109	01/20/2023	107.35	6.35	0.00	101.00													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	11/29/2022	108.89	8.79	0.00	100.10													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	01/20/2023	108.89	7.96	0.00	100.93													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-111	11/29/2022	107.12	--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	Area flooded
MW-111	01/20/2023	107.12	6.15	0.00	100.97	<b>62,600</b>	<b>3,010</b>	<b>676</b>	<b>1,710</b>	<250	<b>2,610</b>	<b>17,300</b>	<b>1,070</b>	<b>5,650</b>	--	10.7		
MW-112	11/29/2022	107.58	7.47	0.00	100.11	<b>3,470</b>	<200	--	<250	--	<b>33.0</b>	734	31.9	140	--	<2.00		
MW-112	01/20/2023	107.58	6.58	0.00	101.00	94.9 B J	<200	--	<250	--	<b>17.5</b>	<1.00	0.264 J	0.269 J	--	<2.00		
MW-113	11/29/2022	108.44	8.28	0.00	100.16	64.7 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<2.00		
MW-113	01/20/2023	108.44	7.49	0.00	100.95	78.8 B J	<200	--	<250	--	<1.00	0.319 J	<1.00	1.39 J	--	<2.00		
MW-114	11/29/2022	106.89	6.49	0.00	100.40													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-114	01/20/2023	106.89	5.74	0.00	101.15													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
B-1	11/29/2022	107.74	7.17	0.00	100.57													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
B-1	01/20/2023	107.74	6.35	0.00	101.39													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
B-2	11/29/2022	108.99	8.06	0.00	100.93	57.7 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	5.18		
B-2	01/20/2023	108.99	7.49	0.00	101.50	37.9 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<2.00		
B-3	11/29/2022	108.46	8.12	0.00	100.34	<b>219,000</b>	<b>6,640</b>	378	211 J	<250	<b>6,770</b>	<b>48,300</b>	<b>3,280</b>	<b>20,400</b>	--	14.5		
B-3	01/20/2023	108.46	7.05	0.00	101.41	<b>130,000</b>	<b>3,520</b>	--	<250	--	<b>2,230</b>	<b>28,800</b>	<b>3,010</b>	<b>19,000</b>	--	9.24 B		
B-4	11/29/2022	107.68	7.64	0.00	100.04	<b>112,000</b>	<b>1,400</b>	305	<250	<250	<b>3,050</b>	<b>19,600 E</b>	<b>1,450</b>	<b>8,750</b>	--	3.18		
B-4	01/20/2023	107.68	6.51	<b>0.20</b>	101.17													WELL NOT SAMPLED DUE TO PRESENCE OF NAPL

**Notes:**

800/1,000 = GRO MTCA Method A CUL with benzene present is 800 µg/L and without is 1,000 µg/L

**BOLD and highlighted** values exceed their respective MTCA Method A cleanup level

**BOLD** values are non-detect do not exceed the laboratory Reporting limit (RL), but the RL exceeds the MTCA Method A cleanup level

Results reported in micrograms per liter (µg/L)

**Abbreviations:**

TOC = Top of Casing in feet above North American Vertical Datum of 1988 (NAVD 88)

DTW = Depth to water in feet below TOC

NAPL = Non-aqueous phase liquid thickness in feet

GWE = Groundwater elevation in feet relative to NAVD88

-- = Not applicable, not available, or not analyzed

MTCA = Model Toxics Control Act Cleanup

CUL = Cleanup Level

DUP = Blind duplicate sample results

QA = Quality Assurance

SGT = Silica Gel Treatment

**Laboratory Qualifiers:**

< = Not detected at or above the laboratory Reporting Limit (RL) or Limit of Quantification (LOQ)

J = Estimated value; result is greater than the laboratory Method Detection Limit (MDL) but less than the RL or LOQ.

B = The same analyte is found in the associated blank.

E = The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

**Analytical Methods:**

Samples analyzed by USEPA Method 8260D

BTEX = benzene, toluene, ethylbenzene, and total xylenes

MTBE = Methyl tertiary butyl ether

TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics analyzed by NWTPH-Gx

Samples analyzed by NWTPH-Dx

TPH-DRO = Total Petroleum Hydrocarbon as Diesel Range Organics

TPH-HRO = Total Petroleum Hydrocarbons as Heavy Oil Range Organics

If the result for TPH-DRO or TPH-HRO without SGT is less than the RL, SGT is not performed.

Dissolved Lead analyzed by USEPA 6010D

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MTCA Method A CULs						800/1,000	500	500	500	500	5	1,000	700	1,000	20	15	
MW-103	02/14/1991	107.81	8.08	--	99.73	--	--	--	--	--	--	--	--	--	--	--	--
MW-103	02/18/1992	107.81	8.08	--	99.73	--	--	--	--	--	--	--	--	--	--	--	--
MW-103	03/09/1992	107.81	7.80	--	100.01	--	--	--	--	<50	--	--	--	--	--	--	--
MW-103	03/13/1992	107.81	8.08	--	99.73	<50	--	<250	--	<250	--	--	--	--	--	--	--
MW-103	04/21/1992	107.81	7.78	--	100.03	<50	--	--	--	--	--	--	--	--	--	--	--
MW-103	03/03/1994	107.81	--	--	--	<50	--	<250	--	<250	<13	--	--	--	--	--	--
MW-103	06/13/1995	107.81	8.55	--	99.26	<50	--	<250	--	<250	--	--	--	--	--	--	<3.0
MW-103	08/22/1995	107.81	--	--	--	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	08/23/1995	107.81	8.91	--	98.90	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	11/28/1995	107.81	7.30	--	100.51	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	03/12/1996	107.81	8.03	--	99.78	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	06/26/1996	107.81	8.67	--	99.14	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	10/09/1996	107.81	8.82	--	98.99	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	02/12/1997	107.81	7.81	--	100.00	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	04/22/1997	107.81	7.42	--	100.39	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	08/05/1997	107.81	8.83	--	98.98	257	--	257	--	110	--	--	--	--	--	--	<2.0
MW-103	11/11/1997	107.81	9.01	--	98.80	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	02/11/1998	107.81	8.03	--	99.78	<50	--	<250	--	<250	--	--	--	--	--	--	<2.0
MW-103	05/28/1998	107.81	8.17	--	99.64	<50	--	<250	--	<250	--	--	--	--	--	--	2.84
MW-103	08/20/1998	107.81	9.21	--	98.60	<50	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	11/19/1998	107.81	9.03	--	98.78	<50	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	03/11/1999	107.81	7.51	--	100.30	<50	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	05/25/1999	107.81	8.51	--	99.30	<50	--	<250	--	<250	--	--	--	--	--	--	--
MW-103	08/17/1999	107.81	8.93	--	98.88	<50	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	11/19/1999	107.81	7.18	--	100.63	<80	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	03/09/2000	107.81	7.48	--	100.33	<80	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	06/13/2000	107.81	8.29	--	99.52	<80	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	09/26/2000	107.81	9.05	--	98.76	--	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	12/13/2000	107.81	8.65	--	99.16	--	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	02/28/2001	107.81	8.34	--	99.47	89	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	05/02/2001	107.81	8.12	--	99.69	214	--	<250	--	<250	--	--	--	--	--	--	<1.0
MW-103	12/30/2003	107.81	7.32	0.00	100.49	<110	--	<50	--	<85	<0.5	<0.5	<0.5	<1.5	--	--	<1.2
MW-103	07/20/2004	107.81	9.09	0.00	98.72	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	--
MW-103	10/07/2004	107.81	8.66	0.00	99.15	--	--	<160	--	<50	--	--	--	--	--	--	--
MW-103	01/27/2005	107.81	7.95	0.00	99.86	<48	--	<83	--	<83	--	--	--	--	--	--	--
MW-103	04/12/2005	107.81	7.65	0.00	100.16	<48	--	<78	--	<78	--	--	--	--	--	--	--
MW-103	07/18/2005	107.81	8.76	0.00	99.05	<48	--	<79	--	<79	--	--	--	--	--	--	--
MW-103	10/21/2005	107.81	8.87	0.00	98.94	<48	--	<79	--	<79	--	--	--	--	--	--	--
MW-103	08/12/2010	107.81	8.90	0.00	98.91	<50	--	30	--	120	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-103	11/3-4/2010	107.81	7.69	0.00	100.12	<50	--	<29	--	91	<0.5	<0.5	<0.5	<0.5	<0.5	0.17	
MW-103	2/3-4/2011	107.81	7.99	0.00	99.82	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-103	05/24/2011	107.81	8.25	0.00	99.56	<50	--	30	--	340	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP
MW-103	11/7-9/2011	107.81	8.90	0.00	98.91	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-103	2/6-8/2012	107.81	7.80	0.00	100.01	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-103	5/2-4/2012	107.81	8.05	0.00	99.76	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.083	LFP
MW-103	8/1-3/2012	107.81	8.95	0.00	98.86	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.088	LFP
MW-103	11/26-28/2012	107.81	7.36	0.00	100.45	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-103	2/4-6/2013	107.81	7.85	0.00	99.96	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.087	LFP
MW-103	5/6-8/2013	107.81	8.60	0.00	99.21	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP
MW-103	9/9-13/2013	107.81	8.55	0.00	99.26	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-103	11/18-21/2013	107.81	7.62	0.00	100.19	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.21	LFP
MW-103	2/4-11/2014	107.81	8.36	0.00	99.45	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-103	6/12-14/2014	107.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-103	8/18-21/2014	107.81	6.81	0.00	101.00	62	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.18	LFP
MW-103	11/19-20/2014	107.81	8.41	0.00	99.40	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-103	2/17-20/2015	107.81	7.83	0.00	99.98	<50	<29	<29	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-103	5/11-15/2015	107.81	8.77	0.00	99.04	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-103	8/10-11/2015	107.81	9.35	0.00	98.46	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	LFP
MW-103	11/16-18/2015	107.81	6.67	0.00	101.14	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.00	LFP
MW-103	5/13-14/2016	107.81	8.60	0.00	99.21												
MW-103	11/14/2016	107.81	7.83	0.00	99.98												
MW-103	05/14/2017	107.81	7.87	0.00	99.94												
MW-103	11/11-12/2017	107.81	7.93	0.00	99.88												
MW-103	05/11/2018	107.81	8.56	0.00	99.25												
MW-103	11/11-12/2018	107.81	8.91	0.00	98.90												
MW-103	04/27/2019	107.81	8.29	0.00	99.52												
MW-103	11/03/2019	107.81	8.55	0.00	99.26												
MW-103	Nov 2019	107.81	--	--	--												
																	WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
																	WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
																	WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
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																	WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
																	WELL ABANDONED
MW-109	03/13/1992	107.35	7.72	0.00	99.63	<50	--	--	--	--	--	--	--	--	--	--	--
MW-109	04/21/1992	107.35	7.42	0.00	99.93	--	--	--	--	--	--	--	--	--	--	--	--
MW-109	03/03/1994	107.35	--	--	--	4,900	--	900	--	1,500	--	--	--	--	--	--	--
MW-109	08/22/1995	107.35	8.57	0.00	98.78	<50	--	2,900	--	2,400	--	--	--	--	--	--	--
MW-109	11/28/1995	107.35	5.87	0.00	101.48	72	--	480	--	1,900	--	--	--	--	--	--	<2.0
MW-109	03/12/1996	107.35	7.16	0.00	100.19	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0
MW-109	06/26/1996	107.35	8.24	0.00	99.11	<50	--	554	--	<750	--	--	--	--	--	--	<2.0
MW-109	10/09/1996	107.35	8.54	0.00	98.81	<50	--	405	--	<750	--	--	--	--	--	--	<2.0
MW-109	02/12/1997	107.35	5.82	0.00	101.53	<50	--	393	--	1,290	--	--	--	--	--	--	<2.0
MW-109	04/22/1997	107.35	7.10	0.00	100.25	<50	--	356	--	1,270	--	--	--	--	--	--	<2.0
MW-109	08/05/1997	107.35	8.81	0.00	98.54	<50	--	560	--	1,690	--	--	--	--	--	--	<2.0
MW-109	11/11/1997	107.35	7.57	0.00	99.78	<50	--	269	--	780	--	--	--	--	--	--	<2.0
MW-109	02/11/1998	107.35	6.20	0.00	101.15	<50	--	387	--	1,700	--	--	--	--	--	--	<2.0
MW-109	05/28/1998	107.35	7.62	0.00	99.73	<50	--	332	--	920	--	--	--	--	--	--	2.25
MW-109	08/20/1998	107.35	9.00	0.00	98.35	<50	--	520	--	1,450	--	--	--	--	--	--	<1.0
MW-109	11/19/1998	107.35	8.21	0.00	99.14	<50	--	409	--	1,130	--	--	--	--	--	--	<1.3
MW-109	03/11/1999	107.35	6.94	0.00	100.41	<80	--	539	--	2,000	--	--	--	--	--	--	<1.0
MW-109	05/25/1999	107.35	8.13	0.00	99.22	<80	--	916	--	--	--	--	--	--	--	--	--
MW-109	08/17/1999	107.35	8.66	0.00	98.69	<80	--	1,520	--	7,770	--	--	--	--	--	--	<1.0
MW-109	11/19/1999	107.35	6.65	0.00	100.70	<80	--	<250	--	--	--	--	--	--	--	--	<1.0
MW-109	03/09/2000	107.35	5.67	0.00	101.68	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0
MW-109	06/13/2000	107.35	6.65	0.00	100.70	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0
MW-109	09/26/2000	107.35	8.36	0.00	98.99	--	--	<250	--	<500	--	--	--	--	--	--	<1.0
MW-109	12/13/2000	107.35	7.72	0.00	99.63	--	--	<250	--	<500	--	--	--	--	--	--	<1.0
MW-109	02/28/2001	107.35	7.44	0.00	99.91	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0
MW-109	05/02/2001	107.35	9.50	0.00	97.85	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0
MW-109	10/30/2002	107.35	8.69	0.00	98.66	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	6.44	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-109	10/31/2003	107.35	7.63	0.00	99.72	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-109	12/31/2003	107.35	6.42	0.00	100.93	2,300	--	<50	--	440	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-109	10/06/2004	107.35	7.71	0.00	99.64	<50	--	<81	--	110	--	--	--	--	--	--	
MW-109	10/24/2005	107.35	7.93	0.00	99.42	<48	--	<81	--	<100	--	--	--	--	--	--	
MW-109	09/05/2007	107.35	8.45	0.00	98.90	91	--	<79	--	240	--	--	--	--	--	0.15	
MW-109	5/27-28/2008	107.35	7.86	0.00	99.49	<50	--	<79	--	<98	<0.5	0.6	<0.5	<0.5	<0.5	<0.050	
MW-109	8/27-29/2008	107.35	7.92	0.00	99.43	<50	--	<79	--	<99	<5	<5	<5	<5	<5	<0.050	LFP
MW-109	11/17-19/2008	107.35	6.60	0.00	100.75	<50	--	35	--	110	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-109	2/16-18/2009	107.35	7.59	0.00	99.76	<50	--	53	--	130	<0.5	<0.5	<0.5	<0.5	<0.5	0.093	LFP
MW-109	5/4-6/2009	107.35	7.09	0.00	100.26	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-109	8/19-21/2009	107.35	8.35	0.00	99.00	<50	--	49	--	290	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-109	11/18-20/2009	107.35	5.74	0.00	101.61	<50	--	98	--	340	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-109	2/8-10/2010	107.35	7.04	0.00	100.31	<50	--	31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-109	5/12-13/2010	107.35	7.41	0.00	99.94	<50	--	60	--	270	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-109	08/11/2010	107.35	8.90	0.00	98.45	<50	--	34	--	300	<0.5	<0.5	<0.5	<0.5	<0.5	0.1	LFP
MW-109	11/3-4/2010	107.35	6.37	0.00	100.98	<50	--	65	--	430	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-109	2/3-4/2011	107.35	7.12	0.00	100.23	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-109	05/23/2011	107.35	7.26	0.00	100.09	<50	--	47	--	520	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-109	8/23-24/11	107.35	8.35	0.00	99.00	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-109	11/7-9/2011	107.35	8.00	0.00	99.35	84	--	<300	--	890	<0.5	<0.5	0.6	<0.5	<0.5	0.19	LFP
MW-109	2/6-8/2012	107.35	6.85	0.00	100.50	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-109	5/2-4/2012	107.35	6.90	0.00	100.45	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-109	8/1-3/2012	107.35	8.13	0.00	99.22	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
MW-109	11/26-28/2012	107.35	6.42	0.00	100.93	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-109	2/4-6/2013	107.35	6.95	0.00	100.40	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-109	5/6-8/2013	107.35	7.35	0.00	100.00	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-109	9/9-13/2013	107.35	7.34	0.00	100.01	<50	<31	<31	<72	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	LFP
MW-109	11/18-22/2013	107.35	8.12	0.00	99.23	<50	68	<29	170	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-109	2/4-11/2014	107.35	7.33	0.00	100.02	<50	<30	<30	<70	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-109	6/12-14/2014	107.35	7.31	0.00	100.04	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	--	Insufficient water to collect lead sample
MW-109	8/18-21/14	107.35	9.93	0.00	97.42	--	--	--	--	--	--	--	--	--	--	--	Insufficient Water
MW-109	11/19-20/2014	107.35	7.38	0.00	99.97	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-109	2/17-20/2015	107.35	6.91	0.00	100.44	<50	<30	<30	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-109	5/11-15/2015	107.35	7.29	0.00	100.06	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-109	8/10-11/2015	107.35	8.62	0.00	98.73	<50	130	<29	640	210	<0.5	<0.5	<0.5	<0.5	<0.5	136	LFP
MW-109	11/16-18/2015	107.35	5.34	0.00	102.01	<50	36	<28	97	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.0028	LFP
MW-109	5/13-14/2016	107.35	7.76	0.00	99.59	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
MW-109	11/14/2016	107.35	6.40	0.00	100.95	<50	77	<28	65	<65	<0.5	<0.5	<0.5	<0.5	--	0.55	LFP
MW-109	05/14/2017	107.35	6.70	0.00	100.65	<50	45	<28	260	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
MW-109	11/11-12/2017	107.35	6.61	0.00	100.74	<50	<30	<30	<70	<70	<0.5	<0.5	<0.5	<0.5	--	0.40	LFP
MW-109	05/11/2018	107.35	7.38	0.00	99.97	<50	<28	31	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	LFP
MW-109	11/11-12/2018	107.35	7.47	0.00	99.88	<19	40	<28	260	96	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-109	04/27/2019	107.35	7.28	0.00	100.07	<19	97	<30	<67	<67	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-109	11/03/2019	107.35	7.49	0.00	99.86	<19	41 J	<30	95 J	<68	<0.2	<0.2	<0.4	<1	--	29.4	LFP
MW-109	05/06/2020	107.35	7.50	0.00	99.85	51.3 B J	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00	
MW-109	11/7/2020	107.35	6.62	0.00	100.73				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-109	05/24/2021	107.35	7.94	0.00	99.41	35.0 BJ	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-109	11/29/2021	107.35	6.60	0.00	100.75				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-109	05/23/2022	107.35	7.05	0.00	100.30				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments	
MW-109	11/29/2022	107.35	7.19	0.00	100.16													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-109	01/20/2023	107.35	6.35	0.00	101.00													WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	08/22/1995	108.89	9.62	0.00	99.27	11,000	--	400	--	<750	--	--	--	--	--	--	--	
MW-110	11/28/1995	108.89	8.08	0.00	100.81	6,000	--	540	--	<750	--	--	--	--	--	--	14	
MW-110	03/12/1996	108.89	8.74	0.00	100.15	3,600	--	340	--	<750	--	--	--	--	--	--	14	
MW-110	06/26/1996	108.89	9.41	0.00	99.48	2,750	--	274	--	<750	--	--	--	--	--	--	8.14	
MW-110	10/09/1996	108.89	9.67	0.00	99.22	1,160	--	<250	--	<750	--	--	--	--	--	--	5.96	
MW-110	02/12/1997	108.89	8.42	0.00	100.47	1,830	--	393	--	<750	--	--	--	--	--	--	11.7	
MW-110	04/22/1997	108.89	8.18	0.00	100.71	1,950	--	371	--	<750	--	--	--	--	--	--	7.27	
MW-110	08/05/1997	108.89	9.80	0.00	99.09	1,480	--	282	--	<750	--	--	--	--	--	--	3.16	
MW-110	11/11/1997	108.89	8.57	0.00	100.32	2,330	--	659	--	<750	--	--	--	--	--	--	22.9	
MW-110	02/11/1998	108.89	8.54	0.00	100.35	2,040	--	390	--	<750	--	--	--	--	--	--	15.3	
MW-110	05/28/1998	108.89	8.69	0.00	100.20	1,350	--	324	--	<750	--	--	--	--	--	--	15.5	
MW-110	08/20/1998	108.89	10.91	0.00	97.98	812	--	<250	--	<750	--	--	--	--	--	--	1.55	
MW-110	11/19/1998	108.89	9.51	0.00	99.38	637	--	258	--	<750	--	--	--	--	--	--	7.27	
MW-110	03/11/1999	108.89	8.09	0.00	100.80	2,350	--	486	--	<500	--	--	--	--	--	--	11	
MW-110	05/25/1999	108.89	9.28	0.00	99.61	2,950	--	<250	--	--	--	--	--	--	--	--	--	
MW-110	08/17/1999	108.89	9.81	0.00	99.08	749	--	<250	--	<500	--	--	--	--	--	--	2.2	
MW-110	11/19/1999	108.89	7.77	0.00	101.12	2,030	--	453	--	--	--	--	--	--	--	--	32.4	
MW-110	03/09/2000	108.89	8.15	0.00	100.74	3,780	--	<250	--	<500	--	--	--	--	--	--	9.59	
MW-110	06/13/2000	108.89	8.81	0.00	100.08	2,330	--	<250	--	<500	--	--	--	--	--	--	5.45	
MW-110	09/26/2000	108.89	9.98	0.00	98.91	--	--	<250	--	<500	--	--	--	--	--	--	2.83	
MW-110	12/13/2000	108.89	9.37	0.00	99.52	1,340	--	<250	--	<500	--	--	--	--	--	--	4.15	
MW-110	02/28/2001	108.89	9.07	0.00	99.82	1,800	--	<250	--	<500	--	--	--	--	--	--	6.32	
MW-110	05/02/2001	108.89	8.62	0.00	100.27	905	--	<250	--	<500	--	--	--	--	--	--	4.23	
MW-110	10/30/2002	108.89	10.28	0.00	98.61	3,880	--	<250	--	<500	<2.50	<2.50	22.5	108	--	--	6.36	
MW-110	01/23/2003	108.89	8.74	0.00	100.15	1,190	--	<250	--	<500	0.902	0.585	9.83	13.9	--	--	26.5	
MW-110	04/18/2003	108.89	8.40	0.00	100.49	499	--	<250	--	<500	1.94	<0.500	0.799	1.65	--	--	16.8	
MW-110	07/11/2003	108.89	9.99	0.00	98.90	586	--	<250	--	<500	1.76	<0.500	1.08	1.11	--	--	2.115	
MW-110	10/31/2003	108.89	9.25	0.00	99.64	184	--	<250	--	<500	0.529	<0.500	<0.500	<1.0	--	--	<1.0	
MW-110	12/31/2003	108.89	7.94	0.00	100.95	<99	--	1,800	--	410	<10	<2.0	23	25	--	--	17.3	
MW-110	05/03/2004	108.89	9.56	0.00	99.33	454	--	<250	--	<500	1.8	<0.500	<0.500	<1.0	--	--	3.865	
MW-110	07/20/2004	108.89	10.03	0.00	98.86	308	--	<250	--	<500	0.893	<0.500	<0.500	<1.0	--	--	<1.0	
MW-110	10/06/2004	108.89	9.38	0.00	99.51	160	--	<79	--	<99	--	--	--	--	--	--	--	
MW-110	01/27/2005	108.89	8.65	0.00	100.24	150	--	<81	--	<100	--	--	--	--	--	--	--	
MW-110	04/12/2005	108.89	8.22	0.00	100.67	290	--	370	--	<100	--	--	--	--	--	--	--	
MW-110	07/18/2005	108.89	9.50	0.00	99.39	100	--	<79	--	<99	--	--	--	--	--	--	--	
MW-110-DUP	07/18/2005	108.89	9.50	0.00	99.39	100	--	<79	--	<99	--	--	--	--	--	--	--	
MW-110	10/20/2005	108.89	9.62	0.00	99.27	110	--	82	--	100	--	--	--	--	--	--	--	
MW-110	09/04/2007	108.89	10.08	0.00	98.81	290	--	<150	--	220	--	--	--	--	--	--	5	
MW-110	5/27-28/2008	108.89	9.52	0.00	99.37	210	--	<76	--	<96	<0.5	<0.5	9	0.7	<0.5	--	9.1	LFP
MW-110	8/27-29/2008	108.89	9.60	0.00	99.29	240	--	120	--	<100	<5	<5	<5	<5	<5	--	1.5	LFP
MW-110	11/17-19/2008	108.89	8.17	0.00	100.72	150	--	410	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	--	34.1	LFP
MW-110	2/16-18/2009	108.89	9.23	0.00	99.66	<50	--	58	--	170	<0.5	<0.5	<0.5	<0.5	<0.5	--	27.7	LFP
MW-110	5/4-6/2009	108.89	8.60	0.00	100.29	96	--	380	--	670	<0.5	<0.5	<0.5	<0.5	<0.5	--	5.4	LFP
MW-110	8/19-21/2009	108.89	9.98	0.00	98.91	69	--	<30	--	76	<0.5	<0.5	<0.5	<0.5	<0.5	--	0.63	LFP
MW-110	11/18-20/2009	108.89	6.97	0.00	101.92	670	--	200	--	<67	<0.5	<0.5	2	<0.5	<0.5	--	5	LFP
MW-110	2/8-10/2010	108.89	8.64	0.00	100.25	<50	--	51	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	--	12.5	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-110	5/12-13/2010	108.89	9.08	0.00	99.81	<50	--	39	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	4.2	LFP
MW-110	08/11/2010	108.89	9.75	0.00	99.14	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.4	LFP
MW-110	11/3-4/2010	108.89	8.15	0.00	100.74	<50	--	49	--	98	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	LFP
MW-110	2/3-4/2011	108.89	8.77	0.00	100.12	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.72	LFP
MW-110	05/24/2011	108.89	8.90	0.00	99.99	<50	--	<29	--	180	<0.5	<0.5	<0.5	<0.5	<0.5	0.43	LFP
MW-110	8/23-24/11	108.89	9.96	0.00	98.93	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	LFP
MW-110	11/7-9/2011	108.89	9.30	0.00	99.59	95	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-110	2/6-8/2012	108.89	8.40	0.00	100.49	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-110	5/2-4/2012	108.89	8.40	0.00	100.49	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.23	LFP
MW-110	8/1-3/2012	108.89	8.46	0.00	100.43	<50	--	50	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.093	LFP
MW-110	11/26-28/2012	108.89	7.95	0.00	100.94	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.30	LFP
MW-110	2/4-6/2013	108.89	8.38	0.00	100.51	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-110	5/6-8/2013	108.89	9.52	0.00	99.37	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.23	LFP
MW-110	9/9-13/2013	108.89	9.03	0.00	99.86	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.39	LFP
MW-110	11/18-21/2013	108.89	8.22	0.00	100.67	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.33	LFP
MW-110	2/4-11/2014	108.89	8.98	0.00	99.91	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.16	LFP
MW-110	6/12-14/2014	108.89	9.50	0.00	99.39	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-110	8/18-21/14	108.89	8.53	0.00	100.36	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-110	11/19-20/2014	108.89	9.08	0.00	99.81	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.94	LFP
MW-110	2/17-20/2015	108.89	8.39	0.00	100.50	<50	<30	<30	<70	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-110	5/11-15/2015	108.89	9.51	0.00	99.38	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.46	LFP
MW-110	8/10-11/2015	108.89	10.23	0.00	98.66	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.88	LFP
MW-110	11/16-18/2015	108.89	6.54	0.00	102.35	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.00	LFP
MW-110	5/13-14/2016	108.89	9.04	0.00	99.85												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	11/14/2016	108.89	8.21	0.00	100.68												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	05/14/2017	108.89	8.40	0.00	100.49												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	11/11-12/2017	108.89	8.44	0.00	100.45												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	05/11/2018	108.89	9.12	0.00	99.77												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	11/11-12/2018	108.89	9.30	0.00	99.59												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	04/27/2019	108.89	8.93	0.00	99.96												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	11/03/2019	108.89	9.15	0.00	99.74												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	05/05/2020	108.89	9.15	0.00	99.74												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	11/7/2020	108.89	8.27	0.00	100.62												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	05/24/2021	108.89	9.61	0.00	99.28												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	11/29/2021	108.89	8.19	0.00	100.70												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	05/23/2022	108.89	8.67	0.00	100.22												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	11/29/2022	108.89	8.79	0.00	100.10												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-110	01/20/2023	108.89	7.96	0.00	100.93												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-111	08/22/1995	107.12	7.86	0.00	99.26	33,000	--	360	--	<750	--	--	--	--	--	--	
MW-111	11/28/1995	107.12	6.14	0.00	100.98	17,000	--	640	--	<750	--	--	--	--	--	10	
MW-111	03/12/1996	107.12	6.84	0.00	100.28	11,000	--	290	--	<750	--	--	--	--	--	7.6	
MW-111	06/26/1996	107.12	7.55	0.00	99.57	7,690	--	479	--	<750	--	--	--	--	--	4.8	
MW-111	10/09/1996	107.12	7.81	0.00	99.31	3,560	--	256	--	<750	--	--	--	--	--	4.7	
MW-111	02/12/1997	107.12	6.52	0.00	100.60	17,200	--	631	--	<750	--	--	--	--	--	8.7	
MW-111	04/22/1997	107.12	6.31	0.00	100.81	13,800	--	920	--	<750	--	--	--	--	--	5.3	
MW-111	08/05/1997	107.12	7.90	0.00	99.22	4,290	--	444	--	<750	--	--	--	--	--	3.5	
MW-111	11/11/1997	107.12	6.70	0.00	100.42	14,300	--	770	--	<750	--	--	--	--	--	12.4	
MW-111	02/11/1998	107.12	6.65	0.00	100.47	13,600	--	587	--	<750	--	--	--	--	--	8.3	

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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-111	05/28/1998	107.12	6.89	0.00	100.23	11,200	--	526	--	<750	--	--	--	--	--	16.6	
MW-111	08/20/1998	107.12	9.08	0.00	98.04	5,950	--	637	--	<750	--	--	--	--	--	1.7	
MW-111	11/19/1998	107.12	7.60	0.00	99.52	10,500,000	--	3,890	--	<750	--	--	--	--	--	2.2	
MW-111	01/22/1999	107.12	5.36	0.00	101.76	19,000	--	--	--	--	--	--	--	--	--	--	
MW-111	03/11/1999	107.12	6.19	0.00	100.93	6,910	--	611	--	<500	--	--	--	--	--	6.3	
MW-111	05/25/1999	107.12	7.43	0.00	99.69	8,500	--	388	--	--	--	--	--	--	--	4.2	
MW-111	08/17/1999	107.12	7.98	0.00	99.14	17,600	--	547	--	<500	--	--	--	--	--	3	
MW-111	11/19/1999	107.12	5.87	0.00	101.25	27,900	--	547	--	--	--	--	--	--	--	14.4	
MW-111	03/09/2000	107.12	6.27	0.00	100.85	20,800	--	12,400	--	646	--	--	--	--	--	11.8	
MW-111	06/13/2000	107.12	6.91	0.00	100.21	29,600	--	7,670	--	<500	--	--	--	--	--	12.8	
MW-111	09/26/2000	107.12	8.37	0.00	98.75	--	--	--	--	--	--	--	--	--	--	--	
MW-111	12/13/2000	107.12	7.65	0.00	99.47	23,100	--	13,800	--	<500	--	--	--	--	--	4.1	
MW-111	02/28/2001	107.12	7.26	0.00	99.86	16,400	--	3,740	--	<500	--	--	--	--	--	5.6	
MW-111	05/02/2001	107.12	6.89	0.00	100.23	17,700	--	7,530	--	<500	--	--	--	--	--	10.7	
MW-111	10/30/2002	107.12	8.70	0.28	98.64	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	01/23/2003	107.12	6.99	0.04	100.16	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	04/18/2003	107.12	6.89	0.06	100.28	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	07/11/2003	107.12	8.25	0.07	98.93	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	10/31/2003	107.12	7.48	0.03	99.66	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	12/31/2003	107.12	6.40	0.00	100.72	300	--	50,000	--	2,800	8.3	6.5	1,100	3,300	--	15.2	
MW-111	05/03/2004	107.12	7.79	0.03	99.35	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	07/20/2004	107.12	8.16	0.06	99.01	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	10/06/2004	107.12	7.54	0.00	99.58	5,700	--	240	--	<100	--	--	--	--	--	--	
MW-111	01/27/2005	107.12	6.79	0.00	100.33	8,800	--	310	--	<98	--	--	--	--	--	--	
MW-111-DUP	01/27/2005	107.12	6.79	0.00	100.33	9,100	--	310	--	<98	--	--	--	--	--	--	
MW-111	04/12/2005	107.12	6.32	0.00	100.80	10,000	--	820	--	<100	--	--	--	--	--	--	
MW-111-DUP	04/12/2005	107.12	6.32	0.00	100.80	10,000	--	850	--	<110	--	--	--	--	--	--	
MW-111	07/18/2005	107.12	7.75	0.00	99.37	6,300	--	460	--	<96	--	--	--	--	--	--	
MW-111	10/20/2005	107.12	7.84	0.00	99.28	--	--	--	--	--	--	--	--	--	--	--	
MW-111	09/04/2007	107.12	8.26	0.00	98.86	6,800	--	1,100	--	<220	--	--	--	--	--	2.8	
MW-111	09/04/2007	107.12	--	--	--	<50	--	<81	--	<100	--	--	--	--	--	<0.047	
MW-111	5/27-28/2008	107.12	7.64	0.00	99.48	--	--	--	--	--	--	--	--	--	--	--	Feet
MW-111	8/27-29/2008	107.12	7.71	0.00	99.41	--	--	--	--	--	--	--	--	--	--	--	Feet
MW-111	11/17-19/2008	107.12	6.27	0.00	100.85	18,000	--	2,300	--	<1,400	3	<1	300	220	<1	36.8	LFP
MW-111	2/16-18/2009	107.12	7.36	0.00	99.76	20,000	--	350	--	74	4	2	190	110	<1	8.5	LFP
MW-111	5/4-6/2009	107.12	6.62	0.00	100.50	13,000	--	1,200	--	<70	8	2	220	120	<0.5	20.1	LFP
MW-111	8/19-21/2009	107.12	8.12	0.00	99.00	11,000	--	780	--	<70	4	0.6	180	130	<0.5	5.3	LFP
MW-111	11/18-20/2009	107.12	5.42	0.00	101.70	4,700	--	400	--	<68	5	0.7	53	21	<0.5	6.3	LFP
MW-111	2/08-10/2010	107.12	6.79	0.00	100.33	19,000	--	2,700	--	<140	16	1	270	110	<0.5	18.8	LFP
MW-111	5/11-13/2010	107.12	7.25	0.00	99.87	21,000	--	3,400	--	380	10	1	300	110	<1	22.6	LFP
MW-111	08/11/2010	107.12	7.92	0.00	99.20	9,200	--	1,300	--	<700	4	<1	220	55	<1	20.2	LFP
MW-111	11/3-4/2010	107.12	6.12	0.00	101.00	7,000	--	1,700	--	640	4	<1	160	68	<1	29.5	LFP
MW-111	2/3-4/2011	107.12	6.91	0.00	100.21	14,000	--	2,800	--	<340	10	0.9	250	72	<0.5	19.9	LFP
MW-111	05/24/2011	107.12	7.03	0.00	100.09	2,700	--	500	--	130	<0.5	<0.5	65	15	<0.5	2.8	LFP
MW-111	8/23-24/11	107.12	9.16	0.00	97.96	6,900	--	1,600	--	<69	3	<0.5	130	11	<0.5	12.2	LFP
MW-111	11/7-9/2011	107.12	7.85	0.00	99.27	20,000	--	4,700	--	<730	1	<1	140	26	<1	45.8	LFP
MW-111	2/6-8/2012	107.12	6.55	0.00	100.57	5,100	--	690	--	110	5	<0.5	140	<0.5	<0.5	22.1	LFP
MW-111	5/2-4/2012	107.12	6.50	0.00	100.62	4,400	--	420	--	<68	5	0.7	170	23	<0.5	8.9	LFP
MW-111	8/1-3/2012	107.12	7.93	0.00	99.19	6,900	--	620	--	140	0.6	<0.5	<0.5	12	<0.5	22.9	LFP



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
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 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-111	11/26-28/2012	107.12	6.07	0.00	101.05	5,200	--	15,000	--	<3,500	4	<0.5	140	32	<0.5	36.1	LFP
MW-111	2/4-6/2013	107.12	6.53	0.00	100.59	7,500	--	2,300	--	710	<3	<3	120	24	<0.5	17.8	LFP
MW-111	5/6-8/2013	107.12	7.46	0.00	99.66	5,500	--	300	--	<67	2	<0.5	100	13	<0.5	16.6	LFP
MW-111	9/9-13/2013	107.12	7.15	0.00	99.97	5,500	3,600	330	89	<66	1	<0.5	110	39	<0.5	59.4	LFP
MW-111	11/18-22/2013	107.12	6.42	0.00	100.70	3,300	1,000	370	<66	<66	0.9	<0.5	77	13	<0.5	17.8	LFP
MW-111	2/4-11/2014	107.12	7.11	0.00	100.01	4,800	1,000	410	<68	<68	1	<0.5	75	7	<0.5	27.3	LFP
MW-111	6/12-14/2014	107.12	7.70	0.00	99.42	4,200	1,200	380	83	<67	2	<0.5	130	14	<0.5	16.1	LFP
MW-111	8/18-21/14	107.12	8.07	0.00	99.05	4,700	1,400	310	100	<67	1	<0.5	49	1	<0.5	1.09	LFP
MW-111	11/19-20/2014	107.12	6.47	0.00	100.65	6,000	1,800	430	320	<69	2	<0.5	120	11	<0.5	45.3	LFP
MW-111	2/17-20/2015	107.12	6.57	0.00	100.55	3,600	730	230	180	<68	1	<0.5	44	3	<0.5	14.3	LFP
MW-111	5/11-15/2015	107.12	9.02	0.00	98.10	4,400	1,000	320	<66	<66	1	<0.5	71	5	<0.5	0.0202	LFP
MW-111	8/10-11/2015	107.12	8.43	0.00	98.69	4,500	2,700	470	93	<67	<3	<3	31	6	<3	12.5	LFP
MW-111	11/16-18/2015	107.12	4.59	0.00	102.53	1,900	450	150	270	<67	<0.5	<0.5	9	1	<0.5	0.0078	LFP
MW-111	5/13-14/2016	107.12	8.95	0.00	98.17	4,200	1,200	350	1,600	680	<0.5	<0.5	19	2	--	7.8	LFP
MW-111	11/14/2016	107.12	--	--	--												WELL FLOODED - UNABLE TO ACCESS
MW-111	05/14/2017	107.12	6.37	0.00	100.75	9,200	1,200	490	1,400	630	1	<0.5	46	3	--	10.3	LFP
MW-111	11/11-12/2017	107.12	--	--	--												UNABLE TO ACCESS
MW-111	05/11/2018	107.12	7.57	0.00	99.55	6,600	1,400	440	970	400	14	2	45	3	<0.5	13.8	LFP
MW-111	11/11-12/2018	107.12	7.31	0.00	99.81	4,000	3,300	300	320	<68	3	0.6	33	3	--	92.8	LFP
MW-111	04/27/2019	107.12	7.11	0.00	100.01	5,800	1,800	900	1,900	1,100	3	0.6 J	29	2 J	--	17.8	LFP
MW-111	11/03/2019	107.12	7.31	0.00	99.81	4,500	2,100	250	970	400	1	0.3 J	20	2 J	--	49.4	LFP
MW-111	05/06/2020	107.12	7.60	0.00	99.52	37.8 B J	1,530	739	1,670	1,050	0.824 J	0.394 J	14	1.53 J	--	10.2	
MW-111	11/7/2020	107.12	6.45	0.00	100.67	511	1,300	144 B J	2,980	494 B	<1.00	1.15	0.415 J	<3.00	--	1.84 J	
MW-111	05/24/2021	107.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	PUDDLE
MW-111	11/29/2021	107.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	PUDDLE
MW-111	05/23/2022	107.12	7.85	0.00	99.27	628	738	75.5 J	840	<250	0.131 J	<1.00	0.775 J	<3.00	--	4.82 J	
MW-111-DUP	05/23/2022	--	--	--	--	654	640	<200	380	<250	0.182 J	<1.00	0.764 J	<3.00	--	3.72 J	
MW-111	11/29/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	AREA FLOODED - WELL UNDER PUDDLE
MW-111	01/20/2023	107.12	6.15	0.00	100.97	62,600	3,010	676	1,710	<250	2,610	17,300	1,070	5,650	--	10.7	
MW-112	08/22/1995	107.58	8.42	0.00	99.16	480	--	<250	--	<750	--	--	--	--	--	--	
MW-112	11/28/1995	107.58	6.73	0.00	100.85	150	--	<250	--	<750	--	--	--	--	--	5.8	
MW-112	03/12/1996	107.58	7.43	0.00	100.15	250	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	06/26/1996	107.58	8.12	0.00	99.46	63.8	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	10/09/1996	107.58	8.36	0.00	99.22	93.1	--	<250	--	<750	--	--	--	--	--	2.62	
MW-112	02/12/1997	107.58	7.11	0.00	100.47	1,250	--	322	--	<750	--	--	--	--	--	2.99	
MW-112	04/22/1997	107.58	6.85	0.00	100.73	323	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	08/05/1997	107.58	8.45	0.00	99.13	124	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	11/11/1997	107.58	7.26	0.00	100.32	112	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	02/11/1998	107.58	7.25	0.00	100.33	658	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	05/28/1998	107.58	7.46	0.00	100.12	713	--	315	--	<750	--	--	--	--	--	10.4	
MW-112	08/20/1998	107.58	9.64	0.00	97.94	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-112	11/19/1998	107.58	8.20	0.00	99.38	367	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-112	03/11/1999	107.58	6.79	0.00	100.79	1,370	--	<250	--	<500	--	--	--	--	--	1.42	
MW-112	05/25/1999	107.58	7.97	0.00	99.61	<80	--	<250	--	--	--	--	--	--	--	--	
MW-112	08/17/1999	107.58	8.51	0.00	99.07	106	--	<250	--	<500	--	--	--	--	--	<1.6	
MW-112	11/19/1999	107.58	6.46	0.00	101.12	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-112	03/09/2000	107.58	6.85	0.00	100.73	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-112	06/13/2000	107.58	7.48	0.00	100.10	824	--	<250	--	<500	--	--	--	--	--	2.14	

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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-112	09/26/2000	107.58	8.66	0.00	98.92	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-112	12/13/2000	107.58	8.07	0.00	99.51	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-112	02/28/2001	107.58	7.77	0.00	99.81	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-112	05/02/2001	107.58	7.31	0.00	100.27	710	--	<250	--	<500	--	--	--	--	--	1.44	
MW-112	10/30/2002	107.58	8.95	0.00	98.63	95.7	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	2.63	
MW-112	01/23/2003	107.58	7.39	0.00	100.19	178	--	<250	--	<500	<0.500	<0.500	0.730	<1.00	--	<1.0	
MW-112	04/18/2003	107.58	7.28	0.00	100.30	93.4	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-112	07/11/2003	107.58	8.68	0.00	98.90	<50.0	--	--	--	--	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-112	10/31/2003	107.58	8.04	0.00	99.54	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-112	12/30/2003	107.58	6.62	0.00	100.96	<97	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-112	05/03/2004	107.58	8.22	0.00	99.36	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-112	07/20/2004	107.58	8.69	0.00	98.89	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	
MW-112	10/07/2004	107.58	8.06	0.00	99.52	<50	--	<82	--	<100	--	--	--	--	--	--	
MW-112	07/18/2005	107.58	8.26	0.00	99.32	<48	--	<77	--	<96	--	--	--	--	--	--	
MW-112	10/21/2005	107.58	8.25	0.00	99.33	48	--	<82	--	<100	--	--	--	--	--	--	
MW-112	09/05/2007	107.58	8.79	0.00	98.79	<50	--	<79	--	<99	--	--	--	--	--	0.52	
MW-112	5/27-28/2008	107.58	8.22	0.00	99.36	<50	--	<80	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.24	LFP
MW-112	8/27-29/2008	107.58	8.26	0.00	99.32	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	0.92	LFP
MW-112	11/17-19/2008	107.58	6.87	0.00	100.71	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.057	LFP
MW-112	2/16-18/2009	107.58	7.92	0.00	99.66	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.51	LFP
MW-112	5/4-06/2009	107.58	7.26	0.00	100.32	380	--	120	--	<69	2	<0.5	<0.5	<0.5	<0.5	2.1	LFP
MW-112	8/19-21/2009	107.58	8.67	0.00	98.91	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.27	LFP
MW-112	11/18-20/2009	107.58	5.58	0.00	102.00	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-112	2/8-10/2010	107.58	7.35	0.00	100.23	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.46	LFP
MW-112	5/12-13/2010	107.58	7.77	0.00	99.81	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.58	LFP
MW-112	08/12/2010	107.58	8.45	0.00	99.13	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.29	LFP
MW-112	11/3-4/2010	107.58	6.85	0.00	100.73	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-112	2/3-4/2011	107.58	8.21	0.00	99.37	<50	--	49	--	89	<0.5	<0.5	<0.5	<0.5	<0.5	0.56	LFP
MW-112	05/24/2011	107.58	7.58	0.00	100.00	<50	--	<29	--	270	<0.5	<0.5	<0.5	<0.5	<0.5	0.49	LFP
MW-112	8/23-24/11	107.58	8.52	0.00	99.06	72	--	<b>860</b>	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-112	11/7-9/2011	107.58	8.35	0.00	99.23	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.24	LFP
MW-112	2/6-8/2012	107.58	7.10	0.00	100.48	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-112	5/2-4/2012	107.58	7.20	0.00	100.38	68	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	LFP
MW-112	8/1-3/2012	107.58	8.45	0.00	99.13	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.39	LFP
MW-112	11/26-28/2012	107.58	6.67	0.00	100.91	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.14	LFP
MW-112	2/4-6/2013	107.58	7.22	0.00	100.36	50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.64	LFP
MW-112	5/6-8/2013	107.58	8.00	0.00	99.58	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.47	LFP
MW-112	9/9-13/2013	107.58	7.71	0.00	99.87	<50	32	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.85	LFP
MW-112	11/18-22/2013	107.58	6.76	0.00	100.82	68	33	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.58	LFP
MW-112	2/4-11/2014	107.58	7.67	0.00	99.91	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.38	LFP
MW-112	8/18-21/14	107.58	8.63	0.00	98.95	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-112	11/19-20/2014	107.58	7.71	0.00	99.87	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP
MW-112	2/17-20/2015	107.58	7.33	0.00	100.25	<50	<30	<30	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.083	LFP
MW-112	5/11-15/2015	107.58	8.19	0.00	99.39	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.460	LFP
MW-112	8/10-11/2015	107.58	8.90	0.00	98.68	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.200	LFP
MW-112	11/16-18/2015	107.58	5.65	0.00	101.93	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.0014	LFP
MW-112	5/13-14/2016	107.58	8.18	0.00	99.40	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
MW-112	11/14/2016	107.58	6.90	0.00	100.68	<50	--	56	--	<70	<0.5	<0.5	<0.5	<0.5	--	0.33	LFP
MW-112	05/14/2017	107.58	7.05	0.00	100.53	150	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	0.56	LFP



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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-112	11/11-12/2017	107.58	6.99	0.00	100.59	95	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	0.27	LFP
MW-112	05/11/2018	107.58	7.82	0.00	99.76	<50	--	59	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-112	11/11-12/2018	107.58	7.81	0.00	99.77	<19	--	<28	--	<66	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-112	04/27/2019	107.58	7.62	0.00	99.96	38 J	--	130	--	98 J	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-112	11/03/2019	107.58	7.82	0.00	99.76	38 J	--	60 J	--	<68	<0.2	<0.2	<0.4	<1	--	0.25 J	LFP
MW-112	05/06/2020	107.58	7.83	0.00	99.75	42.6 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<5.00	LFP
MW-112	11/7/2020	107.58	6.94	0.00	100.64	183 B	<200	<200	131 J	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00	
MW-112	05/24/2021	107.58	8.21	0.00	99.37	61.1 BJ	72.0 J	72.0 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-112	11/29/2021	107.58	6.83	0.00	100.75	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-112	05/23/2022	107.58	7.33	0.00	100.25	107 B	132 J	132 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-112	11/29/2022	107.58	7.47	0.00	100.11	<b>3,470</b>	<200	--	<250	--	<b>33.0</b>	734	31.9	140	--	<2.00	
MW-112	01/20/2023	107.58	6.58	0.00	101.00	94.9 B J	<200	--	<250	--	<b>17.5</b>	<1.00	0.264 J	0.269 J		<2.00	
MW-113	08/22/1995	108.44	9.26	0.00	99.18	<b>3,100</b>	--	320	--	<750	--	--	--	--	--	--	
MW-113	11/28/1995	108.44	7.55	0.00	100.89	180	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	03/12/1996	108.44	8.26	0.00	100.18	750	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	06/26/1996	108.44	8.95	0.00	99.49	<b>809</b>	--	<250	--	<750	--	--	--	--	--	2.43	
MW-113	10/09/1996	108.44	9.21	0.00	99.23	494	--	<250	--	<750	--	--	--	--	--	2.95	
MW-113	02/12/1997	108.44	7.93	0.00	100.51	<b>1,600</b>	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	04/22/1997	108.44	7.71	0.00	100.73	748	--	291	--	<750	--	--	--	--	--	<2.0	
MW-113	08/05/1997	108.44	9.37	0.00	99.07	<b>876</b>	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	11/11/1997	108.44	8.04	0.00	100.40	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	02/11/1998	108.44	8.02	0.00	100.42	76.10	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	05/28/1998	108.44	8.31	0.00	100.13	116	--	<250	--	<750	--	--	--	--	--	6.26	
MW-113	08/20/1998	108.44	10.48	0.00	97.96	235	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-113	11/19/1998	108.44	9.02	0.00	99.42	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-113	03/11/1999	108.44	7.59	0.00	100.85	162	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-113	05/25/1999	108.44	8.83	0.00	99.61	321	--	<250	--	--	--	--	--	--	--	--	
MW-113	08/17/1999	108.44	9.34	0.00	99.10	265	--	<250	--	<500	--	--	--	--	--	1.2	
MW-113	11/19/1999	108.44	7.27	0.00	101.17	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-113	03/09/2000	108.44	7.66	0.00	100.78	96.70	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	06/13/2000	108.44	8.29	0.00	100.15	154	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	09/26/2000	108.44	9.51	0.00	98.93	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	12/13/2000	108.44	8.91	0.00	99.53	<80	--	<250	--	<b>588</b>	--	--	--	--	--	<1.0	
MW-113	02/28/2001	108.44	8.60	0.00	99.84	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	05/02/2001	108.44	8.14	0.00	100.30	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	10/30/2002	108.44	9.85	0.00	98.59	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	1.55	
MW-113	01/23/2003	108.44	8.29	0.00	100.15	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	04/18/2003	108.44	8.09	0.00	100.35	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	07/11/2003	108.44	9.51	0.00	98.93	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	10/31/2003	108.44	8.80	0.00	99.64	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	12/31/2003	108.44	7.44	0.00	101.00	<97	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-113	05/03/2004	108.44	9.14	0.00	99.30	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	07/20/2004	108.44	9.58	0.00	98.86	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	--	
MW-113	10/06/2004	108.44	8.92	DRY	--	--	--	--	--	--	--	--	--	--	--	--	
MW-113	01/27/2005	108.44	8.15	0.00	100.29	<48	--	<84	--	<110	--	--	--	--	--	--	
MW-113	04/12/2005	108.44	7.76	0.00	100.68	<48	--	<88	--	<110	--	--	--	--	--	--	
MW-113	07/18/2005	108.44	9.11	0.00	99.33	<48	--	<79	--	<98	--	--	--	--	--	--	
MW-113	10/26/2005	108.44	9.10	0.00	99.34	<48	--	<82	--	<100	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-113	09/05/2007	108.44	9.59	0.00	98.85	<50	--	<82	--	<100	--	--	--	--	--	0.32	
MW-113-DUP	09/05/2007	108.44	9.59	0.00	98.85	<50	--	<82	--	<100	--	--	--	--	--	0.32	LFP
MW-113	5/27-28/2008	108.44	9.02	0.00	99.42	<50	--	<82	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.16	LFP
MW-113	8/27-29/2008	108.44	9.10	0.00	99.34	<50	--	<81	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-113	11/17-19/2008	108.44	7.68	0.00	100.76	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-113	2/16-18/2009	108.44	8.75	0.00	99.69	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.087	LFP
MW-113	5/4-6/2009	108.44	8.28	0.00	100.16	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-113	8/19-21/2009	108.44	9.50	0.00	98.94	<50	--	<31	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.14	LFP
MW-113	11/18-20/2009	108.44	6.39	0.00	102.05	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.16	LFP
MW-113	2/8-10/2010	108.44	8.15	0.00	100.29	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-113	5/12-13/2010	108.44	8.60	0.00	99.84	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.093	LFP
MW-113	08/12/2010	108.44	9.29	0.00	99.15	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.077	LFP
MW-113	11/3-4/2010	108.44	7.65	0.00	100.79	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-113	2/3-4/2011	108.44	8.26	0.00	100.18	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-113	05/24/2011	108.44	8.42	0.00	100.02	<50	--	<30	--	330	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-113	8/23-24/11	108.44	9.32	0.00	99.12	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.096	LFP
MW-113	11/7-9/2011	108.44	9.20	0.00	99.24	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-113	2/6-8/2012	108.44	7.95	0.00	100.49	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-113	5/2-4/2012	108.44	8.00	0.00	100.44	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-113	8/1-3/2012	108.44	9.30	0.00	99.14	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.048	LFP
MW-113	11/26-28/2012	108.44	7.49	0.00	100.95	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-113	2/4-6/2013	108.44	8.06	0.00	100.38	<50	--	30	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-113	5/6-8/2013	108.44	8.83	0.00	99.61	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-113	9/9-13/2013	108.44	8.56	0.00	99.88	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-113	11/18-21/2013	108.44	7.74	0.00	100.70	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-113	2/4-11/2014	108.44	6.56	0.00	101.88	<50	<29	<29	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-113	6/12-14/2014	108.44	8.79	0.00	99.65	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-113	8/18-21/14	108.44	9.39	0.00	99.05	<50	<30	<30	<71	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.35	LFP
MW-113	11/19-20/2014	108.44	8.59	0.00	99.85	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-113	2/17-20/2015	108.44	8.01	0.00	100.43	<50	<30	<30	<70	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-113	5/11-15/2015	108.44	9.08	0.00	99.36	75	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-113	8/10-11/2015	108.44	9.28	0.00	99.16	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	LFP
MW-113	11/16-18/2015	108.44	5.99	0.00	102.45	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.00019	LFP
MW-113	5/13-14/2016	108.44	8.95	0.00	99.49	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
MW-113	11/14/2016	108.44	7.73	0.00	100.71	<50	--	57	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
MW-113	05/14/2017	108.44	7.88	0.00	100.56	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
MW-113	11/11-12/2017	108.44	7.81	0.00	100.63	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.11	LFP
MW-113	05/11/2018	108.44	8.65	0.00	99.79	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	LFP
MW-113	11/11-12/2018	108.44	8.68	0.00	99.76	<19	--	<28	--	<65	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-113	04/27/2019	108.44	8.11	0.00	100.33	<19	--	81 J	--	130 J	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-113	11/03/2019	108.44	8.65	0.00	99.79	<19	--	100	--	<66	<0.2	<0.2	<0.4	<1	--	0.25 J	LFP
MW-113	05/06/2020	108.44	8.67	0.00	99.77	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<5.00	
MW-113	11/7/2020	108.44	7.77	0.00	100.67	44.4 B J	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	0.888 J	
MW-113	05/24/2021	108.44	9.11	0.00	99.33	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-113	11/29/2021	108.44	7.70	0.00	100.74	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-113	05/23/2022	108.44	8.20	0.00	100.24	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-113	11/29/2022	108.44	8.28	0.00	100.16	64.7 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<2.00	
MW-113	01/20/2023	108.44	7.49	0.00	100.95	78.8 B J	<200	--	<250	--	<1.00	0.319 J	<1.00	1.39 J		<2.00	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-114	08/22/1995	106.89	7.47	0.00	99.42	<50	--	<250	--	<750	--	--	--	--	--	--	--
MW-114	11/28/1995	106.89	5.83	0.00	101.06	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	03/12/1996	106.89	6.39	0.00	100.50	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	06/26/1996	106.89	7.11	0.00	99.78	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	10/09/1996	106.89	7.42	0.00	99.47	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	02/12/1997	106.89	5.47	0.00	101.42	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	04/22/1997	106.89	14.30	0.00	92.59	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	08/05/1997	106.89	7.65	0.00	99.24	<50	--	<250	--	1,410	--	--	--	--	--	<2.0	--
MW-114	11/11/1997	106.89	6.45	0.00	100.44	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	02/11/1998	106.89	6.23	0.00	100.66	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	05/28/1998	106.89	6.44	0.00	100.45	<50	--	<250	--	<750	--	--	--	--	--	5.91	--
MW-114	08/20/1998	106.89	8.75	0.00	98.14	<50	--	<250	--	<750	--	--	--	--	--	<1.0	--
MW-114	11/19/1998	106.89	7.05	0.00	99.84	<50	--	<250	--	<750	--	--	--	--	--	<1.0	--
MW-114	03/11/1999	106.89	5.90	0.00	100.99	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-114	05/25/1999	106.89	7.10	0.00	99.79	<80	--	<250	--	--	--	--	--	--	--	--	--
MW-114	08/17/1999	106.89	7.59	0.00	99.30	<80	--	<250	--	607	--	--	--	--	--	<1.0	--
MW-114	11/19/1999	106.89	5.59	0.00	101.30	<80	--	<250	--	--	--	--	--	--	--	<1.0	--
MW-114	03/09/2000	106.89	5.98	0.00	100.91	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-114	06/13/2000	106.89	6.04	0.00	100.85	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-114	09/26/2000	106.89	7.81	0.00	99.08	--	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-114	12/13/2000	106.89	7.06	0.00	99.83	--	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-114	02/28/2001	106.89	6.79	0.00	100.10	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-114	05/02/2001	106.89	8.84	0.00	98.05	<80	--	<250	--	1,880	--	--	--	--	--	<1.0	--
MW-114	10/30/2002	106.89	8.32	0.00	98.57	115	--	<250	--	1,090	<0.500	<0.500	1.17	5.18	--	1.01	--
MW-114	10/31/2003	106.89	6.61	0.00	100.28	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	--
MW-114	12/30/2003	106.89	5.81	0.00	101.08	3,600	--	<50	--	480	<0.5	<0.5	<0.5	<1.5	--	<1.2	--
MW-114	10/06/2004	106.89	6.98	0.00	99.91	<50	--	<76	--	<95	--	--	--	--	--	--	--
MW-114	10/24/2005	106.89	7.28	0.00	99.61	<48	--	<79	--	<99	--	--	--	--	--	--	LFP
MW-114	09/05/2007	106.89	7.87	0.00	99.02	<50	--	94	--	810	--	--	--	--	--	0.38	LFP
MW-114	5/27-28/2008	106.89	7.19	0.00	99.70	<50	--	<1,600	--	15,000	<0.5	<0.5	<0.5	<0.5	<0.5	0.14	LFP
MW-114	8/27-29/2008	106.89	7.30	0.00	99.59	<50	--	270	--	2,200	<0.5	<0.5	<0.5	<0.5	<0.5	0.25	LFP
MW-114	11/17-19/2008	106.89	6.01	0.00	100.88	<50	--	330	--	4,600	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP
MW-114	2/16-18/2009	106.89	6.91	0.00	99.98	<50	--	210	--	1,900	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-114	5/4-6/2009	106.89	6.42	0.00	100.47	<50	--	180	--	1,400	<0.5	<0.5	<0.5	<0.5	<0.5	0.43	LFP
MW-114	8/19-21/2009	106.89	7.78	0.00	99.11	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.79	LFP
MW-114	11/18-20/2009	106.89	5.10	0.00	101.79	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.34	LFP
MW-114	2/8-10/2010	106.89	6.38	0.00	100.51	<50	--	110	--	790	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-114	5/12-13/2010	106.89	6.71	0.00	100.18	<50	--	<30	--	80	<0.5	<0.5	<0.5	<0.5	<0.5	0.23	LFP
MW-114	08/11/2010	106.89	7.45	0.00	99.44	<50	--	<29	--	220	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-114	11/3-4/2010	106.89	5.88	0.00	101.01	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.24	LFP
MW-114	2/3-4/2011	106.89	6.48	0.00	100.41	<50	--	60	--	460	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-114	05/23/2011	106.89	6.55	0.00	100.34	<50	--	55	--	380	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-114	8/23-24/11	106.89	7.70	0.00	99.19	<50	--	130	--	1,500	<0.5	<0.5	<0.5	<0.5	<0.5	0.41	LFP
MW-114	11/7-9/2011	106.89	7.35	0.00	99.54	<50	--	120	--	950	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-114	2/6-8/2012	106.89	6.25	0.00	100.64	<50	--	<29	--	180	<0.5	<0.5	<0.5	<0.5	<0.5	0.088	LFP
MW-114	5/2-4/2012	106.89	5.95	0.00	100.94	<50	--	<30	--	140	<0.5	<0.5	<0.5	<0.5	<0.5	0.72	LFP
MW-114	8/1-3/2012	106.89	7.50	0.00	99.39	<50	--	140	--	910	<0.5	<0.5	<0.5	<0.5	<0.5	0.084	LFP
MW-114	11/26-28/2012	106.89	5.88	0.00	101.01	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-114	2/4-6/2013	106.89	6.27	0.00	100.62	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-114	5/6-8/2013	106.89	6.97	0.00	99.92	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-114	9/9-13/2013	106.89	6.96	0.00	99.93	<50	60	<29	260	<67	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	LFP
MW-114	11/18-22/2013	106.89	8.36	0.00	98.53	<50	99	200	340	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-114	2/4-11/2014	106.89	6.56	0.00	100.33	<50	<29	<29	71	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-114	6/12-14/2014	106.89	6.96	0.00	99.93	<50	94	38	820	340	<0.5	<0.5	<0.5	<0.5	<0.5	0.18	LFP
MW-114	8/18-21/14	106.89	7.57	0.00	99.32	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-114	11/19-20/2014	106.89	6.75	0.00	100.14	<50	<28	<28	140	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-114	2/17-20/2015	106.89	6.31	0.00	100.58	<50	<30	<30	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-114	5/11-15/2015	106.89	6.89	0.00	100.00	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	LFP
MW-114	8/10-11/2015	106.89	8.03	0.00	98.86	<50	130	<29	570	170	<0.5	<0.5	<0.5	<0.5	<0.5	39.2	LFP
MW-114	11/16-18/2015	106.89	4.54	0.00	102.35	<50	49	<29	280	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.0145	LFP
MW-114	5/13-14/2016	106.89	7.97	0.00	98.92	<50	67	35	490	260	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
MW-114	11/14/2016	106.89	5.40	0.00	101.49	<50	220	36	790	280	<0.5	<0.5	<0.5	<0.5	--	2.5	LFP
MW-114	05/14/2017	106.89	5.93	0.00	100.96	<50	42	38	<67	280	<0.5	<0.5	<0.5	<0.5	--	8.3	LFP
MW-114	11/11-12/2017	106.89	5.82	0.00	101.07	<50	61	<28	320	<66	<0.5	<0.5	<0.5	<0.5	--	0.45	LFP
MW-114	05/11/2018	106.89	6.70	0.00	100.19	<50	29	<28	230	98	<0.5	<0.5	<0.5	<0.5	<0.5	0.40	LFP
MW-114	04/27/2019	106.89	6.60	0.00	100.29	<19	99	<29	300	<66	<0.2	<0.2	<0.4	<1	--	5	
MW-114	11/03/2019	106.89	6.80	0.00	100.09	<19	110	<30	670	310	<0.2	<0.2	<0.4	<1	--	0.21 J	
MW-114	05/06/2020	106.89	6.77	0.00	100.12	38.2 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<5.00	
MW-114	11/7/2020	106.89	5.95	0.00	100.94				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-114	05/24/2021	106.89	7.26	0.00	99.63	<100	<200	<200	83.9 J	83.9 J	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-114	11/29/2021	106.89	5.96	0.00	100.93	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-114 DUP	11/29/2021	--	--	--	--	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-114	05/23/2022	106.89	6.39	0.00	100.50				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-114	11/29/2022	106.89	6.49	0.00	100.40				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-114	01/20/2023	106.89	5.74	0.00	101.15				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-115	08/22/1995	107.94	8.79	0.00	99.15	1,800	--	<250	--	<750	--	--	--	--	--	--	
MW-115	11/28/1995	107.94	7.05	0.00	100.89	460	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	03/12/1996	107.94	7.76	0.00	100.18	630	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	06/26/1996	107.94	8.45	0.00	99.49	706	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	10/09/1996	107.94	8.71	0.00	99.23	722	--	<250	--	<750	--	--	--	--	--	2.54	
MW-115	02/12/1997	107.94	7.48	0.00	100.46	58	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	04/22/1997	107.94	7.25	0.00	100.69	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	08/05/1997	107.94	8.77	0.00	99.17	611	--	<250	--	<750	--	--	--	--	--	2.0	
MW-115	11/11/1997	107.94	7.71	0.00	100.23	57	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	02/11/1998	107.94	7.72	0.00	100.22	89.5	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	05/28/1998	107.94	7.92	0.00	100.02	<50	--	<250	--	<750	--	--	--	--	--	8.08	
MW-115	08/20/1998	107.94	9.18	0.00	98.76	155	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-115	11/19/1998	107.94	8.58	0.00	99.36	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-115	03/11/1999	107.94	7.12	0.00	100.82	<80	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-115	05/25/1999	107.94	8.33	0.00	99.61	<80	--	<250	--	--	--	--	--	--	--	--	
MW-115	08/17/1999	107.94	8.87	0.00	99.07	163	--	<250	--	<500	--	--	--	--	--	1.4	
MW-115	11/19/1999	107.94	6.82	0.00	101.12	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-115	03/09/2000	107.94	7.20	0.00	100.74	103	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-115	06/13/2000	107.94	7.82	0.00	100.12	<80	--	--	--	--	--	--	--	--	--	<1.0	
MW-115	09/26/2000	107.94	9.02	0.00	98.92	--	--	<250	--	<500	--	--	--	--	--	1.02	
MW-115	12/13/2000	107.94	8.43	0.00	99.51	313	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-115	02/28/2001	107.94	8.13	0.00	99.81	177	--	<250	--	<500	--	--	--	--	--	<1.0	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
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 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-115	05/02/2001	107.94	10.37	0.00	97.57	162	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-115	10/30/2002	107.94	9.33	0.00	98.61	175	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	4.36	
MW-115	10/31/2003	107.94	8.30	0.00	99.64	78.9	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-115	12/31/2003	107.94	6.98	0.00	100.96	<99	--	<50	--	<79	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-115	10/06/2004	107.94	8.43	0.00	99.51	<50	--	<160	--	<200	--	--	--	--	--	--	LFP
MW-115	10/21/2005	107.94	8.67	0.00	99.27	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-115-DUP	10/21/2005	107.94	8.67	0.00	99.27	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
MW-115	09/05/2007	107.94	9.11	0.00	98.83	<50	--	<76	--	<95	--	--	--	--	--	0.37	LFP
MW-115	8/27-29/2008	107.94	8.63	0.00	99.31	<50	--	<82	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.35	LFP
MW-115	11/17-19/2008	107.94	7.25	0.00	100.69	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.097	LFP
MW-115	2/16-18/2009	107.94	8.31	0.00	99.63	<50	--	<31	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.17	LFP
MW-115	5/4-6/2009	107.94	7.66	0.00	100.28	<50	--	42	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-115	8/19-21/2009	107.94	9.04	0.00	98.90	<50	--	320	--	2,700	<0.5	<0.5	<0.5	<0.5	<0.5	0.64	LFP
MW-115	10/19/2009	107.94	8.70	0.00	99.24	--	--	<29	--	<68	--	--	--	--	--	--	LFP
MW-115	11/18-20/2009	107.94	5.85	0.00	102.09	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.92	LFP
MW-115	2/8-10/2010	107.94	7.69	0.00	100.25	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.17	LFP
MW-115	5/12-13/2010	107.94	8.14	0.00	99.80	<50	--	30	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-115	08/12/2010	107.94	8.81	0.00	99.13	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.92	LFP
MW-115	11/3-4/2010	107.94	7.07	0.00	100.87	70	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.83	LFP
MW-115	2/3-4/2011	107.94	7.81	0.00	100.13	<50	--	33	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-115	05/24/2011	107.94	7.95	0.00	99.99	<50	--	42	--	220	<0.5	<0.5	<0.5	<0.5	<0.5	0.53	LFP
MW-115	8/23-24/11	107.94	9.05	0.00	98.89	73	--	68	--	74	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	LFP
MW-115	11/7-9/2011	107.94	8.70	0.00	99.24	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.60	LFP
MW-115	2/6-8/2012	107.94	7.55	0.00	100.39	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-115	5/2-4/2012	107.94	7.55	0.00	100.39	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-115	8/1-3/2012	107.94	8.82	0.00	99.12	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.63	LFP
MW-115	11/26-28/2012	107.94	7.04	0.00	100.90	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.052	LFP
MW-115	2/4-6/2013	107.94	7.58	0.00	100.36	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-115	5/6-8/2013	107.94	8.34	0.00	99.60	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.41	LFP
MW-115	9/9-13/2013	107.94	8.09	0.00	99.85	<50	31	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.89	LFP
MW-115	11/18-21/2013	107.94	7.45	0.00	100.49	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.45	LFP
MW-115	2/4-11/2014	107.94	8.05	0.00	99.89	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.43	LFP
MW-115	8/18-21/14	107.94	8.88	0.00	99.06	66	36	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.82	LFP
MW-115	11/19-20/2014	107.94	8.07	0.00	99.87	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.28	LFP
MW-115	2/17-20/2015	107.94	7.57	0.00	100.37	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	
MW-115	5/11-15/2015	107.94	8.33	0.00	99.61	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.60	
MW-115	8/10-11/2015	107.94	9.28	0.00	98.66	<50	33	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.71	
MW-115	11/16-18/2015	107.94	6.53	0.00	101.41	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.00	
MW-115	5/13-14/2016	107.94	8.48	0.00	99.46												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-115	11/14/2016	107.94	7.35	0.00	100.59												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-115	05/14/2017	107.94	7.44	0.00	100.50												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-115	11/11-12/2017	107.94	7.37	0.00	100.57												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-115	05/11/2018	107.94	8.20	0.00	99.74												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-115	11/11-12/2018	107.94	8.31	0.00	99.63												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-115	04/27/2019	107.94	7.49	0.00	100.45												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-115	11/03/2019	107.94	8.20	0.00	99.74												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-115	Nov 2019	107.94	--	--	--												WELL ABANDONED
MW-116	08/22/1995	107.56	8.82	0.00	98.74	<50	--	<250	--	<750	--	--	--	--	--	--	



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 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-116	03/12/1996	107.56	8.08	0.00	99.48	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-116	10/09/1996	107.56	8.69	0.00	98.87	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-116	02/12/1997	107.56	7.86	0.00	99.70	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-116	04/22/1997	107.56	7.65	0.00	99.91	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-116	08/05/1997	107.56	8.71	0.00	98.85	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-116	11/11/1997	107.56	8.07	0.00	99.49	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-116	02/11/1998	107.56	8.06	0.00	99.50	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-116	05/28/1998	107.56	8.25	0.00	99.31	<50	--	<250	--	<750	--	--	--	--	--	4.66	
MW-116	08/20/1998	107.56	9.05	0.00	98.51	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-116	11/19/1998	107.56	9.16	0.00	98.40	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-116	03/11/1999	107.56	7.64	0.00	99.92	<80	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-116	05/25/1999	107.56	8.40	0.00	99.16	<80	--	<250	--	--	--	--	--	--	--	--	
MW-116	08/17/1999	107.56	8.78	0.00	98.78	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-116	11/19/1999	107.56	7.60	0.00	99.96	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-116	03/09/2000	107.56	7.70	0.00	99.86	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-116	06/13/2000	107.56	8.37	0.00	99.19	<80	--	--	--	--	--	--	--	--	--	<1.0	
MW-116	09/26/2000	107.56	8.88	0.00	98.68	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-116	12/13/2000	107.56	8.52	0.00	99.04	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-116	02/28/2001	107.56	8.25	0.00	99.31	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-116	05/02/2001	107.56	10.84	0.00	96.72	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-116	12/30/2003	107.56	7.54	0.00	100.02	<99	--	<50	--	<79	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-116	07/20/2004	107.56	8.92	0.00	98.64	<50	--	<284	--	<568	<0.500	<0.500	<0.500	<1.00	--	--	LFP
MW-116	10/07/2004	107.56	7.54	0.00	100.02	<50	--	<75	--	<94	--	--	--	--	--	--	LFP
MW-116	10/20/2005	107.56	8.73	0.00	98.83	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-116	09/06/2007	107.56	9.00	0.00	98.56	<50	--	<76	--	<95	--	--	--	--	--	0.15	LFP
MW-116	8/27-29/2008	107.56	8.68	0.00	98.88	<50	--	89	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-116	11/17-19/2008	107.56	7.93	0.00	99.63	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-116	2/16-18/2009	107.56	8.45	0.00	99.11	<50	--	590	--	350	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-116	5/4-6/2009	107.56	8.20	0.00	99.36	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-116	8/19-21/2009	107.56	8.91	0.00	98.65	<50	--	34	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-116	11/18-20/2009	107.56	6.85	0.00	100.71	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-116	2/8-10/2010	107.56	8.07	0.00	99.49	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	
MW-116	08/12/2010	107.56	8.78	0.00	98.78	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-116	11/3-4/2010	107.56	8.04	0.00	99.52	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-116	2/3-4/2011	107.56	8.16	0.00	99.40	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-116	05/24/2011	107.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-116	8/23-24/11	107.56	9.00	0.00	98.56	<50	--	<31	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-116	11/7-9/2011	107.56	8.75	0.00	98.81	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-116	2/6-8/2012	107.56	8.05	0.00	99.51	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-116	5/2-4/2012	107.56	8.10	0.00	99.46	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-116	8/1-3/2012	107.56	8.80	0.00	98.76	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
MW-116	11/26-28/2012	107.56	7.84	0.00	99.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-116	2/4-6/2013	107.56	8.04	0.00	99.52	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-116	5/6-8/2013	107.56	8.51	0.00	99.05	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-116	9/9-13/2013	107.56	8.61	0.00	98.95	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-116	11/18-21/2013	107.56	8.15	0.00	99.41	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-116	2/4-11/2014	107.56	8.28	0.00	99.28	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-116	8/18-21/14	107.56	8.83	0.00	98.73	68	38	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.78	LFP
MW-116	11/19-20/2014	107.56	8.38	0.00	99.18	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments	
MW-116	2/17-20/2015	107.56	8.08	0.00	99.48	<50	<30	<30	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.17		
MW-116	5/11-15/2015	107.56	8.71	0.00	98.85	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082		
MW-116	8/10-11/2015	107.56	9.17	0.00	98.39	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.42		
MW-116	11/16-18/2015	107.56	7.37	0.00	100.19	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.0062		
MW-116	5/13-14/2016	107.56	8.59	0.00	98.97				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-116	11/14/2016	107.56	8.06	0.00	99.50				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-116	05/14/2017	107.56	8.07	0.00	99.49				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-116	11/11-12/2017	107.56	8.14	0.00	99.42				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-116	05/11/2018	107.56	8.43	0.00	99.13				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-116	11/11-12/2018	107.56	9.04	0.00	98.52				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-116	04/27/2019	107.56	8.30	0.00	99.26				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-116	11/03/2019	107.56	8.48	0.00	99.08				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-116	Nov 2019	107.56	--	--	--				WELL ABANDONED									
MW-117	08/22/1995	106.57	7.45	0.00	99.12	<50	--	<250	--	<750	--	--	--	--	--	--	--	
MW-117	11/28/1995	106.57	5.45	0.00	101.12	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-117	03/12/1996	106.57	6.32	0.00	100.25	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-117	06/26/1996	106.57	7.18	0.00	99.39	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-117	10/09/1996	106.57	7.42	0.00	99.15	<50	--	<250	--	<750	--	--	--	--	--	--	7.1	
MW-117	02/12/1997	106.57	5.93	0.00	100.64	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-117	04/22/1997	106.57	5.78	0.00	100.79	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-117	08/05/1997	106.57	7.58	0.00	98.99	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-117	11/11/1997	106.57	6.21	0.00	100.36	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-117	02/11/1998	106.57	6.21	0.00	100.36	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-117	05/28/1998	106.57	6.44	0.00	100.13	<50	--	<250	--	<750	--	--	--	--	--	--	2.68	
MW-117	08/20/1998	106.57	7.90	0.00	98.67	<50	--	<250	--	<750	--	--	--	--	--	--	<1.0	
MW-117	11/19/1998	106.57	7.18	0.00	99.39	<50	--	<250	--	<750	--	--	--	--	--	--	<1.0	
MW-117	03/11/1999	106.57	5.51	0.00	101.06	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-117	05/25/1999	106.57	7.00	0.00	99.57	<80	--	<250	--	--	--	--	--	--	--	--	--	
MW-117	08/17/1999	106.57	7.56	0.00	99.01	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-117	11/19/1999	106.57	5.11	0.00	101.46	<80	--	<250	--	--	--	--	--	--	--	--	<1.0	
MW-117	03/09/2000	106.57	5.65	0.00	100.92	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-117	06/13/2000	106.57	6.25	0.00	100.32	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-117	09/26/2000	106.57	7.70	0.00	98.87	--	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-117	12/13/2000	106.57	7.11	0.00	99.46	--	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-117	02/28/2001	106.57	6.78	0.00	99.79	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-117	05/02/2001	106.57	8.90	0.00	97.67	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-117	12/30/2003	106.57	5.46	0.00	101.11	<100	--	<50	--	<80	<0.5	<0.5	<0.5	<1.5	--	--	<1.2	LFP
MW-117	10/06/2004	106.57	7.07	0.00	99.50	<50	--	<79	--	<98	--	--	--	--	--	--	--	LFP
MW-117	10/21/2005	106.57	7.33	0.00	99.24	<48	--	<81	--	<100	--	--	--	--	--	--	--	LFP
MW-117	09/05/2007	106.57	7.92	0.00	98.65	<50	--	<82	--	<100	--	--	--	--	--	--	0.22	LFP
MW-117	5/27-28/2008	106.57	7.42	0.00	99.15	<50	--	<80	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.056	LFP	
MW-117	8/27-29/2008	106.57	7.38	0.00	99.19	<50	--	<82	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP	
MW-117	11/17-19/2008	106.57	5.90	0.00	100.67	<50	--	55	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP	
MW-117	2/16-18/2009	106.57	7.06	0.00	99.51	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.095	LFP	
MW-117	5/4-6/2009	106.57	6.51	0.00	100.06	<50	--	38	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP	
MW-117	8/19-21/2009	106.57	7.82	0.00	98.75	<50	--	40	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.073	LFP	
MW-117	11/18-20/2009	106.57	3.85	0.00	102.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP	
MW-117	2/8-10/2010	106.57	6.43	0.00	100.14	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP	



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-117	5/12-13/2010	106.57	6.96	0.00	99.61	<50	--	36	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-117	08/12/2010	106.57	7.68	0.00	98.89	<50	--	<29	--	210	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-117	11/3-4/2010	106.57	5.97	0.00	100.60	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-117	2/3-4/2011	106.57	6.5	0.00	100.07	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-117	05/24/2011	106.57	6.77	0.00	99.80	<50	--	<30	--	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-117	8/23-24/11	106.57	7.85	0.00	98.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-117	11/7-9/2011	106.57	7.55	0.00	99.02	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-117	2/6-8/2012	106.57	6.20	0.00	100.37	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-117	5/2-4/2012	106.57	6.00	0.00	100.57	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-117	8/1-3/2012	106.57	7.66	0.00	98.91	<50	--	<32	--	<75	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
MW-117	11/26-28/2012	106.57	5.60	0.00	100.97	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-117	2/4-6/2013	106.57	6.29	0.00	100.28	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-117	5/6-8/2013	106.57	7.18	0.00	99.39	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-117	9/9-13/2013	106.57	8.11	0.00	98.46	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-117	11/18-21/2013	106.57	5.99	0.00	100.58	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-117	2/4-11/2014	106.57	6.85	0.00	99.72	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-117	6/12-14/2014	106.57	7.11	0.00	99.46	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-117	8/18-21/14	106.57	7.71	0.00	98.86	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.37	LFP
MW-117	11/19-20/2014	106.57	6.91	0.00	99.66	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-117	2/17-20/2015	106.57	6.26	0.00	100.31	<50	<29	<29	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-117	5/11-15/2015	106.57	6.91	0.00	99.66	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-117	8/10-11/2015	106.57	8.10	0.00	98.47	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	1.10	LFP
MW-117	11/16-18/2015	106.57	3.89	0.00	102.68	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.0021	LFP
MW-117	5/13-14/2016	106.57	7.38	0.00	99.19												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-117	11/14/2016	106.57	5.60	0.00	100.97												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-117	05/14/2017	106.57	6.10	0.00	100.47												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-117	11/11-12/2017	106.57	6.16	0.00	100.41												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-117	05/11/2018	106.57	7.04	0.00	99.53												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-117	11/11-12/2018	106.57	6.58	0.00	99.99												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-117	04/27/2019	106.57	6.82	0.00	99.75												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-117	11/03/2019	106.57	7.09	0.00	99.48												WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY
MW-117	Nov 2019	106.57	--	--	--												WELL ABANDONED
MW-118	08/22/1995	106.72	7.87	0.00	98.85	<50	--	470	--	<750	--	--	--	--	--	--	
MW-118	11/28/1995	106.72	5.76	0.00	100.96	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-118	03/12/1996	106.72	6.67	0.00	100.05	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-118	06/26/1996	106.72	7.51	0.00	99.21	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-118	10/09/1996	106.72	7.78	0.00	98.94	50.1	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-118	02/12/1997	106.72	6.35	0.00	100.37	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-118	04/22/1997	106.72	5.98	0.00	100.74	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-118	08/05/1997	106.72	7.85	0.00	98.87	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-118	11/11/1997	106.72	6.52	0.00	100.20	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-118	02/11/1998	106.72	6.56	0.00	100.16	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-118	05/28/1998	106.72	6.85	0.00	99.87	<50	--	<250	--	<750	--	--	--	--	--	2.84	
MW-118	08/20/1998	106.72	7.26	0.00	99.46	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-118	11/19/1998	106.72	7.70	0.00	99.02	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-118	03/11/1999	106.72	5.81	0.00	100.91	<80	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-118	05/25/1999	106.72	7.39	0.00	99.33	<80	--	<250	--	--	--	--	--	--	--	--	
MW-118	08/17/1999	106.72	7.95	0.00	98.77	<80	--	<250	--	<500	--	--	--	--	--	<1.0	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-118	11/19/1999	106.72	5.53	0.00	101.19	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-118	03/09/2000	106.72	5.99	0.00	100.73	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-118	06/13/2000	106.72	7.08	0.00	99.64	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-118	09/26/2000	106.72	8.07	0.00	98.65	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-118	12/13/2000	106.72	7.53	0.00	99.19	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-118	02/28/2001	106.72	7.17	0.00	99.55	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-118	05/02/2001	106.72	6.81	0.00	99.91	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-118	12/30/2003	106.72	5.71	0.00	101.01	<500	--	<50	--	<400	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-118	07/20/2004	106.72	8.14	0.00	98.58	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	
MW-118	10/07/2004	106.72	7.55	0.00	99.17	<50	--	<76	--	<96	--	--	--	--	--	--	LFP
MW-118-DUP	10/07/2004	106.72	7.55	0.00	99.17	<50	--	<80	--	160	--	--	--	--	--	--	LFP
MW-118	10/20/2005	106.72	7.78	0.00	98.94	<48	--	<83	--	<100	--	--	--	--	--	--	LFP
MW-118	09/05/2007	106.72	8.20	0.00	98.52	<50	--	980	--	710	--	--	--	--	--	0.13	LFP
MW-118	8/27-29/2008	106.72	7.64	0.00	99.08	<50	--	260	--	230	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-118	11/17-19/2008	106.72	6.20	0.00	100.52	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-118	2/16-18/2009	106.72	7.29	0.00	99.43	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.068	LFP
MW-118	5/4-6/2009	106.72	6.70	0.00	100.02	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-118	8/19-21/2009	106.72	8.04	0.00	98.68	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.23	LFP
MW-118	11/18-20/2009	106.72	4.45	0.00	102.27	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-118	2/8-10/2010	106.72	6.65	0.00	100.07	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-118	5/12-13/2010	106.72	7.21	0.00	99.51	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-118	08/12/2010	106.72	7.90	0.00	98.82	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-118	11/3-4/2010	106.72	6.39	0.00	100.33	<50	--	<29	--	160	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-118	2/3-4/2011	106.72	6.77	0.00	99.95	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-118	8/23-24/11	106.72	8.15	0.00	98.57	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-118	11/7-9/2011	106.72	7.80	0.00	98.92	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-118	2/6-8/2012	106.72	6.50	0.00	100.22	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-118	5/2-4/2012	106.72	5.85	0.00	100.87	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-118	8/1-3/2012	106.72	7.87	0.00	98.85	<50	--	97	--	230	<0.5	<0.5	<0.5	<0.5	<0.5	0.042	LFP
MW-118	11/26-28/2012	106.72	5.84	0.00	100.88	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-118	2/4-6/2013	106.72	6.57	0.00	100.15	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-118	5/6-8/2013	106.72	7.47	0.00	99.25	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-118	9/9-13/2013	106.72	7.28	0.00	99.44	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-118	11/18-21/2013	106.72	6.57	0.00	100.15	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-118	2/4-11/2014	106.72	7.02	0.00	99.70	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-118	8/18-21/14	106.72	7.92	0.00	98.80	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.41	LFP
MW-118	11/19-20/2014	106.72	7.15	0.00	99.57	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-118	2/17-20/2015	106.72	6.54	0.00	100.18	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.083	
MW-118	5/11-15/2015	106.72	8.93	0.00	97.79	<50	69	75	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.170	
MW-118	8/10-11/2015	106.72	8.27	0.00	98.45	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	
MW-118	11/16-18/2015	106.72	4.69	0.00	102.03	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.00067	
MW-118	5/13-14/2016	106.72	7.61	0.00	99.11												
MW-118	11/14/2016	106.72	6.36	0.00	100.36												
MW-118	05/14/2017	106.72	6.50	0.00	100.22												
MW-118	11/11-12/2017	106.72	6.52	0.00	100.20												
MW-118	05/11/2018	106.72	7.31	0.00	99.41												
MW-118	11/11-12/2018	106.72	7.34	0.00	99.38												
MW-118	04/27/2019	106.72	7.05	0.00	99.67												
MW-118	11/03/2019	106.72	7.66	0.00	99.06												

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-118	Nov 2019	106.72	--	--	--						WELL ABANDONED						
MW-119	08/22/1995	108.35	9.22	0.00	99.13	<50	--	<250	--	<750	--	--	--	--	--	--	--
MW-119	11/28/1995	108.35	7.54	0.00	100.81	100	--	<250	--	<750	--	--	--	--	--	--	<2.0
MW-119	03/12/1996	108.35	8.21	0.00	100.14	240	--	<250	--	<750	--	--	--	--	--	--	2.2
MW-119	06/26/1996	108.35	8.91	0.00	99.44	174	--	<250	--	<750	--	--	--	--	--	--	<2.0
MW-119	10/09/1996	108.35	9.14	0.00	99.21	78	--	<250	--	<750	--	--	--	--	--	--	2.16
MW-119	02/12/1997	108.35	7.84	0.00	100.51	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0
MW-119	04/22/1997	108.35	7.67	0.00	100.68	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0
MW-119	08/05/1997	108.35	9.15	0.00	99.20	53.6	--	<250	--	<750	--	--	--	--	--	--	<2.0
MW-119	11/11/1997	108.35	8.02	0.00	100.33	<50	--	264	--	<750	--	--	--	--	--	--	<2.0
MW-119	02/11/1998	108.35	8.02	0.00	100.33	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0
MW-119	05/28/1998	108.35	8.20	0.00	100.15	102	--	<250	--	<750	--	--	--	--	--	--	3.33
MW-119	08/20/1998	108.35	10.40	0.00	97.95	<50	--	<250	--	<750	--	--	--	--	--	--	<1.0
MW-119	11/19/1998	108.35	8.98	0.00	99.37	78.5	--	<250	--	<750	--	--	--	--	--	--	1.82
MW-119	03/11/1999	108.35	7.61	0.00	100.74	<80	--	<250	--	<750	--	--	--	--	--	--	<1.0
MW-119	05/25/1999	108.35	8.77	0.00	99.58	<80	--	<250	--	--	--	--	--	--	--	--	--
MW-119	08/17/1999	108.35	9.29	0.00	99.06	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0
MW-119	11/19/1999	108.35	7.25	0.00	101.10	<80	--	<250	--	--	--	--	--	--	--	--	<1.0
MW-119	03/09/2000	108.35	7.63	0.00	100.72	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0
MW-119	06/13/2000	108.35	8.28	0.00	100.07	413	--	<250	--	<500	--	--	--	--	--	--	2.64
MW-119	09/26/2000	108.35	9.44	0.00	98.91	--	--	<250	--	<500	--	--	--	--	--	--	<1.0
MW-119	12/13/2000	108.35	8.86	0.00	99.49	--	--	<250	--	<500	--	--	--	--	--	--	1.79
MW-119	02/28/2001	108.35	8.56	0.00	99.79	227	--	<250	--	<500	--	--	--	--	--	--	2.64
MW-119	05/02/2001	108.35	8.10	0.00	100.25	104	--	<250	--	<500	--	--	--	--	--	--	1.56
MW-119	10/30/2002	108.35	9.76	0.00	98.59	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	4.2
MW-119	10/31/2003	108.35	8.62	0.00	99.73	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	1.315
MW-119	12/30/2003	108.35	7.40	0.00	100.95	<96	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	--	<1.2
MW-119	10/07/2004	108.35	8.85	0.00	99.50	<50	--	<79	--	<98	--	--	--	--	--	--	LFP
MW-119	10/20/2005	108.35	9.08	0.00	99.27	<48	--	<80	--	<100	--	--	--	--	--	--	LFP
MW-119	09/05/2007	108.35	9.53	0.00	98.82	<50	--	<800	--	<1,000	--	--	--	--	--	0.57	LFP
MW-119	8/27-29/2008	108.35	9.05	0.00	99.30	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	0.52	LFP
MW-119	11/17-19/2008	108.35	7.65	0.00	100.70	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.29	LFP
MW-119	2/16-18/2009	108.35	8.70	0.00	99.65	<50	--	45	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.44	LFP
MW-119	5/4-6/2009	108.35	8.06	0.00	100.29	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.74	LFP
MW-119	8/19-21/2009	108.35	9.45	0.00	98.90	<50	--	36	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.25	LFP
MW-119	11/18-20/2009	108.35	6.41	0.00	101.94	150	--	32	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	1	LFP
MW-119	2/8-10/2010	108.35	8.11	0.00	100.24	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.33	LFP
MW-119	5/12-13/2010	108.35	8.56	0.00	99.79	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.69	LFP
MW-119	08/12/2010	108.35	9.22	0.00	99.13	<50	--	<30	--	70	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-119	11/3-4/2010	108.35	7.52	0.00	100.83	<50	--	38	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	LFP
MW-119	2/3-4/2011	108.35	8.22	0.00	100.13	<50	--	30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.30	LFP
MW-119	05/24/2011	108.35	8.37	0.00	99.98	<50	--	<30	--	210	<0.5	<0.5	<0.5	<0.5	<0.5	0.49	LFP
MW-119	11/7-9/2011	108.35	9.10	0.00	99.25	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.34	LFP
MW-119	2/6-8/2012	108.35	7.90	0.00	100.45	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-119	5/2-4/2012	108.35	8.00	0.00	100.35	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.26	LFP
MW-119	8/1-3/2012	108.35	9.23	0.00	99.12	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.27	LFP
MW-119	11/26-28/2012	108.35	7.43	0.00	100.92	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-119	2/4-6/2013	108.35	7.99	0.00	100.36	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.099	LFP

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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments	
MW-119	5/6-8/2013	108.35	8.76	0.00	99.59	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP	
MW-119	9/9-13/2013	108.35	8.51	0.00	99.84	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.26	LFP	
MW-119	11/18-21/2013	108.35	7.67	0.00	100.68	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.80	LFP	
MW-119	2/4-11/2014	108.35	8.47	0.00	99.88	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.16	LFP	
MW-119	8/18-21/14	108.35	9.23	0.00	99.12	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.17	LFP	
MW-119	11/19-20/2014	108.35	8.50	0.00	99.85	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.14	LFP	
MW-119	2/17-20/2015	108.35	7.97	0.00	100.38	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.18		
MW-119	5/11-15/2015	108.35	8.96	0.00	99.39	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.24		
MW-119	8/10-11/2015	108.35	9.70	0.00	98.65	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13		
MW-119	11/16-18/2015	108.35	6.43	0.00	101.92	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.0041		
MW-119	5/13-14/2016	108.35	8.39	0.00	99.96				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-119	11/14/2016	108.35	7.70	0.00	100.65				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-119	05/14/2017	108.35	7.85	0.00	100.50				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									LFP
MW-119	11/11-12/2017	108.35	7.92	0.00	100.43				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									LFP
MW-119	05/11/2018	108.35	8.60	0.00	99.75				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									LFP
MW-119	11/11-12/2018	108.35	8.62	0.00	99.73				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									LFP
MW-119	11/7-9/2011	108.35	8.00	0.00	99.11	740	--	220	--	160	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	LFP	
MW-119	2/6-8/2012	108.35	6.80	0.00	101.55	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP	
MW-119	5/2-4/2012	108.35	6.20	0.00	102.15	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP	
MW-119	8/1-3/2012	108.35	8.11	0.00	99.00	<50	--	59	--	75	<0.5	<0.5	<0.5	<0.5	<0.5	0.29	LFP	
MW-119	11/26-28/2012	108.35	6.21	0.00	102.14	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP	
MW-119	2/4-6/2013	108.35	6.84	0.00	101.51	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP	
MW-119	5/6-8/2013	108.35	7.64	0.00	100.71	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP	
MW-119	9/9-13/2013	108.35	7.36	0.00	99.75	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP	
MW-119	11/18-21/2013	108.35	6.61	0.00	100.50	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.088	LFP	
MW-119	2/4-11/2014	108.35	7.32	0.00	101.03	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085		
MW-119	6/12-14/2014	108.35	7.70	0.00	100.65	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082		
MW-119	8/18-21/14	108.35	8.13	0.00	98.98	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.32		
MW-119	11/19-20/2014	108.35	7.37	0.00	100.98	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082		
MW-119	04/27/2019	108.35	8.39	0.00	99.96				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									LFP
MW-119	11/03/2019	108.35	8.34	0.00	100.01				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									LFP
MW-119	Nov 2019	108.35	--	--	--				WELL ABANDONED									LFP
MW-120	2/17-20/2015	107.11	6.83	0.00	100.28	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.22		
MW-120	5/11-15/2015	107.11	7.71	0.00	99.40	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.10		
MW-120	8/10-11/2015	107.11	8.53	0.00	98.58	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13		
MW-120	11/16-18/2015	107.11	4.94	0.00	102.17	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.0019		
MW-120	5/13-14/2016	107.11	7.81	0.00	99.30				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-120	11/14/2016	107.11	6.47	0.00	100.64				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-120	05/14/2017	107.11	6.67	0.00	100.44				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-120	11/11-12/2017	107.11	6.69	0.00	100.42				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-120	05/11/2018	107.11	7.49	0.00	99.62				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-120	11/11-12/2018	107.11	7.46	0.00	99.65				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-120	04/27/2019	107.11	--	--	--				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-120	11/03/2019	107.11	7.50	0.00	99.61				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									
MW-120	Nov 2019	107.11	--	--	--				WELL ABANDONED									
B-1	02/14/1991	107.74	--	--	--	5,100	--	<250	--	--	--	--	--	--	--	--		
B-1	02/14/1992	107.74	6.90	0.00	100.84	--	--	--	--	--	--	--	--	--	--	--		

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-1	02/18/1992	107.74	6.72	0.00	101.02	--	--	--	--	--	--	--	--	--	--	--	
B-1	03/13/1992	107.74	6.93	0.00	100.81	<50	--	--	--	--	--	--	--	--	--	--	
B-1	04/21/1992	107.74	6.66	0.00	101.08	--	--	--	--	--	--	--	--	--	--	--	
B-1	08/22/1995	107.74	8.03	0.00	99.71	<50	--	<250	--	<750	--	--	--	--	--	--	
B-1	11/28/1995	107.74	6.13	0.00	101.61	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-1	03/11/1996	107.74	6.99	0.00	100.75	<50	--	<250	--	<750	--	--	--	--	--	7.5	
B-1	06/26/1996	107.74	7.73	0.00	100.01	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-1	10/09/1996	107.74	8.05	0.00	99.69	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-1	02/12/1997	107.74	6.46	0.00	101.28	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-1	04/22/1997	107.74	6.25	0.00	101.49	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-1	08/05/1997	107.74	8.20	0.00	99.54	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-1	11/11/1997	107.74	6.84	0.00	100.90	<50	--	300	--	<750	--	--	--	--	--	<2	
B-1	02/11/1998	107.74	6.70	0.00	101.04	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-1	05/28/1998	107.74	6.85	0.00	100.89	<50	--	<250	--	<750	--	--	--	--	--	<1	
B-1	08/20/1998	107.74	9.42	0.00	98.32	<50	--	<250	--	<750	--	--	--	--	--	<1	
B-1	11/19/1998	107.74	7.43	0.00	100.31	<50	--	<250	--	<750	--	--	--	--	--	<1	
B-1	03/11/1999	107.74	6.34	0.00	101.40	<80	--	<250	--	<750	--	--	--	--	--	<1	
B-1	05/25/1999	107.74	7.60	0.00	100.14	<80	--	<1,450	--	--	--	--	--	--	--	--	
B-1	08/17/1999	107.74	8.28	0.00	99.46	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-1	11/19/1999	107.74	5.90	0.00	101.84	<80	--	<250	--	--	--	--	--	--	--	<1	
B-1	03/09/2000	107.74	6.38	0.00	101.36	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-1	06/12/2000	107.74	6.26	0.00	101.48	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-1	09/26/2000	107.74	8.51	0.00	99.23	--	--	<250	--	<500	--	--	--	--	--	<1	
B-1	12/13/2000	107.74	7.69	0.00	100.05	--	--	<250	--	<500	--	--	--	--	--	<1	
B-1	02/28/2001	107.74	7.37	0.00	100.37	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-1	05/02/2001	107.74	6.69	0.00	101.05	109	--	<250	--	<500	--	--	--	--	--	<1	
B-1	12/30/2003	107.74	6.11	0.00	101.63	<98	--	<50	--	<78	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
B-1	10/06/2004	107.74	8.87	0.00	98.87	<50	--	81	--	100	--	--	--	--	--	--	LFP
B-1	10/24/2005	107.74	7.96	0.00	99.78	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
B-1	09/05/2007	107.74	8.60	0.00	99.14	<50	--	<80	--	<100	--	--	--	--	--	0.13	LFP
B-1	5/27-28/2008	107.74	7.85	0.00	99.89	<50	--	<75	--	<94	<0.5	0.6	<0.5	<0.5	<0.5	<0.050	LFP
B-1	8/27-29/2008	107.74	8.00	0.00	99.74	<50	--	<82	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	11/17-19/2008	107.74	6.39	0.00	101.35	<50	--	83	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	2/16-18/2009	107.74	7.55	0.00	100.19	<50	--	300	--	2,000	<0.5	<0.5	<0.5	<0.5	<0.5	0.098	LFP
B-1	5/4-6/2009	107.74	6.47	0.00	101.27	<50	--	39	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	8/19-21/2009	107.74	8.54	0.00	99.20	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	11/18-20/2009	107.74	5.35	0.00	102.39	66	--	60	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
B-1	2/8-10/2010	107.74	6.89	0.00	100.85	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	5/12-13/2010	107.74	7.34	0.00	100.40	<50	--	70	--	82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	08/11/2010	107.74	8.16	0.00	99.58	<50	--	<30	--	83	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-1	11/3-4/2010	107.74	6.02	0.00	101.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-1	2/3-4/2011	107.74	7.03	0.00	100.71	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-1	05/24/2011	107.74	7.10	0.00	100.64	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-1	8/23-24/11	107.74	8.46	0.00	99.28	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-1	11/7-9/2011	107.74	8.10	0.00	99.64	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-1	2/6-8/2012	107.74	6.75	0.00	100.99	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
B-1	5/2-4/2012	107.74	6.45	0.00	101.29	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-1	8/1-3/2012	107.74	8.23	0.00	99.51	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
B-1	11/26-28/2012	107.74	6.29	0.00	101.45	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments			
B-1	2/4-6/2013	107.74	6.81	0.00	100.93	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP			
B-1	5/6-8/2013	107.74	8.66	0.00	99.08	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP			
B-1	9/9-13/2013	107.74	7.18	0.00	100.56	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP			
B-1	11/18-22/2013	107.74	6.64	0.00	101.10	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP			
B-1	2/4-11/2014	107.74	7.25	0.00	100.49	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP			
B-1	6/12-14/2014	107.74	7.87	0.00	99.87	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP			
B-1	8/18-21/14	107.74	8.40	0.00	99.34	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP			
B-1	11/19-20/2014	107.74	7.43	0.00	100.31	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP			
B-1	2/17-20/2015	107.74	6.79	0.00	100.95	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP			
B-1	5/11-15/2015	107.74	8.77	0.00	98.97	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP			
B-1	8/10-11/2015	107.74	8.80	0.00	98.94	<50	89	<28	74	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	LFP			
B-1	11/16-18/2015	107.74	4.69	0.00	103.05	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.00063	LFP			
B-1	5/13-14/2016	107.74	7.80	0.00	99.94	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP			
B-1	11/14/2016	107.74	6.15	0.00	101.59	<50	--	51	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP			
B-1	05/14/2017	107.74	6.51	0.00	101.23	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP			
B-1	11/11-12/2017	107.74	7.42	0.00	100.32	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.11	LFP			
B-1	05/11/2018	107.74	7.31	0.00	100.43	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	LFP			
B-1	11/11-12/2018	107.74	7.48	0.00	100.26	<19	--	30	--	<67	<0.2	<0.2	<0.4	<1	--	<1.1	LFP			
B-1	04/27/2019	107.74	7.23	0.00	100.51	<19	--	32 J	--	<66	<0.2	<0.2	<0.4	<1	--	<1.1	LFP			
B-1	11/03/2019	107.74	7.45	0.00	100.29	<19	--	<29	--	<66	<0.2	<0.2	<0.4	<1	--	0.30 J	LFP			
B-1	05/06/2020	107.74	7.46	0.00	100.28	32.9 B J	<200	--	--	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00	LFP			
B-1	11/7/2020	107.74	6.6	0.00	101.14	--	--	--	--	--	--	--	--	--	--	--	LFP			
B-1	05/24/2021	107.74	7.92	0.00	99.82	462 B	137 J	137 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP			
B-1 DUP	05/24/2021	108.99	--	--	--	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP			
B-1	11/29/2021	107.74	6.52	0.00	101.22	--	--	--	WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									--	--	LFP
B-1	05/23/2022	107.74	6.98	0.00	100.76	--	--	--	WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									--	--	LFP
B-1	11/29/2022	107.74	7.17	0.00	100.57	--	--	--	WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									--	--	LFP
B-1	01/20/2023	107.74	6.35	0.00	101.39	--	--	--	WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY									--	--	LFP
B-2	02/14/1991	108.99	--	--	--	180	--	<250	--	--	--	--	--	--	--	--	--			
B-2	02/14/1992	108.99	8.08	0.00	100.91	--	--	--	--	--	--	--	--	--	--	--	--			
B-2	02/18/1992	108.99	7.97	0.00	101.02	--	--	--	--	--	--	--	--	--	--	--	--			
B-2	03/09/1992	108.99	7.88	0.00	101.11	--	--	--	--	--	--	--	--	--	--	--	--			
B-2	03/13/1992	108.99	8.12	0.00	100.87	--	--	--	--	--	--	--	--	--	--	--	--			
B-2	04/21/1992	108.99	7.82	0.00	101.17	--	--	--	--	--	--	--	--	--	--	--	--			
B-2	08/22/1995	108.99	9.30	0.00	99.69	<50	--	<250	--	<750	--	--	--	--	--	--	--			
B-2	11/27/1995	108.99	7.33	0.00	101.66	<50	--	<250	--	<750	--	--	--	--	--	--	<2			
B-2	03/12/1996	108.99	8.20	0.00	100.79	<50	--	<250	--	<750	--	--	--	--	--	--	<2			
B-2	06/27/1996	108.99	8.95	0.00	100.04	<50	--	<250	--	<750	--	--	--	--	--	--	<2			
B-2	10/10/1996	108.99	9.28	0.00	99.71	<50	--	<250	--	<750	--	--	--	--	--	--	<2			
B-2	02/12/1997	108.99	7.73	0.00	101.26	<50	--	<250	--	<750	--	--	--	--	--	--	<2			
B-2	04/22/1997	108.99	7.41	0.00	101.58	<50	--	<250	--	<750	--	--	--	--	--	--	2			
B-2	08/05/1997	108.99	9.40	0.00	99.59	<50	--	<250	--	<750	--	--	--	--	--	--	<2			
B-2	11/11/1997	108.99	8.00	0.00	100.99	<50	--	<250	--	<750	--	--	--	--	--	--	<2			
B-2	02/11/1998	108.99	7.90	0.00	101.09	<50	--	<250	--	<750	--	--	--	--	--	--	<2			
B-2	05/28/1998	108.99	8.03	0.00	100.96	<50	--	<250	--	<750	--	--	--	--	--	--	<1			
B-2	08/20/1998	108.99	10.64	0.00	98.35	<50	--	<250	--	<750	--	--	--	--	--	--	<1			
B-2	11/19/1998	108.99	8.67	0.00	100.32	<50	--	<250	--	<750	--	--	--	--	--	--	<1			
B-2	03/11/1999	108.99	7.56	0.00	101.43	<80	--	<250	--	<500	--	--	--	--	--	--	<1			

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-2	05/25/1999	108.99	8.82	0.00	100.17	<80	--	<250	--	<1,600	--	--	--	--	--	--	
B-2	08/17/1999	108.99	9.51	0.00	99.48	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	11/19/1999	108.99	7.08	0.00	101.91	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	03/09/2000	108.99	7.59	0.00	101.40	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	06/12/2000	108.99	8.00	0.00	100.99	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	09/26/2000	108.99	9.74	0.00	99.25	--	--	<250	--	<500	--	--	--	--	--	<1	
B-2	12/13/2000	108.99	8.91	0.00	100.08	--	--	<250	--	<500	--	--	--	--	--	<1	
B-2	02/28/2001	108.99	8.59	0.00	100.40	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	05/02/2001	108.99	7.89	0.00	101.10	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	12/30/2003	108.99	7.36	0.00	101.63	--	--	<50	--	--	<0.5	<0.5	<0.5	<1.5	--	<1.2	
B-2	10/06/2004	108.99	7.65	0.00	101.34	<50	--	<79	--	<99	--	--	--	--	--	--	LFP
B-2	07/18/2005	108.99	9.20	0.00	99.79	<48	--	<77	--	<96	--	--	--	--	--	--	LFP
B-2	10/21/2005	108.99	9.17	0.00	99.82	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
B-2	09/05/2007	108.99	9.83	0.00	99.16	<50	--	<81	--	<100	--	--	--	--	--	0.1	LFP
B-2	8/27-29/2008	108.99	9.28	0.00	99.71	<50	--	<80	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	11/17-19/2008	108.99	7.57	0.00	101.42	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	2/16-18/2009	108.99	8.77	0.00	100.22	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.070	LFP
B-2	5/4-6/2009	108.99	7.69	0.00	101.30	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	8/19-21/2009	108.99	9.75	0.00	99.24	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	11/18-20/2009	108.99	6.46	0.00	102.53	<50	--	94	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
B-2	2/8-10/2010	108.99	8.10	0.00	100.89	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	5/12-13/2010	108.99	8.55	0.00	100.44	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	08/11/2010	108.99	9.38	0.00	99.61	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-2	11/3-4/2010	108.99	7.20	0.00	101.79	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-2	2/3-4/2011	108.99	8.25	0.00	100.74	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-2	05/24/2011	108.99	8.33	0.00	100.66	<50	--	<30	--	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-2	8/23-24/11	108.99	9.70	0.00	99.29	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.26	LFP
B-2	11/7-9/2011	108.99	9.30	0.00	99.69	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-2	2/6-8/2012	108.99	7.95	0.00	101.04	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
B-2	5/2-4/2012	108.99	7.40	0.00	101.59	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-2	8/1-3/2012	108.99	8.20	0.00	100.79	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
B-2	11/26-28/2012	108.99	7.47	0.00	101.52	<50	--	<37	--	<86	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
B-2	2/4-6/2013	108.99	8.04	0.00	100.95	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
B-2	5/6-8/2013	108.99	8.89	0.00	100.10	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
B-2	9/9-13/2013	108.99	8.41	0.00	100.58	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-2	11/18-22/2013	108.99	7.77	0.00	101.22	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-2	2/4-11/2014	108.99	8.47	0.00	100.52	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-2	6/12-14/2014	108.99	8.91	0.00	100.08	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-2	8/18-21/14	108.99	9.53	0.00	99.46	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-2	11/19-20/2014	108.99	8.54	0.00	100.45	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-2	2/17-20/2015	108.99	7.93	0.00	101.06	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-2	5/11-15/2015	108.99	8.91	0.00	100.08	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-2	8/10-11/2015	108.99	10.01	0.00	98.98	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	1.20	LFP
B-2	11/16-18/2015	108.99	5.75	0.00	103.24	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.00060	LFP
B-2	5/13-14/2016	108.99	9.02	0.00	99.97	<50	--	37	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
B-2	11/14/2016	108.99	7.47	0.00	101.52	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
B-2	05/14/2017	108.99	7.72	0.00	101.27	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
B-2	11/11-12/2017	108.99	6.41	0.00	102.58	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.11	LFP
B-2	05/11/2018	108.99	8.47	0.00	100.52	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-2	11/11-12/2018	108.99	8.63	0.00	100.36	<19	--	<29	--	<67	<0.2	<0.2	<0.4	<1	--	<1.1	
B-2	04/27/2019	108.99	8.43	0.00	100.56	<19	--	31 J	--	<66	<0.2	<0.2	<0.4	<1	--	<1.1	
B-2	11/03/2019	108.99	8.66	0.00	100.33	<19	--	67 J	--	<66	<0.2	<0.2	<0.4	<1	--	1.2	
B-2	05/06/2020	108.99	8.67	0.00	100.32	32.6 B J	<200	--	--	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00	
B-2	11/7/2020	108.99	7.59	0.00	101.40	--	--	--	--	--	--	--	--	--	--	--	
B-2	05/24/2021	108.46	9.17	0.00	99.29	258 B	657	92.0 J	147 J	<250	<1.00	<1.00	5.4	0.243 J	--	<6.00	
B-2	11/29/2021	108.99	7.71	0.00	101.28	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	
B-2	05/23/2022	108.99	8.18	0.00	100.81	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	
B-2	11/29/2022	108.99	8.06	0.00	100.93	57.7 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	5.18	
B-2	01/20/2023	108.99	7.49	0.00	101.50	37.9 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<2.00	
B-3	02/14/1991	108.46	--	--	--	98,000	--	<250	--	--	--	--	--	--	--	--	
B-3	02/14/1992	108.46	7.82	0.00	100.64	--	--	--	--	--	--	--	--	--	--	--	
B-3	02/18/1992	108.46	7.82	0.00	100.64	--	--	--	--	--	--	--	--	--	--	--	
B-3	03/09/1992	108.46	7.55	0.00	100.91	--	--	--	--	--	--	--	--	--	--	--	
B-3	03/13/1992	108.46	7.82	0.00	100.64	28,000	--	31,000	--	--	--	--	--	--	--	--	
B-3	04/21/1992	108.46	7.50	0.00	100.96	--	--	--	--	--	--	--	--	--	--	--	
B-3	03/03/1994	108.46	--	--	--	43,000	--	3,940	--	<750	--	--	--	--	--	--	
B-3	08/23/1995	108.46	8.93	0.00	99.53	46,000	--	2,600	--	<750	--	--	--	--	--	--	
B-3	11/28/1995	108.46	7.12	0.00	101.34	63,000	--	1,500	--	<750	--	--	--	--	--	--	
B-3	03/12/1996	108.46	7.85	0.00	100.61	42,000	--	900	--	<750	--	--	--	--	--	--	
B-3	06/27/1996	108.46	8.67	0.00	99.79	37,900	--	1,510	--	1,080	--	--	--	--	--	--	
B-3	10/10/1996	108.46	8.97	0.00	99.49	16,200	--	729	--	<750	--	--	--	--	--	--	
B-3	02/12/1997	108.46	7.55	0.00	100.91	35,200	--	4,060	--	986	--	--	--	--	--	--	
B-3	04/22/1997	108.46	7.30	0.00	101.16	31,900	--	3,980	--	767	--	--	--	--	--	--	
B-3	08/02/1997	108.46	9.05	0.00	99.41	20,400	--	3,370	--	1,270	--	--	--	--	--	--	
B-3	11/11/1997	108.46	6.76	0.00	101.70	28,400	--	3,230	--	777	--	--	--	--	--	--	
B-3	02/11/1998	108.46	7.54	0.00	100.92	28,400	--	3,240	--	1,460	--	--	--	--	--	--	
B-3	05/28/1998	108.46	7.76	0.00	100.70	34,600	--	3,360	--	<750	--	--	--	--	29.5	--	
B-3	08/20/1998	108.46	10.30	0.00	98.16	32,900	--	2,150	--	<750	--	--	--	--	<1.89	--	
B-3	11/19/1998	108.46	8.39	0.00	100.07	23,800	--	6,650	--	<3,750	--	--	--	--	--	--	
B-3	03/11/1999	108.46	7.15	0.00	101.31	17,000	--	2,920	--	<5,000	--	--	--	--	--	--	
B-3	05/25/1999	108.46	8.50	0.00	99.96	30,500	--	1,850	--	--	--	--	--	--	--	--	
B-3	08/17/1999	108.46	9.15	0.00	99.31	29,600	--	2,570	--	711	--	--	--	--	--	--	
B-3	11/19/1999	108.46	6.76	0.00	101.70	30,700	--	7,880	--	--	--	--	--	--	--	--	
B-3	03/09/2000	108.46	7.24	0.00	101.22	10,400	--	<250	--	<500	--	--	--	--	--	--	
B-3	06/13/2000	108.46	8.15	0.00	100.31	23,000	--	<250	--	<500	--	--	--	--	--	--	
B-3	09/26/2000	108.46	9.35	0.00	99.11	--	--	<250	--	<500	--	--	--	--	--	--	
B-3	12/13/2000	108.46	8.58	0.00	99.88	21,600	--	<250	--	<500	--	--	--	--	--	--	
B-3	02/28/2001	108.46	8.28	0.00	100.18	25,700	--	<250	--	<500	--	--	--	--	--	--	
B-3	05/02/2001	108.46	7.79	0.00	100.67	17,200	--	<250	--	<500	--	--	--	--	--	--	
B-3	12/30/2003	108.46	7.04	0.00	101.42	<980	--	14,000	--	3,800	<5.0	1.9	130	61	--	17.3	
B-3	07/20/2004	108.46	9.31	0.00	99.15	13,200	--	1,220	--	<500	12.5	<10.0	874	204	--	24.6	
B-3	10/06/2004	108.46	8.68	0.00	99.78	13,000	--	1,200	--	<500	--	--	--	--	--	--	
B-3	01/27/2005	108.46	7.70	0.00	100.76	6,200	--	1,100	--	<190	--	--	--	--	--	--	LFP
B-3	04/12/2005	108.46	7.21	0.00	101.25	5,300	--	1,200	--	<100	--	--	--	--	--	--	LFP
B-3	07/18/2005	108.46	8.83	0.00	99.63	6,400	--	1,200	--	<97	--	--	--	--	--	--	LFP
B-3	10/21/2005	108.46	8.85	0.00	99.61	8,900	--	2,400	--	<510	--	--	--	--	--	--	LFP
B-3	09/04/2007	108.46	9.41	0.00	99.05	10,000	--	1,500	--	<200	--	--	--	--	--	--	LFP

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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-3	5/27-28/2008	108.46	8.73	0.00	99.73	3,700	--	2,400	--	<540	2	2	98	3	<0.5	20.2	LFP
B-3	8/27-29/2008	108.46	8.85	0.00	99.61	10,000	--	2,400	--	<98	5	2	230	17	<0.5	21.5	LFP
B-3	11/17-19/2008	108.46	7.13	0.00	101.33	7,100	--	1,700	--	<690	<0.5	<0.5	57	2	<0.5	20	LFP
B-3	2/16-18/2009	108.46	8.40	0.00	100.06	8,800	--	1,900	--	<340	180	130	130	21	<0.5	19.5	LFP
B-3	5/4-6/2009	108.46	7.65	0.00	100.81	5,800	--	2,400	--	<340	68	15	120	7	<0.5	13.1	LFP
B-3	8/19-21/2009	108.46	9.33	0.00	99.13	5,900	--	2,900	--	<360	39	10	170	16	<0.5	19	LFP
B-3	11/18-20/2009	108.46	6.35	0.00	102.11	2,500	--	2,200	--	<340	1	<0.5	12	1	<0.5	16.5	LFP
B-3	2/8-10/2010	108.46	7.73	0.00	100.73	6,200	--	1,700	--	140	2	<0.5	25	1	<0.5	9.9	LFP
B-3	5/12-13/2010	108.46	8.18	0.00	100.28	8,200	--	1,200	--	<68	2	<0.5	47	2	<0.5	10.3	LFP
B-3	08/11/2010	108.46	9.00	0.00	99.46	5,900	--	2,700	--	<340	7	1.0	270	20	<0.5	19.3	LFP
B-3	11/3-4/2010	108.46	6.96	0.00	101.50	3,100	--	2,500	--	<350	0.60	<0.5	24	1	<0.5	13.3	LFP
B-3	2/3-4/2011	108.46	6.70	0.00	101.76	4,900	--	1,400	--	<340	0.80	<0.5	53	2	<0.5	10.2	LFP
B-3	05/24/2011	108.46	7.96	0.00	100.50	1,800	--	1,200	--	300	1	<0.5	76	3	<0.5	14	LFP
B-3	8/23-24/11	108.46	9.24	0.00	99.22	3,700	--	960	--	<72	8	2	160	8	<0.5	11.7	LFP
B-3	11/7-9/2011	108.46	8.95	0.00	99.51	5,800	--	1,500	--	460	7	2	180	6	<0.5	12.3	LFP
B-3	2/6-8/2012	108.46	7.40	0.00	101.06	<50	--	<31	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	4.4	LFP
B-3	5/2-4/2012	108.46	7.50	0.00	100.96	1,300	--	53	--	<72	<0.5	<0.5	19	<0.5	0.7	3.9	LFP
B-3	8/1-3/2012	108.46	8.24	0.00	100.22	600	--	460	--	110	0.6	<0.5	1	<0.5	<0.5	8.0	LFP
B-3	11/26-28/2012	108.46	6.98	0.00	101.48	500	--	73	--	<68	<0.5	<0.5	0.8	<0.5	<0.5	7.4	LFP
B-3	2/4-6/2013	108.46	6.33	0.00	102.13	120	--	45	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	5.6	LFP
B-3	5/6-8/2013	108.46	8.50	0.00	99.96	2,600	--	150	--	<67	<0.5	<0.5	73	3	<0.5	8.9	LFP
B-3	9/9-13/2013	108.46	8.09	0.00	100.37	1,700	2,700	160	72	<66	0.6	<0.5	37	0.9	<0.5	16.0	LFP
B-3	11/18-22/2013	108.46	6.45	0.00	102.01	190	1,600	42	180	<67	<0.5	<0.5	<0.5	<0.5	<0.5	11.2	LFP
B-3	2/4-11/2014	108.46	8.10	0.00	100.36	480	730	36	<67	<67	<0.5	<0.5	2	<0.5	<0.5	7.4	LFP
B-3	6/12-14/2014	108.46	8.69	0.00	99.77	260	780	100	100	<66	<0.5	<0.5	1	<0.5	<0.5	8.3	LFP
B-3	8/18-21/14	108.46	9.23	0.00	99.23	1,000	1,000	180	170	<68	<0.5	<0.5	9	0.7	<0.5	8.9	LFP
B-3	11/19-20/2014	108.46	8.17	0.00	100.29	900	1,400	130	160	<67	<0.5	<0.5	7	<0.5	<0.5	13.4	LFP
B-3	2/17-20/2015	108.46	6.36	0.00	102.10	650	490	150	180	<66	<0.5	<0.5	<0.5	<0.5	<0.5	2.9	LFP
B-3	5/11-15/2015	108.46	8.16	0.00	100.30	1,400	690	120	<66	<66	<0.5	<0.5	33	0.9	<0.5	0.0081	LFP
B-3	8/10-11/2015	108.46	9.59	0.00	98.87	660	2,000	130	550	<67	<0.5	<0.5	5	0.5	<0.5	9.5	LFP
B-3	11/16-18/2015	108.46	5.58	0.00	102.88	880	1,200	57	180	<67	<0.5	<0.5	2	<0.5	<0.5	0.0185	LFP
B-3	5/13-14/2016	108.46	8.64	0.00	99.82	400	650	38	220	<67	<0.5	<0.5	1	<0.5	--	5.1	LFP
B-3	11/14/2016	108.46	7.45	0.00	101.01	560	380	<29	<67	<67	<0.5	<0.5	1	<0.5	--	10.6	LFP
B-3	05/14/2017	108.46	7.44	0.00	101.02	230	92	<28	<66	<66	<0.5	<0.5	1	<0.5	--	2.3	LFP
B-3	11/11-12/2017	108.46	7.47	0.00	100.99	860	270	32	<67	<67	3	<0.5	2	<0.5	--	11.4	LFP
B-3	05/11/2018	108.46	8.14	0.00	100.32	900	82	33	68	<67	<0.5	<0.5	5	<0.5	<0.5	0.76	LFP
B-3	11/11-12/2018	108.46	8.24	0.00	100.22	2,100	2,800	180	370	<66	0.9	0.3	5	<1	--	11.1	LFP
B-3	04/27/2019	108.46	8.02	0.00	100.44	<19	--	160	--	<66	<0.2	<0.2	<0.4	<1	--	3.4	LFP
B-3	11/03/2019	108.46	8.25	0.00	100.21	1,500	1,400	90 J	84 J	<67	0.2 J	0.3 J	8	<1	--	8.2	LFP
B-3	05/06/2020	108.46	8.35	0.00	100.11	92.3 B J	273	79.5 J	--	104 J	<1.00	<1.00	<1.00	<3.00	--	<5.00	LFP
B-3	11/7/2020	108.46	7.51	0.00	100.95	807	1,280	122 B J	386	<250	0.240 J	<1.00	1.52	0.315 J	--	5.89	LFP
B-3	05/24/2021	108.46	8.85	0.00	98.83	<100	83.0 J	83.0 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
B-3	11/29/2021	108.46	7.31	0.00	101.15	<100	176 J	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	5.52	LFP
B-3	05/23/2022	108.46	7.79	0.00	100.67	56.4 B J	171 J	171 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	3.21 J	LFP
B-3	11/29/2022	108.46	8.12	0.00	100.34	219,000	6,640	378	211 J	<250	6,770	48,300	3,280	20,400	--	14.5	LFP
B-3	01/20/2023	108.46	7.05	0.00	101.41	130,000	3,520	--	<250	--	2,230	28,800	3,010	19,000	--	9.24 B	LFP
B-4	02/14/1991	107.68	--	--	--	33,000	--	<250	--	--	--	--	--	--	--	--	--
B-4	02/14/1992	107.68	6.82	0.00	100.86	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-4	02/18/1992	107.68	5.94	0.00	101.74	--	--	--	--	--	--	--	--	--	--	--	--
B-4	03/09/1992	107.68	6.62	0.00	101.06	--	--	--	--	--	--	--	--	--	--	--	--
B-4	03/13/1992	107.68	6.88	0.00	100.80	21,000	--	--	--	--	--	--	--	--	--	--	--
B-4	04/21/1992	107.68	6.57	0.00	101.11	--	--	--	--	--	--	--	--	--	--	--	--
B-4	03/03/1994	107.68	--	--	--	15,800	--	1,040	--	1,250	--	--	--	--	--	--	--
B-4	08/22/1995	107.68	7.92	0.00	99.76	22,000	--	840	--	820	--	--	--	--	--	--	--
B-4	11/28/1995	107.68	6.11	0.00	101.57	22,000	--	1,900	--	990	--	--	--	--	--	--	3.1
B-4	03/12/1996	107.68	6.85	0.00	100.83	11,000	--	3,200	--	2,500	--	--	--	--	--	--	4.7
B-4	06/26/1996	107.68	7.58	0.00	100.10	16,100	--	757	--	<750	--	--	--	--	--	--	2.83
B-4	10/09/1996	107.68	7.90	0.00	99.78	10,200	--	543	--	<750	--	--	--	--	--	--	4.13
B-4	02/12/1997	107.68	6.01	0.00	101.67	12,200	--	4,710	--	4,830	--	--	--	--	--	--	2.82
B-4	04/22/1997	107.68	10.10	0.00	97.58	15,500	--	5,840	--	1,191	--	--	--	--	--	--	4.18
B-4	08/05/1997	107.68	8.37	0.00	99.31	15,800	--	2,560	--	3,160	--	--	--	--	--	--	6.26
B-4	11/11/1997	107.68	7.67	0.00	100.01	31,100	--	2,080	--	1,040	--	--	--	--	--	--	4.75
B-4	02/11/1998	107.68	6.45	0.00	101.23	3,750	--	1,340	--	1,630	--	--	--	--	--	--	<2.0
B-4	05/28/1998	107.68	7.25	0.00	100.43	2,510	--	3,180	--	1,250	--	--	--	--	--	--	4.69
B-4	08/20/1998	107.68	9.12	0.00	98.56	7,240	--	1,460	--	1,240	--	--	--	--	--	--	1.17
B-4	11/19/1998	107.68	7.22	0.00	100.46	1,880	--	2,470	--	3,750	--	--	--	--	--	--	<1.0
B-4	03/11/1999	107.68	5.41	0.00	102.27	11,900	--	1,130	--	585	--	--	--	--	--	--	3.54
B-4	05/25/1999	107.68	7.45	0.00	100.23	5,380	--	<1,450	--	--	--	--	--	--	--	--	--
B-4	08/17/1999	107.68	8.06	0.00	99.62	2,700	--	670	--	868	--	--	--	--	--	--	2.3
B-4	11/19/1999	107.68	5.75	0.00	101.93	11,400	--	1,700	--	--	--	--	--	--	--	17.5	--
B-4	03/09/2000	107.68	6.34	0.00	101.34	105,000	--	<1,250	--	2,830	--	--	--	--	--	--	10.9
B-4	06/13/2000	107.68	6.80	0.00	100.88	8,810	--	<250	--	943	--	--	--	--	--	--	6.92
B-4	09/26/2000	107.68	8.31	0.00	99.37	--	--	<250	--	0.565	--	--	--	--	--	--	5
B-4	12/13/2000	107.68	7.54	0.00	100.14	--	--	1,250	--	<500	--	--	--	--	--	--	5.98
B-4	02/28/2001	107.68	7.24	0.00	100.44	12,100	--	<250	--	<500	--	--	--	--	--	--	5.34
B-4	05/02/2001	107.68	6.59	0.00	101.09	12,300	--	15,700	--	757	--	--	--	--	--	--	5.75
B-4	12/30/2003	107.68	6.07	0.00	101.61	1,700	--	17,000	--	2,000	<10	<5.0	310	370	--	--	7.5
B-4	07/20/2004	107.68	8.23	0.00	99.45	4,660	--	<250	--	<500	15.1	1.3	42.3	10.1	--	--	--
B-4	10/06/2004	107.68	7.45	0.00	100.23	2,300	--	390	--	180	--	--	--	--	--	--	--
B-4	01/27/2005	107.68	6.72	0.00	100.96	2,800	--	200	--	<195	--	--	--	--	--	--	--
B-4	04/12/2005	107.68	6.62	0.00	101.06	2,600	--	340	--	<100	--	--	--	--	--	--	LFP
B-4	07/18/2005	107.68	6.62	0.00	101.06	1,600	--	560	--	<1,100	--	--	--	--	--	--	LFP
B-4	10/21/2005	107.68	7.81	0.00	99.87	1,800	--	190	--	260	--	--	--	--	--	--	LFP
B-4	09/04/2007	107.68	8.40	0.00	99.28	3,200	--	310	--	<100	--	--	--	--	--	1.8	LFP
B-4-DUP	09/04/2007	107.68	8.40	0.00	99.28	3,300	--	340	--	140	--	--	--	--	--	1.7	LFP
B-4	5/27-28/2008	107.68	7.52	0.00	100.16	1,800	--	310	--	330	3	3	25	7	<0.5	2.9	LFP
B-4	8/27-29/2008	107.68	7.88	0.00	99.80	3,100	--	330	--	1,100	1	0.9	22	4	<0.5	1.6	LFP
B-4	11/17-19/2008	107.68	6.26	0.00	101.42	3,500	--	700	--	2,600	1	0.7	27	3	<0.5	2.3	LFP
B-4	2/16-18/2009	107.68	7.40	0.00	100.28	2,000	--	440	--	480	0.6	<0.5	11	2	<0.5	2	LFP
B-4	5/4-6/2009	107.68	6.46	0.00	101.22	2,100	--	590	--	1,300	<0.5	<0.5	20	2	<0.5	1.6	LFP
B-4	8/19-21/2009	107.68	8.35	0.00	99.33	910	--	590	--	810	1	<0.5	5	1	<0.5	1.2	LFP
B-4	11/18-20/2009	107.68	5.30	0.00	102.38	5,700	--	490	--	450	3	0.7	36	3	<0.5	5.2	LFP
B-4	2/8-10/2010	107.68	6.78	0.00	100.90	350	--	400	--	1,400	<0.5	<0.5	4	<0.5	<0.5	0.46	LFP
B-4	5/12-13/2010	107.68	7.23	0.00	100.45	360	--	940	--	7,100	<0.5	<0.5	1	<0.5	<0.5	0.15	LFP
B-4	08/11/2010	107.68	8.00	0.00	99.68	170	--	600	--	2,000	<0.5	<0.5	1	<0.5	<0.5	0.26	LFP
B-4	11/3-4/2010	107.68	6.19	0.00	101.49	530	--	400	--	1,500	<0.5	<0.5	4	0.7	<0.5	1	LFP
B-4	2/3-4/2011	107.68	7.15	0.00	100.53	2,200	--	1,400	--	4,700	0.9	0.7	11	1	<0.5	2.9	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-4	05/24/2011	107.68	7.22	0.00	100.46	840	--	300	--	680	<0.5	<0.5	0.8	<0.5	<0.5	1.2	LFP
B-4	8/23-24/11	107.68	8.50	0.00	99.18	1,400	--	230	--	<68	<0.5	<0.5	1	0.6	<0.5	1.4	LFP
B-4	11/7-9/2011	107.68	8.15	0.00	99.53	950	--	120	--	360	<0.5	<0.5	1	0.5	<0.5	0.57	LFP
B-4	2/6-8/2012	107.68	6.80	0.00	100.88	320	--	64	--	120	<0.5	<0.5	2	<0.5	<0.5	1.6	LFP
B-4	5/2-4/2012	107.68	6.75	0.00	100.93	580	--	110	--	72	<0.5	<0.05	2	<0.5	<0.5	1.7	LFP
B-4	8/1-3/2012	107.68	8.26	0.00	99.42	510	--	100	--	190	<0.5	<0.5	<0.5	<0.5	<0.5	0.83	LFP
B-4	11/26-28/2012	107.68	6.34	0.00	101.34	1,200	--	320	--	210	<0.5	<0.5	8	0.7	<0.5	3.0	LFP
B-4	2/4-6/2013	107.68	6.95	0.00	100.73	1,600	--	150	--	<69	<0.5	<0.5	4	<0.5	<0.5	2.5	LFP
B-4	5/6-8/2013	107.68	7.53	0.00	100.15	2,400	--	140	--	<67	<0.5	<0.5	4	0.5	<0.5	2.4	LFP
B-4	9/9-13/2013	107.68	7.30	0.00	100.38	1,200	250	130	110	<66	<0.5	<0.5	3	0.5	<0.5	1.6	LFP
B-4	11/18-22/2013	107.68	6.76	0.00	100.92	1,200	150	120	<67	<67	<0.5	<0.5	3	<0.5	<0.5	1.9	LFP
B-4	2/4-11/2014	107.68	7.36	0.00	100.32	1,800	170	140	<68	<68	<0.5	<0.5	3	<0.5	<0.5	2.4	LFP
B-4	6/12-14/2014	107.68	7.94	0.00	99.74	1,200	260	120	73	<67	<0.5	<0.5	1	<0.5	<0.5	1.8	LFP
B-4	8/18-21/14	107.68	8.43	0.00	99.25	1,800	300	140	88	<67	<0.5	<0.5	1	0.5	<0.5	1.4	LFP
B-4	11/19-20/2014	107.68	6.77	0.00	100.91	1,300	270	120	<66	<66	<0.5	<0.5	2	<0.5	<0.5	2.4	LFP
B-4	2/17-20/2015	107.68	6.93	0.00	100.75	550	290	95	470	240	<0.5	<0.5	<0.5	<0.5	<0.5	0.73	LFP
B-4	5/11-15/2015	107.68	7.91	0.00	99.77	940	210	130	<66	<66	<0.5	<0.5	1	<0.5	<0.5	0.0016	LFP
B-4	8/10-11/2015	107.68	8.94	0.00	98.74	600	500	66	340	<66	<0.5	<0.5	<0.5	0.6	<0.5	0.89	LFP
B-4	11/16-18/2015	107.68	4.73	0.00	102.95	2,000	750	130	740	270	<0.5	<0.5	4	<0.5	<0.5	0.0171	LFP
B-4	5/13-14/2016	107.68	7.84	0.00	99.84	2,100	390	120	550	300	<0.5	<0.5	0.9	<0.5	--	0.81	LFP
B-4	11/14/2016	107.68	6.30	0.00	101.38	1,200	1,000	400	1,000	610	<0.5	<0.5	<0.5	<0.5	--	1.00	LFP
B-4	05/14/2017	107.68	6.65	0.00	101.03	2,000	1,200	520	2,500	1,100	<0.5	<0.5	<0.5	<0.5	--	12.8	LFP
B-4	11/11-12/2017	107.68	6.57	0.00	101.11	3,600	650	180	700	260	4	<0.5	1	<0.5	--	0.97	LFP
B-4	05/11/2018	107.68	7.39	0.00	100.29	3,600	650	180	700	260	4	<0.5	1	<0.5	--	0.97	LFP
B-4	11/11-12/2018	107.68	7.52	0.00	100.16	1,600	230	110	330	150	<0.2	<0.2	<0.4	<1	--	1.8	LFP
B-4	04/27/2019	107.68	7.31	0.00	100.37	940	--	90 J	--	<68	<0.2	<0.2	<0.4	<1	--	6.9	LFP
B-4	11/03/2019	107.68	7.51	0.00	100.17	1,500	290	120	410	270	<0.2	<0.2	0.4 J	<1	--	36.3	LFP
B-4	05/06/2020	107.68	7.54	0.00	100.14	1,800	230	115 J	--	106 J	<1.00	<1.00	<1.00	<3.00	--	9.59	LFP
B-4	11/7/2020	107.68	6.63	0.00	101.05	1,360	1,490	157 B J	507	<250	<1.00	<1.00	<1.00	<3.00	--	0.857 J	LFP
B-4	05/24/2021	107.68	7.89	0.00	99.79	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
B-4	11/29/2021	107.68	6.52	0.00	101.16	723	122 J	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
B-4	05/23/2022	107.68	7.07	0.00	100.61	1,100	231	84.6 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
B-4	11/29/2022	107.68	7.64	0.00	100.04	112,000	1,400	305	<250	<250	3,050	19,600 E	1,450	8,750	--	3.18	LFP
B-4	01/20/2023	107.68	6.51	0.20	101.17												Not Sampled Due to the Presence of NAPL
WELL NOT SAMPLED DUE TO PRESENCE OF NAPL																	
MW-101	02/14/1992	99.51	6.94	--	92.57	45,000	--	33,000	--	--	--	--	--	--	--	--	--
MW-101	02/18/1992	99.51	6.88	--	92.63	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	03/09/1992	99.51	6.76	--	92.75	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	03/13/1992	99.51	7.02	--	92.49	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	04/21/1992	99.51	7.73	--	91.78	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	03/03/1994	99.51	--	--	--	73,000	--	1,730	--	<750	--	--	--	--	--	--	--
MW-101	08/22/1995	99.51	7.90	--	91.61	12,000	--	1,300	--	<750	--	--	--	--	--	--	--
MW-101	11/28/1995	99.51	6.12	--	93.39	49,000	--	1,400	--	<750	--	--	--	--	--	24	--
MW-101	03/12/1996	99.51	6.86	--	92.65	43,000	--	760	--	<750	--	--	--	--	--	9.3	--
MW-101	06/26/1996	99.51	7.59	--	91.92	22,000	--	656	--	<750	--	--	--	--	--	8.22	--
MW-101	10/09/1996	99.51	7.85	--	91.66	5,800	--	309	--	<750	--	--	--	--	--	4.24	--
MW-101	02/12/1997	99.51	6.55	--	92.96	33,900	--	1,090	--	<750	--	--	--	--	--	7.04	--
MW-101	04/22/1997	99.51	6.31	--	93.20	21,500	--	1,870	--	977	--	--	--	--	--	7.41	--
MW-101	11/11/1997	99.51	6.76	--	92.75	23,400	--	952	--	<750	--	--	--	--	--	11.3	--

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-101	02/11/1998	99.51	6.78	--	92.73	28,400	--	793	--	<750	--	--	--	--	--	6.51	
MW-101	05/28/1998	99.51	6.91	--	92.60	11,900	--	798	--	<750	--	--	--	--	--	4.71	
MW-101	08/20/1998	99.51	8.30	--	91.21	4,400	--	414	--	<750	--	--	--	--	--	1.6	
MW-101	11/19/1998	99.51	7.69	--	91.82	5,820	--	714	--	<750	--	--	--	--	--	1.7	
MW-101	03/11/1999	99.51	6.17	--	93.34	38,500	--	1,200	--	<500	--	--	--	--	--	6.82	
MW-101	05/25/1999	99.51	7.47	--	92.04	18,000	--	1,450	--	--	--	--	--	--	--	--	
MW-101	08/17/1999	99.51	7.99	--	91.52	2,940	--	810	--	750	--	--	--	--	--	2.9	
MW-101	11/19/1999	99.51	5.84	--	93.67	16,300	--	1,010	--	--	--	--	--	--	--	15.4	
MW-101	03/09/2000	99.51	6.25	--	93.26	15,800	--	<250	--	<500	--	--	--	--	--	13	
MW-101	06/13/2000	99.51	6.98	--	92.53	4,870	--	<250	--	<500	--	--	--	--	--	4.3	
MW-101	09/26/2000	99.51	8.15	--	91.36	<500	--	--	--	<250	--	--	--	--	--	1.88	
MW-101	12/13/2000	99.51	7.65	--	91.86	<500	--	988	--	442	--	--	--	--	--	1.13	
MW-101	02/28/2001	99.51	7.25	--	92.26	2,710	--	<250	--	<500	--	--	--	--	--	2.45	
MW-101	05/02/2001	99.51	9.55	--	89.96	2,280	--	<250	--	<500	--	--	--	--	--	2.6	
MW-101	12/30/2003	99.54	6.04	0.00	93.50	<96	--	13,000	--	890	<5.0	0.6	260	290	--	27.9	
MW-101	07/20/2004	99.54	8.18	0.00	91.36	1,040	--	<250	--	<500	3.01	<0.500	0.822	1.21	--	<1.0	LFP
MW-101	10/06/2004	99.51	7.54	0.00	91.97	<260	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-101	01/27/2005	99.51	6.78	0.00	92.73	2,900	--	190	--	<100	--	--	--	--	--	--	LFP
MW-101	04/12/2005	99.51	6.32	0.00	93.19	1,700	--	160	--	<100	--	--	--	--	--	--	LFP
MW-101	07/18/2005	99.51	7.78	0.00	91.73	240	--	93	--	<99	--	--	--	--	--	--	LFP
MW-101	10/21/2005	99.51	7.75	0.00	91.76	470	--	110	--	<100	--	--	--	--	--	--	LFP
MW-101	09/05/2007	99.51	8.22	0.00	91.29	200	--	110	--	140	--	--	--	--	--	1.2	LFP
MW-101	5/27-28/2008	99.51	7.71	0.00	91.80	410	--	<80	--	<99	<0.5	<0.5	0.5	<0.5	<0.5	1.2	LFP
MW-101	8/27-29/2008	99.51	7.75	0.00	91.76	450	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	0.39	LFP
MW-101	11/17-19/2008	99.51	6.33	0.00	93.18	520	--	74	--	<68	<0.5	<0.5	1	<0.5	<0.5	1.1	LFP
MW-101	2/16-18/2009	99.51	7.43	0.00	92.08	590	--	68	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.96	
MW-101	5/4-6/2009	99.51	6.93	0.00	92.58	370	--	66	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.39	
MW-101	8/19-21/2009	99.51	8.16	0.00	91.35	510	--	65	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	
MW-101	11/18-20/2009	99.51	4.97	0.00	94.54	84	--	42	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	1	
MW-101	2/8-10/2010	99.51	6.82	0.00	92.69	970	--	130	--	190	<0.5	<0.5	1	<0.5	<0.5	2.1	
MW-101	5/12-13/2010	99.51	7.32	0.00	92.19	470	--	64	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.65	
MW-101	08/12/2010	99.51	7.96	0.00	91.55	370	--	52	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.24	
MW-101																	NOT PART OF MONITORING/SAMPLING PROGRAM
MW-102	02/14/1992	--	6.94	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
MW-102	02/18/1992	--	6.88	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
MW-102	03/09/1992	--	6.76	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
MW-102	03/13/1992	--	7.02	0.00	--	150	--	--	--	--	--	--	--	--	--	--	
MW-102	04/21/1992	--	7.72	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
MW-102																	NOT PART OF MONITORING/SAMPLING PROGRAM
MW-104	02/14/1992	100.45	8.86	0.00	91.59	--	--	--	--	--	--	--	--	--	--	--	
MW-104	02/18/1992	100.45	8.84	0.00	91.61	--	--	--	--	--	--	--	--	--	--	--	
MW-104	03/09/1992	100.45	8.73	0.00	91.72	--	--	--	--	--	--	--	--	--	--	--	
MW-104	03/13/1992	100.45	8.84	0.00	91.61	<50	--	--	--	--	--	--	--	--	--	--	
MW-104	04/21/1992	100.45	8.72	0.00	91.73	--	--	--	--	--	--	--	--	--	--	--	
MW-104	08/22/1995	100.45	9.30	0.00	91.15	<50	--	<250	--	<750	--	--	--	--	--	--	
MW-104	11/27/1995	100.45	8.39	0.00	92.06	--	--	--	--	--	--	--	--	--	--	--	
MW-104	03/12/1996	100.45	8.78	0.00	91.67	--	--	--	--	--	--	--	--	--	--	--	



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-104	06/27/1996	100.45	9.00	0.00	91.45	--	--	--	--	--	--	--	--	--	--	--	--
MW-104	10/10/1996	100.45	9.18	0.00	91.27	--	--	--	--	--	--	--	--	--	--	--	--
MW-104	02/12/1997	100.45	8.65	0.00	91.80	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-104	04/22/1997	100.45	8.50	0.00	91.95	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-104	08/05/1997	100.45	9.20	0.00	91.25	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-104	11/11/1997	100.45	8.81	0.00	91.64	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-104	02/11/1998	100.45	8.83	0.00	91.62	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-104	05/28/1998	100.45	8.97	0.00	91.48	<50	--	<250	--	<750	--	--	--	--	--	9.54	--
MW-104	08/20/1998	100.45	9.51	0.00	90.94	<50	--	<250	--	<750	--	--	--	--	--	<1.0	--
MW-104	11/19/1998	100.45	9.82	0.00	90.63	<50	--	<250	--	<750	--	--	--	--	--	<1.0	--
MW-104	03/11/1999	100.45	8.48	0.00	91.97	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-104	05/25/1999	100.45	8.96	0.00	91.49	<80	--	<250	--	--	--	--	--	--	--	--	--
MW-104	08/17/1999	100.45	9.24	0.00	91.21	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-104	11/19/1999	100.45	8.40	0.00	92.05	<80	--	<250	--	--	--	--	--	--	--	1.0	--
MW-104	03/09/2000	100.45	8.49	0.00	91.96	<80	--	<250	--	<50	--	--	--	--	--	<1.0	--
MW-104	06/13/2000	100.45	8.89	0.00	91.56	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-104	09/26/2000	100.45	9.32	0.00	91.13	--	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-104	12/13/2000	100.45	9.09	0.00	91.36	--	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-104	02/28/2001	100.45	8.89	0.00	91.56	<80	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-104	05/02/2001	100.45	8.79	0.00	91.66	103	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-104	10/31/2003	100.44	9.15	0.00	91.29	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	LFP
MW-104	12/30/2003	100.44	8.39	0.00	92.05	<96	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-104	10/07/2004	100.45	9.09	0.00	91.36	<50	--	<83	--	<100	--	--	--	--	--	--	LFP
MW-104	10/20/2005	100.45	9.19	0.00	91.26	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
MW-104	09/06/2007	100.45	9.42	0.00	91.03	<50	--	<79	--	<98	--	--	--	--	--	0.087	LFP
MW-104	8/27-29/2008	100.45	9.23	0.00	91.22	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	--
MW-104	11/17-19/2008	100.46	8.75	0.00	91.71	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	--
MW-104	2/16-18/2009	100.46	9.01	0.00	91.45	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.1	--
MW-104	5/4-6/2009	100.46	8.88	0.00	91.58	<50	--	38	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	--
MW-104	8/19-21/2009	100.46	9.32	0.00	91.14	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.057	--
MW-104	11/18-20/2009	100.46	8.08	0.00	92.38	98	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	--
MW-104	2/8-10/2010	100.46	8.76	0.00	91.70	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.053	--
MW-104																	MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-105	02/14/1992	96.14	3.36	0.00	92.78	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	02/18/1992	96.14	3.34	0.00	92.80	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	03/09/1992	96.14	3.25	0.00	92.89	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	03/13/1992	96.14	3.60	0.00	92.54	<50	--	--	--	--	--	--	--	--	--	--	--
MW-105	04/21/1992	96.14	3.40	0.00	92.74	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	08/22/1995	96.14	5.08	0.00	91.06	<50	--	<250	--	900	--	--	--	--	--	--	--
MW-105	11/28/1995	96.14	2.53	0.00	93.61	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	03/12/1996	96.14	3.37	0.00	92.77	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	06/26/1996	96.14	4.74	0.00	91.40	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	10/09/1996	96.14	4.93	0.00	91.21	--	--	--	--	--	--	--	--	--	--	--	--
MW-105	02/12/1997	96.14	3.19	0.00	92.95	<50	--	<250	--	<750	--	--	--	--	--	2	--
MW-105	04/22/1997	96.14	3.08	0.00	93.06	<50	--	<250	--	<750	--	--	--	--	--	2	--
MW-105	08/05/1997	96.14	4.85	0.00	91.29	<50	--	<250	--	<750	--	--	--	--	--	2	--
MW-105	11/11/1997	96.14	3.11	0.00	93.03	<50	--	<250	--	<750	--	--	--	--	--	2	--
MW-105	02/11/1998	96.14	3.24	0.00	92.90	<50	--	<250	--	<750	--	--	--	--	--	2	--



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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-105	05/28/1998	96.14	3.91	0.00	92.23	<50	--	<250	--	<750	--	--	--	--	--	6.62	
MW-105	08/20/1998	96.14	5.28	0.00	90.86	<50	--	<250	--	<750	--	--	--	--	--	<1.00	
MW-105	11/19/1998	96.14	5.37	0.00	90.77	<50	--	<250	--	<750	--	--	--	--	--	<1.00	
MW-105	03/11/1999	96.14	2.43	0.00	93.71	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	05/25/1999	96.14	4.29	0.00	91.85	<80	--	<250	--	--	--	--	--	--	--	--	
MW-105	08/17/1999	96.14	5.06	0.00	91.08	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	11/19/1999	96.14	3.08	0.00	93.06	<80	--	<250	--	--	--	--	--	--	--	<1.00	
MW-105	03/09/2000	96.14	2.75	0.00	93.39	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	06/13/2000	96.14	4.45	0.00	91.69	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	09/26/2000	96.14	5.20	0.00	90.94	--	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	12/13/2000	96.14	4.67	0.00	91.47	--	--	<250	--	<500	--	--	--	--	--	1.37	
MW-105	02/28/2001	96.14	3.92	0.00	92.22	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	05/02/2001	96.14	3.53	0.00	92.61	87	--	<250	--	<750	--	--	--	--	--	<1.00	
MW-105	12/31/2003	96.15	2.45	0.00	93.70	<500	--	<50	--	<400	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-105	05/03/2004	96.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-105	07/20/2004	96.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-105	10/07/2004	96.14	4.71	0.00	91.43	<50	--	<160	--	<200	--	--	--	--	--	--	LFP
MW-105	10/20/2005	96.14	5.16	0.00	90.98	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
MW-105	09/06/2007	96.14	5.34	0.00	90.80	<50	--	<100	--	<81	--	--	--	--	--	0.47	LFP
MW-105	5/27-28/2008	96.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-105	8/27-29/2008	96.14	5.16	0.00	90.98	<50	--	<81	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-105	11/17-19/2008	96.14	3.75	0.00	92.39	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-105	2/16-18/2009	96.14	6.15	0.00	89.99	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.57	
MW-105	5/4-6/2009	96.14	3.68	0.00	92.46	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-105	8/19-21/2009	96.14	5.25	0.00	90.89	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.064	
MW-105	11/18-20/2009	96.14	1.56	0.00	94.58	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.053	
MW-105	2/8-10/2010	96.14	3.37	0.00	92.77	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.078	
MW-105																	MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-106	02/14/1992	99.71	8.18	0.00	91.53	--	--	--	--	--	--	--	--	--	--	--	
MW-106	02/18/1992	99.71	8.20	0.00	91.51	--	--	--	--	--	--	--	--	--	--	--	
MW-106	03/09/1992	99.71	8.04	0.00	91.67	--	--	--	--	--	--	--	--	--	--	--	
MW-106	03/13/1992	99.71	8.18	0.00	91.53	<50	--	--	--	--	--	--	--	--	--	--	
MW-106	04/21/1992	99.71	8.02	0.00	91.69	--	--	--	--	--	--	--	--	--	--	--	
MW-106	08/22/1995	99.71	8.79	0.00	90.92	<50	--	<250	--	<750	--	--	--	--	--	--	
MW-106	11/28/1995	99.71	7.63	0.00	92.08	--	--	--	--	--	--	--	--	--	--	--	
MW-106	03/12/1996	99.71	8.04	0.00	91.67	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	06/26/1996	99.71	8.61	0.00	91.10	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	10/09/1996	99.71	8.65	0.00	91.06	<50	--	<250	--	<750	--	--	--	--	--	2.16	
MW-106	02/12/1997	99.71	7.95	0.00	91.76	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	04/22/1997	99.71	7.73	0.00	91.98	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	08/05/1997	99.71	8.68	0.00	91.03	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	11/11/1997	99.71	8.07	0.00	91.64	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	02/11/1998	99.71	8.12	0.00	91.59	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	05/28/1998	99.71	8.35	0.00	91.36	<50	--	<250	--	<750	--	--	--	--	--	4.53	
MW-106	08/20/1998	99.71	8.96	0.00	90.75	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-106	11/19/1998	99.71	9.37	0.00	90.34	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-106	03/11/1999	99.71	7.70	0.00	92.01	<80	--	<250	--	<50	--	--	--	--	--	1.1	
MW-106	05/25/1999	99.71	8.32	0.00	91.39	<80	--	<250	--	--	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-106	08/17/1999	99.71	8.70	0.00	91.01	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	11/19/1999	99.71	7.88	0.00	91.83	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-106	03/09/2000	99.71	7.74	0.00	91.97	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	06/13/2000	99.71	8.39	0.00	91.32	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	09/26/2000	99.71	8.79	0.00	90.92	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	12/13/2000	99.71	8.51	0.00	91.20	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	02/28/2001	99.71	8.18	0.00	91.53	<80	--	<250	--	<500	--	--	--	--	--	<2.0	
MW-106	05/02/2001	99.71	8.17	0.00	91.54	88	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	10/30/2002	99.73	8.98	0.00	90.75	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-106	01/23/2003	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-106	04/18/2003	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-106	07/11/2003	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-106	10/31/2003	99.73	8.52	0.00	91.21	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-106	12/31/2003	99.73	7.54	0.00	92.19	<98	--	<50	--	<78	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-106	05/03/2004	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-106	07/20/2004	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-106	10/07/2004	99.71	8.50	0.00	91.21	<50	--	<78	--	<97	--	--	--	--	--	--	LFP
MW-106	10/20/2005	99.71	8.70	0.00	91.01	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
MW-106	09/06/2007	99.71	8.88	0.00	90.83	<50	--	<80	--	<100	--	--	--	--	--	0.13	LFP
MW-106	5/27-28/2008	99.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-106	8/27-29/2008	99.71	8.72	0.00	90.99	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106	11/17-19/2008	99.71	8.18	0.00	91.53	<50	--	30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106	2/16-18/2009	99.71	8.40	0.00	91.31	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.072	
MW-106	5/4-6/2009	99.71	8.30	0.00	91.41	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106	8/19-21/2009	99.71	8.65	0.00	91.06	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106	11/18-20/2009	99.71	7.40	0.00	92.31	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	
MW-106	2/8-10/2010	99.71	8.05	0.00	91.66	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106																	MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-107	02/14/1992	100.00	8.50	0.00	91.50	--	--	--	--	--	--	--	--	--	--	--	
MW-107	02/18/1992	100.00	8.50	0.00	91.50	--	--	--	--	--	--	--	--	--	--	--	
MW-107	03/09/1992	100.00	8.36	0.00	91.64	--	--	--	--	--	--	--	--	--	--	--	
MW-107	03/13/1992	100.00	8.52	0.00	91.48	<50	--	--	--	--	--	--	--	--	--	--	
MW-107	04/21/1992	100.00	8.36	0.00	91.64	--	--	--	--	--	--	--	--	--	--	--	
MW-107	08/22/1995	100.00	9.06	0.00	90.94	<50	--	<250	--	<750	--	--	--	--	--	--	
MW-107	11/28/1995	100.00	8.00	0.00	92.00	--	--	--	--	--	--	--	--	--	--	--	
MW-107	03/12/1996	100.00	8.36	0.00	91.64	--	--	--	--	--	--	--	--	--	--	--	
MW-107	06/26/1996	100.00	8.89	0.00	91.11	--	--	--	--	--	--	--	--	--	--	--	
MW-107	10/09/1996	100.00	8.94	0.00	91.06	--	--	--	--	--	--	--	--	--	--	--	
MW-107	02/12/1997	100.00	8.25	0.00	91.75	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-107	04/22/1997	100.00	8.05	0.00	91.95	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-107	08/05/1997	100.00	8.95	0.00	91.05	<50	--	<250	--	<809	--	--	--	--	--	<2.0	
MW-107	11/11/1997	100.00	8.37	0.00	91.63	<50	--	<250	--	750	--	--	--	--	--	<2.0	
MW-107	02/11/1998	100.00	8.44	0.00	91.56	<50	--	351	--	750	--	--	--	--	--	<2.0	
MW-107	05/28/1998	100.00	8.73	0.00	91.27	<50	--	<250	--	754	--	--	--	--	--	--	
MW-107	08/20/1998	100.00	9.24	0.00	90.76	<50	--	<250	--	750	--	--	--	--	--	1	
MW-107	11/19/1998	100.00	9.65	0.00	90.35	<50	--	<250	--	750	--	--	--	--	--	<1.0	
MW-107	03/11/1999	100.00	8.08	0.00	91.92	<80	--	539	--	750	--	--	--	--	--	<1.0	
MW-107	05/25/1999	100.00	8.82	0.00	91.18	<80	--	<250	--	<500	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-107	08/17/1999	100.00	8.10	0.00	91.90	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-107	11/19/1999	100.00	8.21	0.00	91.79	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	03/09/2000	100.00	8.08	0.00	91.92	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-107	06/13/2000	100.00	8.88	0.00	91.12	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	09/26/2000	100.00	9.07	0.00	90.93	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	12/13/2000	100.00	8.78	0.00	91.22	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	02/28/2001	100.00	8.63	0.00	91.37	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	05/02/2001	100.00	8.63	0.00	91.37	88	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	10/30/2002	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	01/23/2003	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	04/18/2003	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	07/11/2003	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	10/31/2003	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	12/31/2003	100.00	7.92	0.00	92.08	150	--	<50	--	85	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-107	05/03/2004	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-107	07/20/2004	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-107	10/07/2004	100.00	8.78	0.00	91.22	<50	--	<80	--	<100	--	--	--	--	--	--	LFP
MW-107	10/20/2005	100.00	8.97	0.00	91.03	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-107	09/06/2007	100.00	9.18	0.00	90.82	<50	--	<78	--	<98	--	--	--	--	--	0.07	LFP
MW-107	5/27-28/2008	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-107	8/27-29/2008	100.00	8.98	0.00	91.02	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107	11/17-19/2008	100.00	8.46	0.00	91.54	<50	--	38	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107	2/16-18/2009	100.00	8.62	0.00	91.38	<50	--	35	--	70	<0.5	<0.5	<0.5	<0.5	<0.5	0.068	
MW-107	5/4-6/2009	100.00	8.95	0.00	91.05	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107	8/19-21/2009	100.00	9.11	0.00	90.89	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.27	
MW-107	11/18-20/2009	100.00	7.77	0.00	92.23	<50	--	99	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107	2/8-10/2010	100.00	8.25	0.00	91.75	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107																	MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-108	02/14/1992	99.79	8.10	0.00	91.69	--	--	--	--	--	--	--	--	--	--	--	
MW-108	02/18/1992	99.79	8.62	0.00	91.17	--	--	--	--	--	--	--	--	--	--	--	
MW-108	03/09/1992	99.79	8.49	0.00	91.30	--	--	--	--	--	--	--	--	--	--	--	
MW-108	03/13/1992	99.79	8.63	0.00	91.16	<50	--	--	--	--	--	--	--	--	--	--	
MW-108	04/21/1992	99.79	8.47	0.00	91.32	--	--	--	--	--	--	--	--	--	--	--	
MW-108	08/22/1995	99.79	9.04	0.00	90.75	<50	--	<250	--	<750	--	--	--	--	--	--	
MW-108	11/28/1995	99.79	7.98	0.00	91.81	--	--	--	--	--	--	--	--	--	--	--	
MW-108	03/12/1996	99.79	8.50	0.00	91.29	--	--	--	--	--	--	--	--	--	--	--	
MW-108	06/26/1996	99.79	8.86	0.00	90.93	--	--	--	--	--	--	--	--	--	--	--	
MW-108	10/09/1996	99.79	8.91	0.00	90.88	--	--	--	--	--	--	--	--	--	--	--	
MW-108	02/12/1997																MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-108	04/22/1997	99.79	8.08	0.00	91.71	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-108	08/05/1997	99.79	8.94	0.00	90.85	<50	--	<250	--	825	--	--	--	--	--	<2.0	
MW-108	11/11/1997	99.79	8.53	0.00	91.26	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-108	02/11/1998	99.79	8.59	0.00	91.20	<50	--	<250	--	873	--	--	--	--	--	<2.0	
MW-108	05/28/1998	99.79	8.72	0.00	91.07	<50	--	<250	--	<750	--	--	--	--	--	4.27	
MW-108	08/20/1998	99.79	9.20	0.00	90.59	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-108	11/19/1998	99.79	9.60	0.00	90.19	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-108	03/11/1999	99.79	8.16	0.00	91.63	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	05/25/1999	99.79	8.69	0.00	91.10	<80	--	<250	--	--	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-108	08/17/1999	99.79	8.96	0.00	90.83	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	11/19/1999	99.79	8.08	0.00	91.71	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-108	03/09/2000	99.79	8.16	0.00	91.63	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	06/13/2000	99.79	8.69	0.00	91.10	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	09/26/2000	99.79	9.04	0.00	90.75	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	12/13/2000	99.79	8.81	0.00	90.98	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	02/28/2001	99.79	8.60	0.00	91.19	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	05/02/2001	99.79	8.53	0.00	91.26	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	10/30/2002	99.79	9.24	0.00	90.55	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-108	01/23/2003	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-108	04/18/2003	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-108	07/11/2003	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-108	10/31/2003	99.79	8.82	0.00	90.97	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-108	12/31/2003	99.79	7.95	0.00	91.84	<97	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-108	05/03/2004	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-108	07/20/2004	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-108	10/07/2004	99.79	8.80	0.00	90.99	<50	--	<80	--	<100	--	--	--	--	--	--	LFP
MW-108	10/20/2005	99.79	8.89	0.00	90.90	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-108	10/20/2005 (D)	99.79	8.89	0.00	90.90	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-108	09/06/2007	99.79	9.15	0.00	90.64	<50	--	<80	--	<100	--	--	--	--	--	0.12	LFP
MW-108	5/27-28/2008	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-108	8/27-29/2008	99.79	9.00	0.00	90.79	<50	--	<78	--	<98	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-108	11/17-19/2008	99.79	8.48	0.00	91.31	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-108	2/16-18/2009	99.79	8.74	0.00	91.05	<50	--	1,100	--	230	<0.5	<0.5	<0.5	<0.5	<0.5	0.070	
MW-108	5/4-6/2009	99.79	8.62	0.00	91.17	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-108	8/19-21/2009	99.79	9.07	0.00	90.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-108	11/18-20/2009	99.79	7.64	0.00	92.15	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-108	2/8-10/2010	99.79	8.50	0.00	91.29	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-108						MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED											
TPWHD	11/7/2020	--	--	--	--	55.9 B J	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00	
TRIP BLANK	10/30/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TRIP BLANK	01/23/2003	--	--	--	--	<80	--	--	--	--	<0.500	<0.500	<0.500	<1.0	--	--	
TRIP BLANK	04/18/2003	--	--	--	--	<50	--	--	--	--	<0.500	<0.500	<0.500	<1.0	--	--	
QA	07/11/2003	--	--	--	--	<50	--	--	--	--	<0.500	<0.500	<0.500	<1.00	--	--	
QA	10/31/2003	--	--	--	--	<50	--	--	--	--	<0.500	<0.500	<0.500	<1.00	--	--	
QA	12/31/2003	--	--	--	--	--	--	<50	--	--	<0.5	<0.5	<0.5	<1.5	--	--	
QA	5/3/2004 <sup>6</sup>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
QA	07/20/2004	--	--	--	--	<50	--	--	--	--	<0.500	<0.500	<0.500	<1.00	--	--	
QA	5/27-28/2008	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	8/27-29/2008	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/17-19/2008	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	2/16-18/2009	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	5/4-6/2009	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	8/19-21/2009	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/18-20/2009	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	2/8-10/2010	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	5/12-13/2010	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	08/11/2010	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/3-4/2010	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	2/3-4/2011	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	05/23/2011	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	8/23-24/11	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/7-9/2011	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	2/6-8/2012	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	5/2-4/2012	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	8/1-3/2012	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/26-28/2012	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	2/4-6/2013	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	5/6-8/2013	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	9/9-13/2013	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/18-22/2013	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	2/4-11/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	6/12-14/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	8/18-21/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/19-20/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	2/17-20/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	5/11-15/2015	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	8/10-11/2015	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/16-18/2015	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	5/13-14/2016	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/14/2016	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	05/14/2017	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	

Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
QA	11/11-12/2017	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	05/11/2018	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/11-12/2018	--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<1	--	--	
QA	04/27/2019	--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<1	--	--	
QA	11/03/2019	--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<1	--	--	
QA	05/06/2020	--	--	--	--	38.7 B J	--	--	--	--	<1.00	<1.00	<1.00	<3.00	--	--	
QA	11/7/2020	--	--	--	--	43.1 B J	--	--	--	--	<1.00	<1.00	<1.00	<3.00	--	--	

**Notes:**

800/1,000 = GRO MTCA Method A CUL with benzene present is 800 µg/L and without is 1,000 µg/L

**BOLD and highlighted** values exceed their respective MTCA Method A cleanup level

**BOLD** values are non-detect do not exceed the laboratory method detection limit (MDL), but the MDL exceeds the MTCA Method A cleanup level

Results reported in micrograms per liter (µg/L)

**Abbreviations:**

TOC = Top of Casing in feet above North American Vertical Datum of 1988 (NAVD 88)

DTW = Depth to water in feet below TOC

NAPL = Non-aqueous phase liquid thickness in feet

GWE = Groundwater elevation in feet relative to NAVD88

-- = Not applicable, not available, or not analyzed

MTCA = Model Toxics Control Act Cleanup

CUL = Cleanup Level

DUP = Blind duplicate sample results

LFP = Low flow (purge) sample

QA = Quality Assurance

**Laboratory Qualifiers:**

< = Not detected at or above the laboratory Reporting Limit (RL) or Limit of Quantification (LOQ)

J = Estimated value; result is greater than the laboratory Method Detection Limit (MDL) but less than the RL or LOQ.

B = The same analyte is found in the associated blank.

E = The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

**Analytical Methods:**

Samples analyzed by USEPA Method 8260

BTEX = benzene, toluene, ethylbenzene, and total xylenes

MTBE = Methyl tertiary butyl ether

TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics analyzed by NWTPH-Gx

Samples analyzed by NWTPH-Dx

TPH-DRO = Total Petroleum Hydrocarbon as Diesel Range Organics

TPH-HRO = Total Petroleum Hydrocarbons as Heavy Oil Range Organics

Dissolved Lead analyzed by USEPA 6010D



**Notes:**

800/1,000 = GRO MTCA Method A CUL with benzene present is 800 µg/L and without is 1,000 µg/L

**BOLD and highlighted** values exceed their respective MTCA Method A cleanup level

**BOLD** values are non-detect do not exceed the laboratory method detection limit (MDL), but the MDL exceeds the MTCA Method A cleanup level  
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**Analytical Methods:**

Samples analyzed by USEPA Method 8260

BTEX = benzene, toluene, ethylbenzene, and total xylenes

MTBE = Methyl tertiary butyl ether

TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics analyzed by NWTPH-Gx

Samples analyzed by NWTPH-Dx

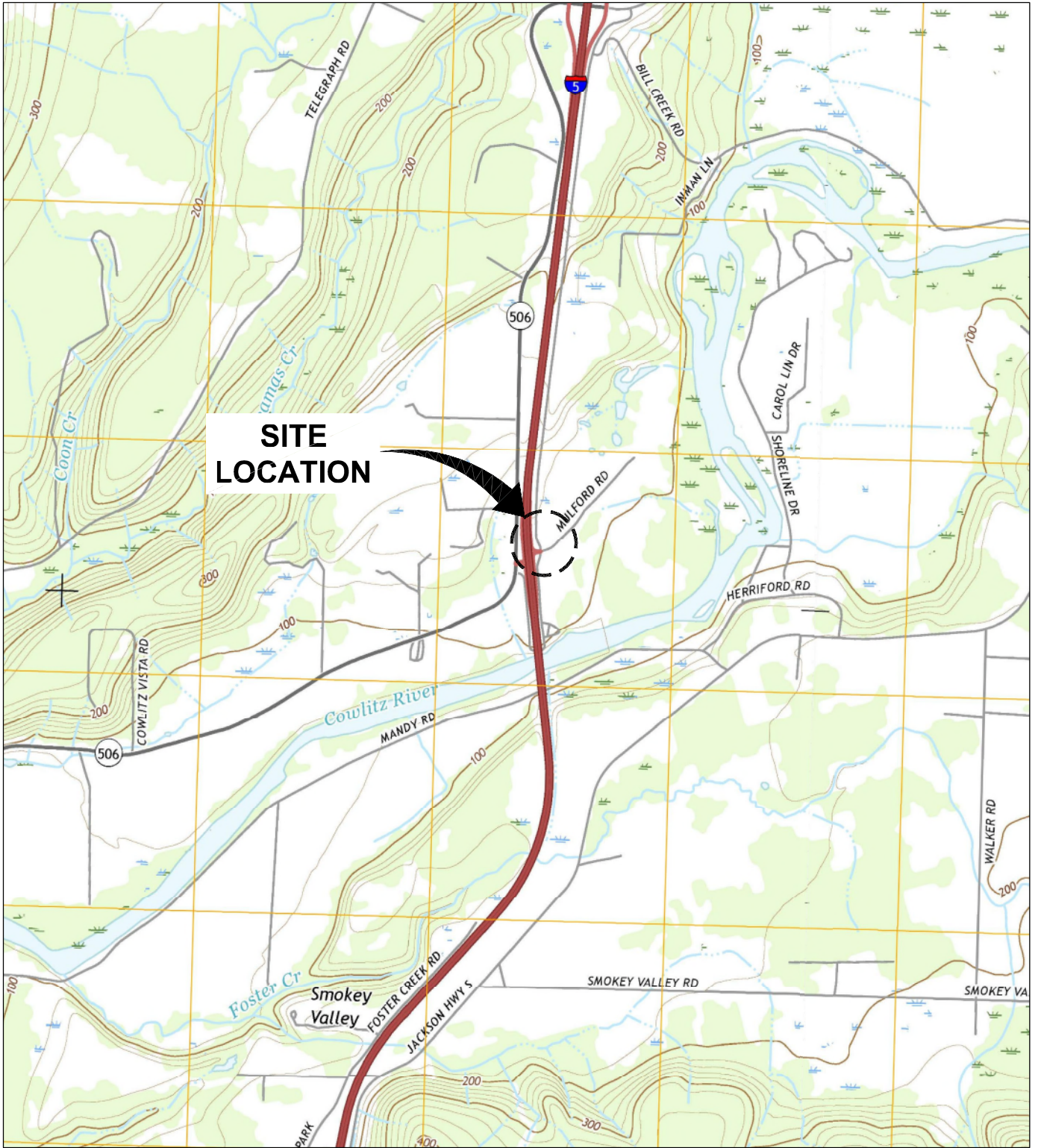
TPH-DRO = Total Petroleum Hydrocarbon as Diesel Range Organics

TPH-HRO = Total Petroleum Hydrocarbons as Heavy Oil Range Organics

Dissolved Lead analyzed by USEPA 6010D

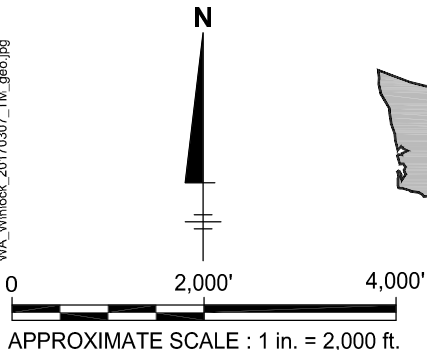
# FIGURES





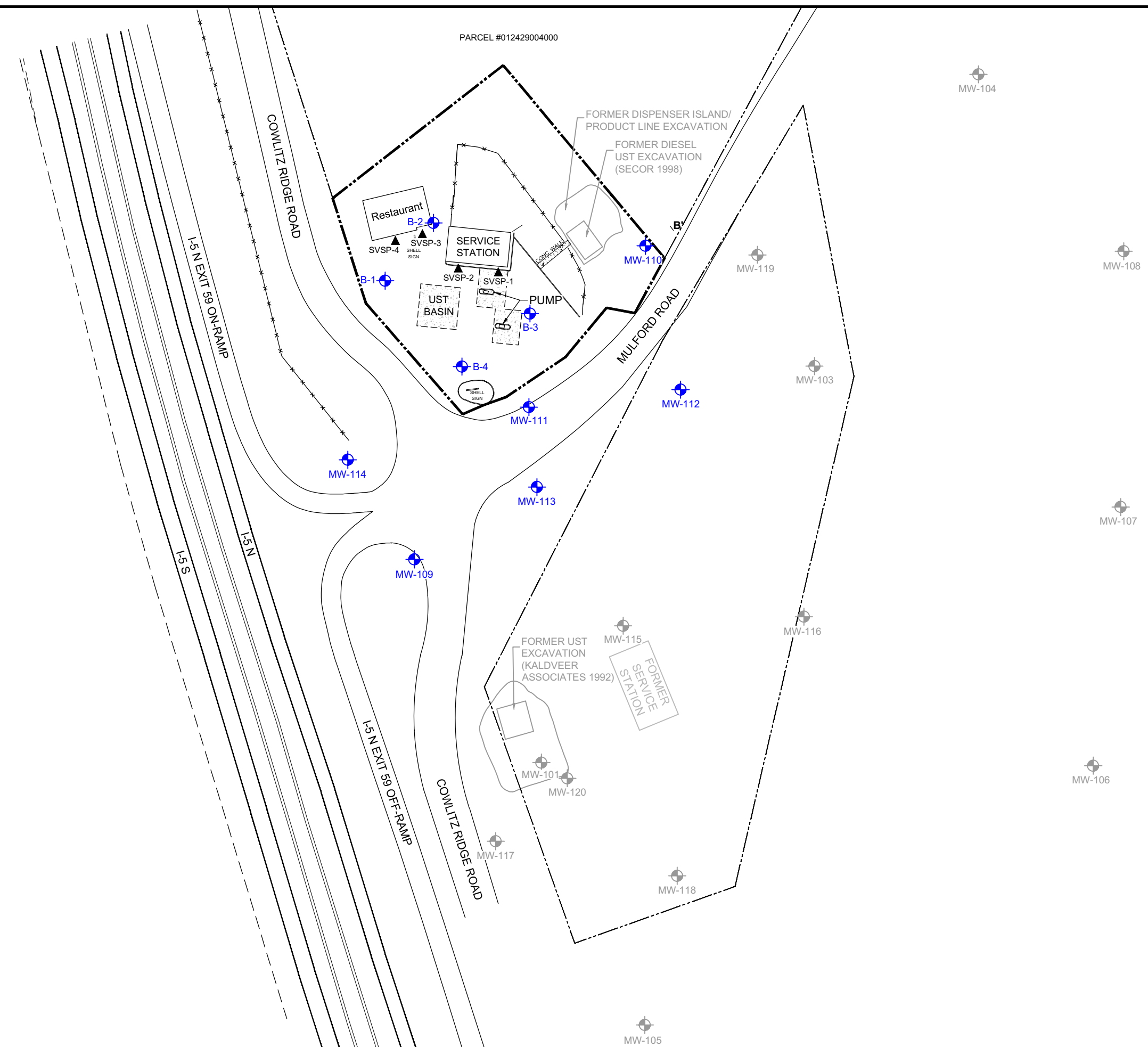
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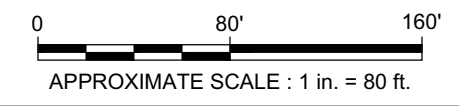


COWLITZ BP / COWLITZ FOOD AND FUEL /  
 FORMER TEXACO SERVICE STATION No. 211556  
 101 MULFORD ROAD  
 TOLEDO, WASHINGTON

**SITE LOCATION MAP**



- LEGEND:**
- LEWIS COUNTY PARCEL No. 012429003001 BOUNDARY
  - LEWIS COUNTY PARCEL No. 012429002001 BOUNDARY
  - FENCE
  - MW-119 GROUNDWATER MONITORING WELL
  - MW-108 ABANDONED MONITORING WELL
  - SVSP-2 SOIL VAPOR SAMPLING PROBES
  - UST UNDERGROUND STORAGE TANK



COWLITZ BP / COWLITZ FOOD AND FUEL /  
FORMER TEXACO SERVICE STATION No. 211556  
101 MULFORD ROAD  
TOLEDO, WASHINGTON

**SITE PLAN**

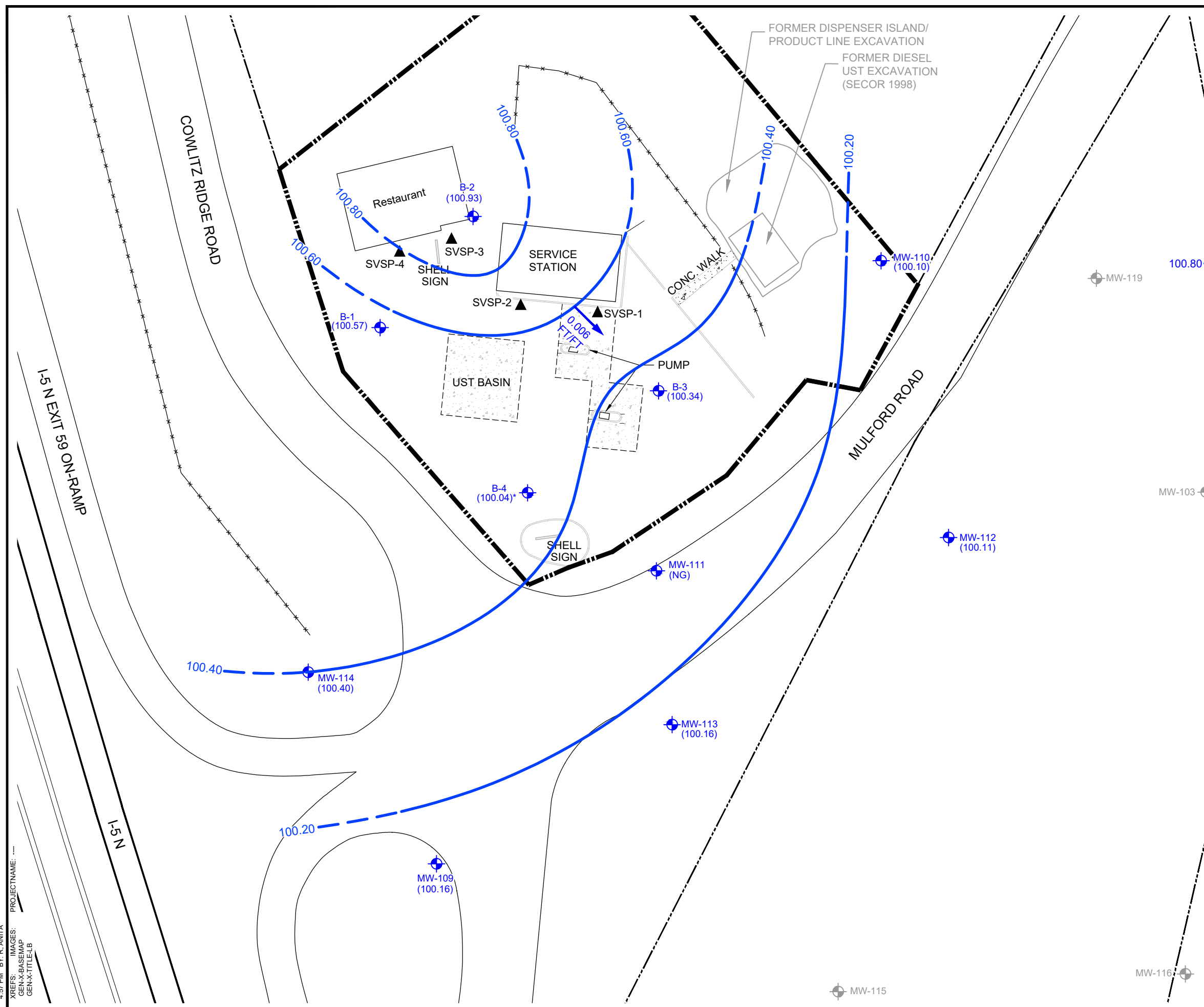
**ARCADIS**

FIGURE  
**2**

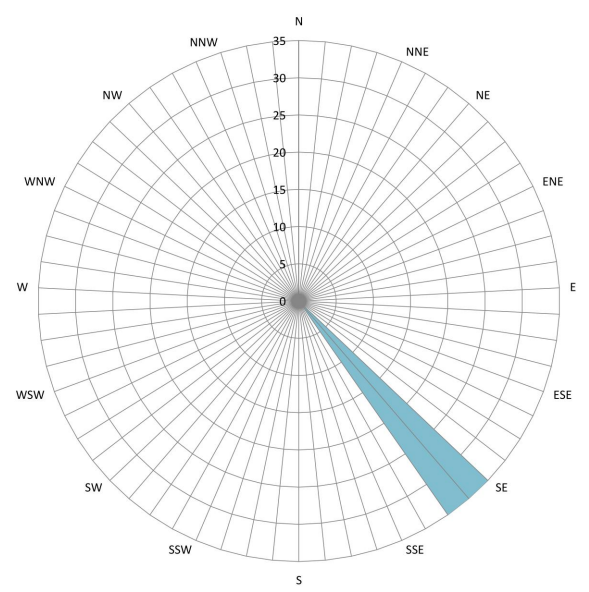




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- LEGEND:**
- LEWIS COUNTY PARCEL No. 012429003001 BOUNDARY
  - LEWIS COUNTY PARCEL No. 012429002001 BOUNDARY
  - FENCE
  - MW-119 GROUNDWATER MONITORING WELL
  - MW-119 ABANDONED MONITORING WELL
  - SVSP-2 SOIL VAPOR SAMPLING PROBES
  - UST UNDERGROUND STORAGE TANK
  - 100.80 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
  - (100.93) GROUNDWATER ELEVATION (FEET)
  - APPROXIMATE GROUNDWATER FLOW DIRECTION
  - 0.006 FT/FT APPROXIMATE HYDRAULIC GRADIENT (FEET/FOOT)
  - NOT GAUGED
  - WELL NOT USED FOR CONTOURING

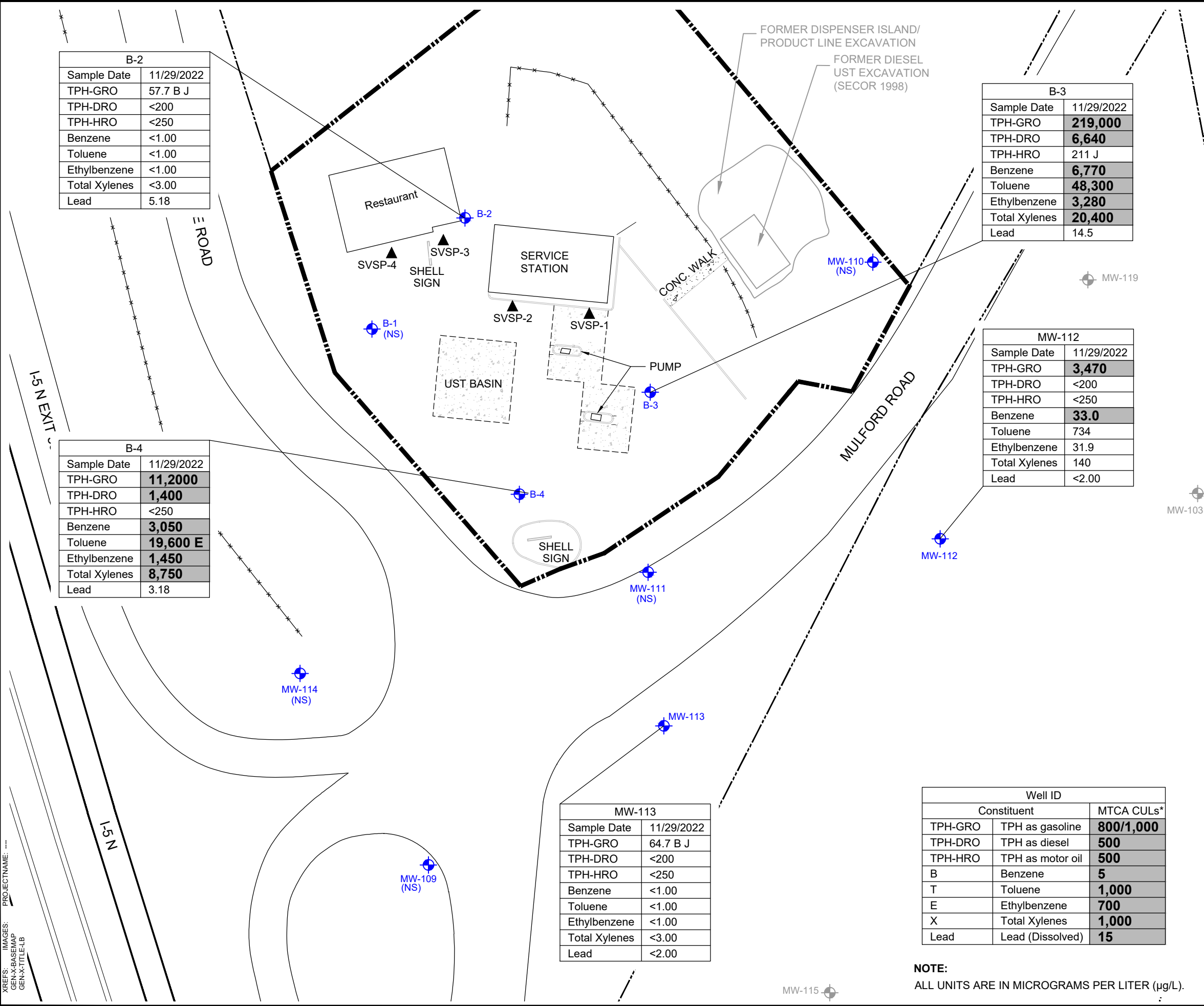


COWLITZ BP / COWLITZ FOOD AND FUEL / FORMER TEXACO SERVICE STATION NO. 211556  
101 MULFORD ROAD  
TOLEDO, WASHINGTON

**GROUNDWATER ELEVATION CONTOUR MAP  
NOVEMBER 29, 2022**



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B-2	
Sample Date	11/29/2022
TPH-GRO	57.7 B J
TPH-DRO	<200
TPH-HRO	<250
Benzene	<1.00
Toluene	<1.00
Ethylbenzene	<1.00
Total Xylenes	<3.00
Lead	5.18

B-3	
Sample Date	11/29/2022
TPH-GRO	<b>219,000</b>
TPH-DRO	<b>6,640</b>
TPH-HRO	211 J
Benzene	<b>6,770</b>
Toluene	<b>48,300</b>
Ethylbenzene	<b>3,280</b>
Total Xylenes	<b>20,400</b>
Lead	14.5

B-4	
Sample Date	11/29/2022
TPH-GRO	<b>11,2000</b>
TPH-DRO	<b>1,400</b>
TPH-HRO	<250
Benzene	<b>3,050</b>
Toluene	<b>19,600 E</b>
Ethylbenzene	<b>1,450</b>
Total Xylenes	<b>8,750</b>
Lead	3.18

MW-112	
Sample Date	11/29/2022
TPH-GRO	<b>3,470</b>
TPH-DRO	<200
TPH-HRO	<250
Benzene	<b>33.0</b>
Toluene	734
Ethylbenzene	31.9
Total Xylenes	140
Lead	<2.00

MW-113	
Sample Date	11/29/2022
TPH-GRO	64.7 B J
TPH-DRO	<200
TPH-HRO	<250
Benzene	<1.00
Toluene	<1.00
Ethylbenzene	<1.00
Total Xylenes	<3.00
Lead	<2.00

Well ID		
Constituent		MTCA CULs*
TPH-GRO	TPH as gasoline	<b>800/1,000</b>
TPH-DRO	TPH as diesel	<b>500</b>
TPH-HRO	TPH as motor oil	<b>500</b>
B	Benzene	<b>5</b>
T	Toluene	<b>1,000</b>
E	Ethylbenzene	<b>700</b>
X	Total Xylenes	<b>1,000</b>
Lead	Lead (Dissolved)	<b>15</b>

- LEGEND:**
- LEWIS COUNTY PARCEL No. 012429003001 BOUNDARY
  - LEWIS COUNTY PARCEL No. 012429002001 BOUNDARY
  - FENCE
  - MW-119 GROUNDWATER MONITORING WELL
  - MW-108 ABANDONED MONITORING WELL
  - SVSP-2 SOIL VAPOR SAMPLING PROBES
  - UST UNDERGROUND STORAGE TANK
  - TPH TOTAL PETROLEUM HYDROCARBONS
  - TPH-GRO TOTAL PETROLEUM HYDROCARBONS, GASOLINE RANGE ORGANICS
  - TPH-DRO TOTAL PETROLEUM HYDROCARBONS, DIESEL RANGE ORGANICS
  - TPH-HRO TOTAL PETROLEUM HYDROCARBON, HEAVY OIL RANGE ORGANICS
  - (NS) NOT SAMPLED
  - [ ] DUPLICATE SAMPLE RESULT
  - BOLD** ANALYTE CONCENTRATION EXCEEDS MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVELS
  - < NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT (RL)
  - \* ECOLOGY MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVELS (CULS) FOR GROUNDWATER WAC CHAPTER 173-340-900. TABLE 720-1
  - 800/1,000 GRO MTCA METHOD A CUL WITH B PRESENT IS 800 µg/L AND WITHOUT IS 1,000 µg/L
  - B THE SAME ANALYTE IS FOUND IN THE ASSOCIATED BLANK
  - J ESTIMATED VALUE BETWEEN RL AND METHOD DETECTION LIMIT
  - E THE ANALYTE CONCENTRATION EXCEEDS THE UPPER LIMIT OF THE CALIBRATION RANGE OF THE INSTRUMENT ESTABLISHED BY THE INITIAL



COWLITZ BP / COWLITZ FOOD AND FUEL /  
 FORMER TEXACO SERVICE STATION NO. 211556  
 101 MULFORD ROAD  
 TOLEDO, WASHINGTON

GROUNDWATER ANALYTICAL MAP  
 NOVEMBER 29, 2022

**NOTE:**  
ALL UNITS ARE IN MICROGRAMS PER LITER (µg/L).



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B-2	
Sample Date	01/20/2023
TPH-GRO	57.7 B J
TPH-DRO	<200
TPH-HRO	<250
Benzene	<1.00
Toluene	<1.00
Ethylbenzene	<1.00
Total Xylenes	<3.00
Lead	5.18

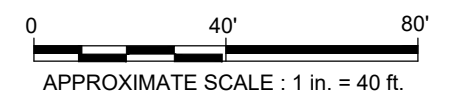
MW-111	
Sample Date	01/20/2023
TPH-GRO	<b>62,600</b>
TPH-DRO	<b>3,010</b>
TPH-HRO	<b>1,710</b>
Benzene	<b>2,610</b>
Toluene	<b>17,300</b>
Ethylbenzene	<b>1,070</b>
Total Xylenes	<b>5,650</b>
Lead	10.7

MW-113	
Sample Date	01/20/2023
TPH-GRO	78.8 B J
TPH-DRO	<200
TPH-HRO	<250
Benzene	<1.00
Toluene	<1.00
Ethylbenzene	<1.00
Total Xylenes	<3.00
Lead	<2.00

B-3	
Sample Date	01/20/2023
TPH-GRO	<b>130,000</b>
TPH-DRO	<b>3,520</b>
TPH-HRO	<250
Benzene	<b>2,230</b>
Toluene	<b>28,800</b>
Ethylbenzene	<b>3,010</b>
Total Xylenes	<b>19,000</b>
Lead	9.24

MW-112	
Sample Date	01/20/2023
TPH-GRO	94.9 B J
TPH-DRO	<200
TPH-HRO	<250
Benzene	<b>17.5</b>
Toluene	<1.00
Ethylbenzene	0.264
Total Xylenes	0.269
Lead	<2.00

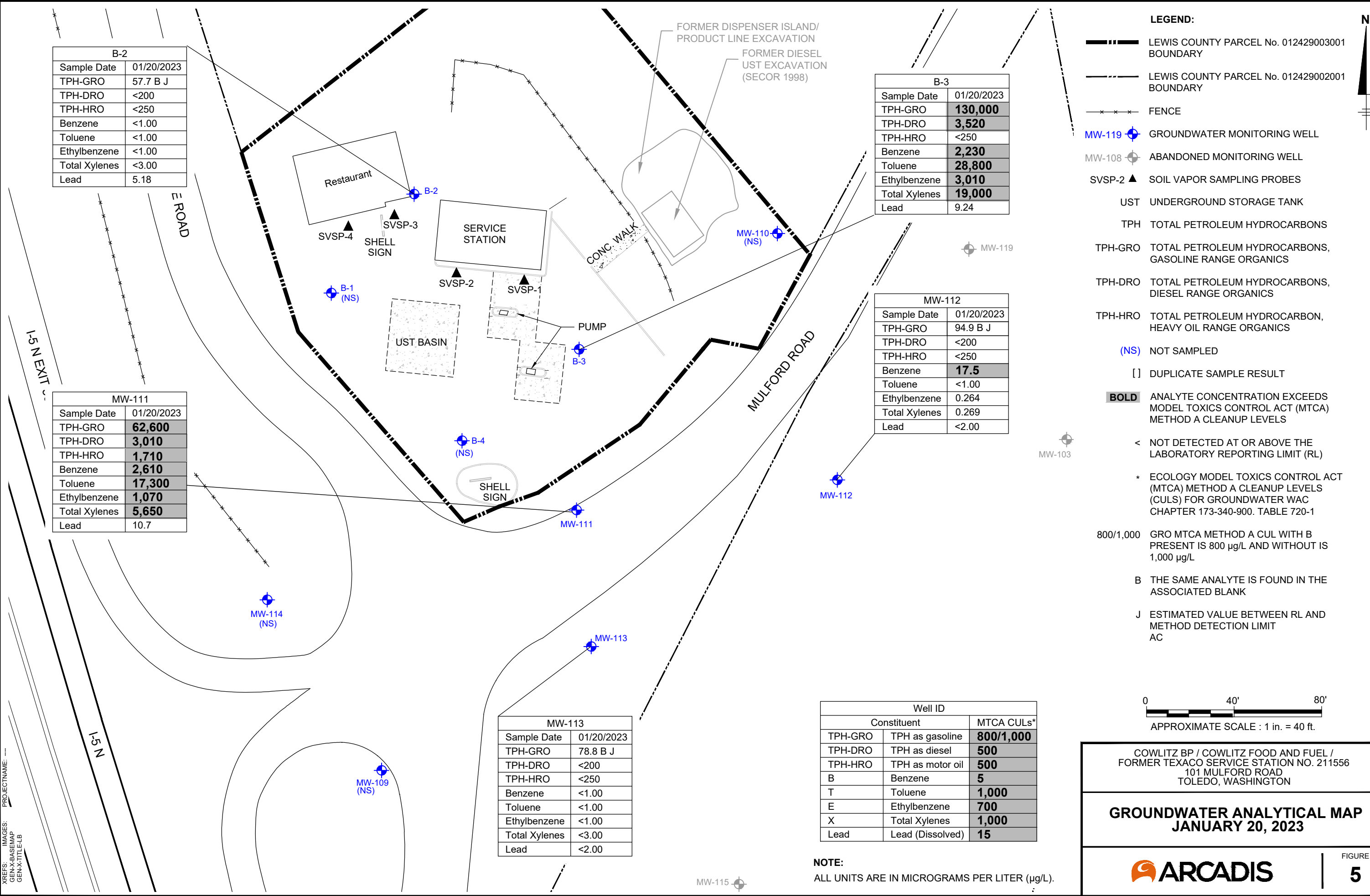
- LEGEND:**
- LEWIS COUNTY PARCEL No. 012429003001 BOUNDARY
  - LEWIS COUNTY PARCEL No. 012429002001 BOUNDARY
  - FENCE
  - MW-119 GROUNDWATER MONITORING WELL
  - MW-108 ABANDONED MONITORING WELL
  - SVSP-2 SOIL VAPOR SAMPLING PROBES
  - UST UNDERGROUND STORAGE TANK
  - TPH TOTAL PETROLEUM HYDROCARBONS
  - TPH-GRO TOTAL PETROLEUM HYDROCARBONS, GASOLINE RANGE ORGANICS
  - TPH-DRO TOTAL PETROLEUM HYDROCARBONS, DIESEL RANGE ORGANICS
  - TPH-HRO TOTAL PETROLEUM HYDROCARBON, HEAVY OIL RANGE ORGANICS
  - (NS) NOT SAMPLED
  - [ ] DUPLICATE SAMPLE RESULT
  - BOLD** ANALYTE CONCENTRATION EXCEEDS MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVELS
  - < NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT (RL)
  - \* ECOLOGY MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVELS (CULS) FOR GROUNDWATER WAC CHAPTER 173-340-900. TABLE 720-1
  - 800/1,000 GRO MTCA METHOD A CUL WITH B PRESENT IS 800 µg/L AND WITHOUT IS 1,000 µg/L
  - B THE SAME ANALYTE IS FOUND IN THE ASSOCIATED BLANK
  - J ESTIMATED VALUE BETWEEN RL AND METHOD DETECTION LIMIT
  - AC



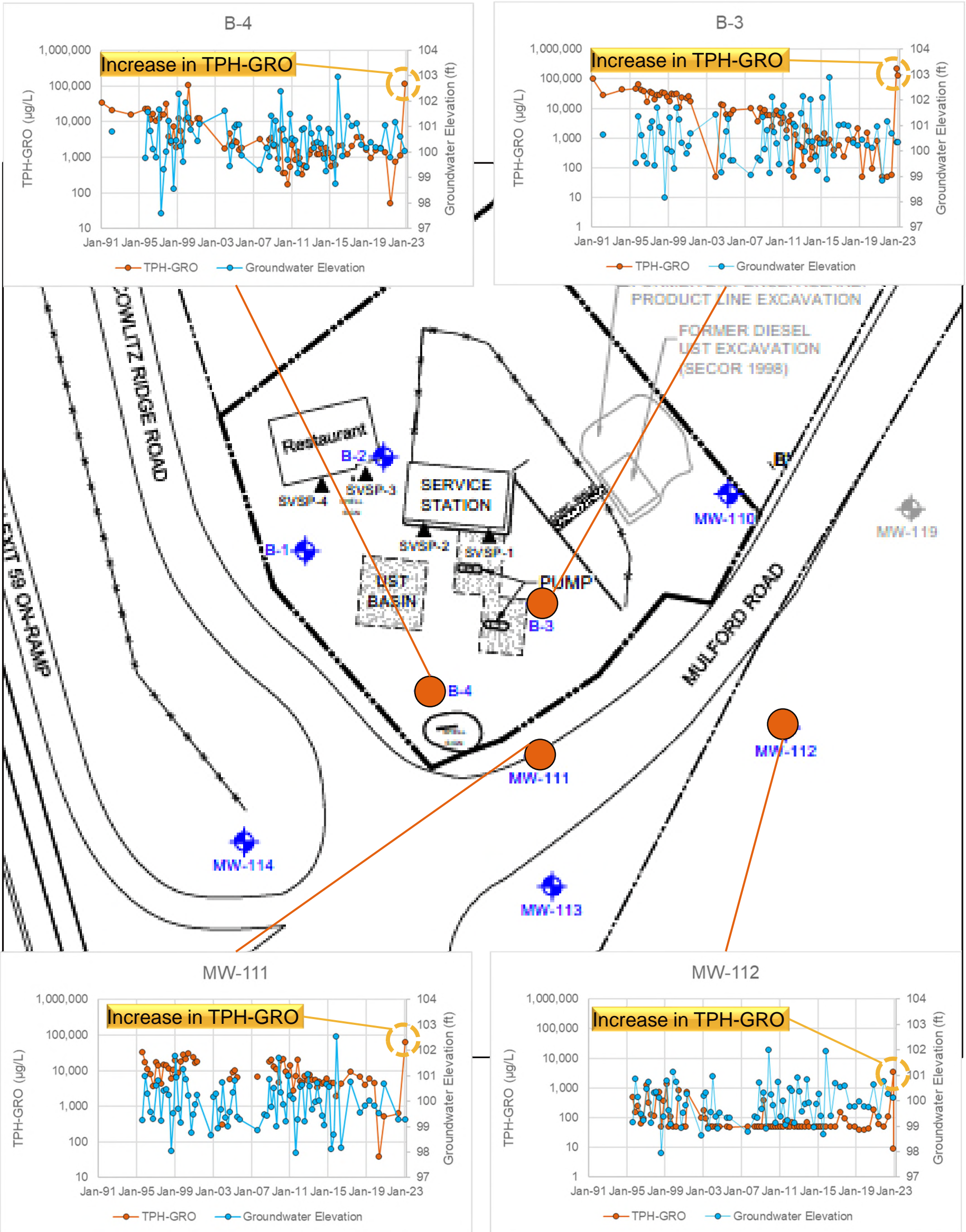
COWLITZ BP / COWLITZ FOOD AND FUEL /  
 FORMER TEXACO SERVICE STATION NO. 211556  
 101 MULFORD ROAD  
 TOLEDO, WASHINGTON

GROUNDWATER ANALYTICAL MAP  
 JANUARY 20, 2023

**NOTE:**  
ALL UNITS ARE IN MICROGRAMS PER LITER (µg/L).

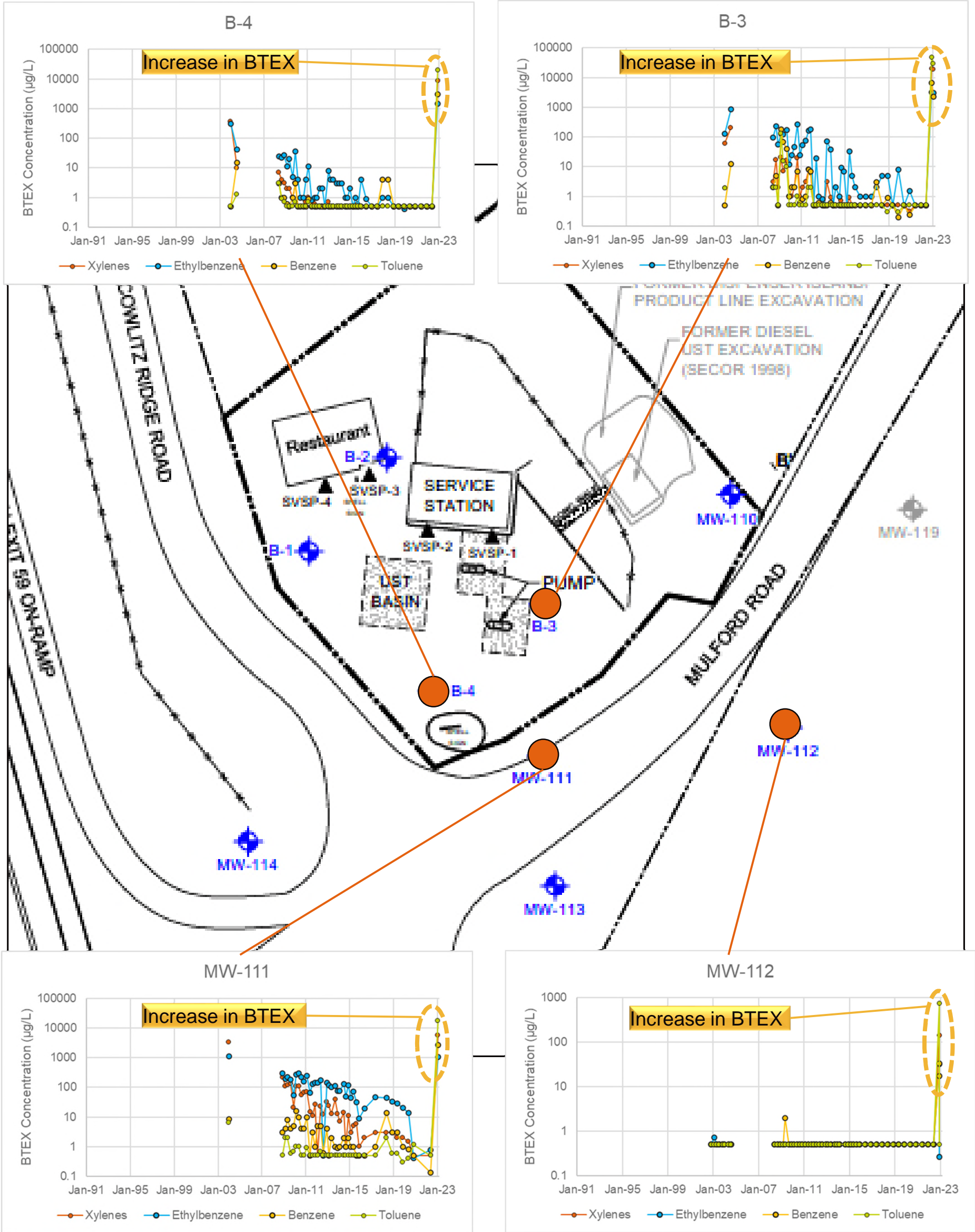


- Increase in TPH-GRO concentrations, generally higher concentrations than historically observed
- LNAPL not detected at site since July 2004 at MW-111
- 0.2 ft LNAPL detected at B-4 January 20, 2023



211556 TOLEDO  
 TPH-GRO CONCENTRATIONS WITH TIME  
 ARCADIS | FIGURE 6

- Increase in BTEX concentrations, higher concentrations than historically observed
- LNAPL not detected at site since July 2004 at MW-111
- 0.2 ft LNAPL detected at B-4 January 20, 2023

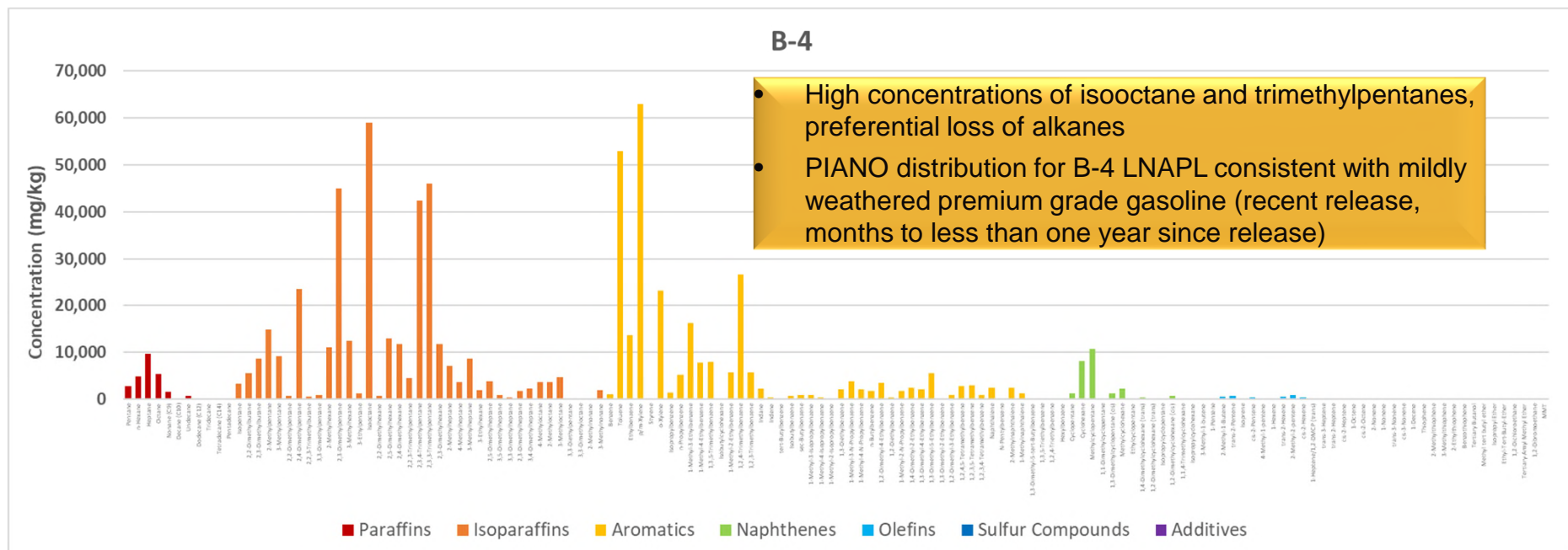


211556 TOLEDO

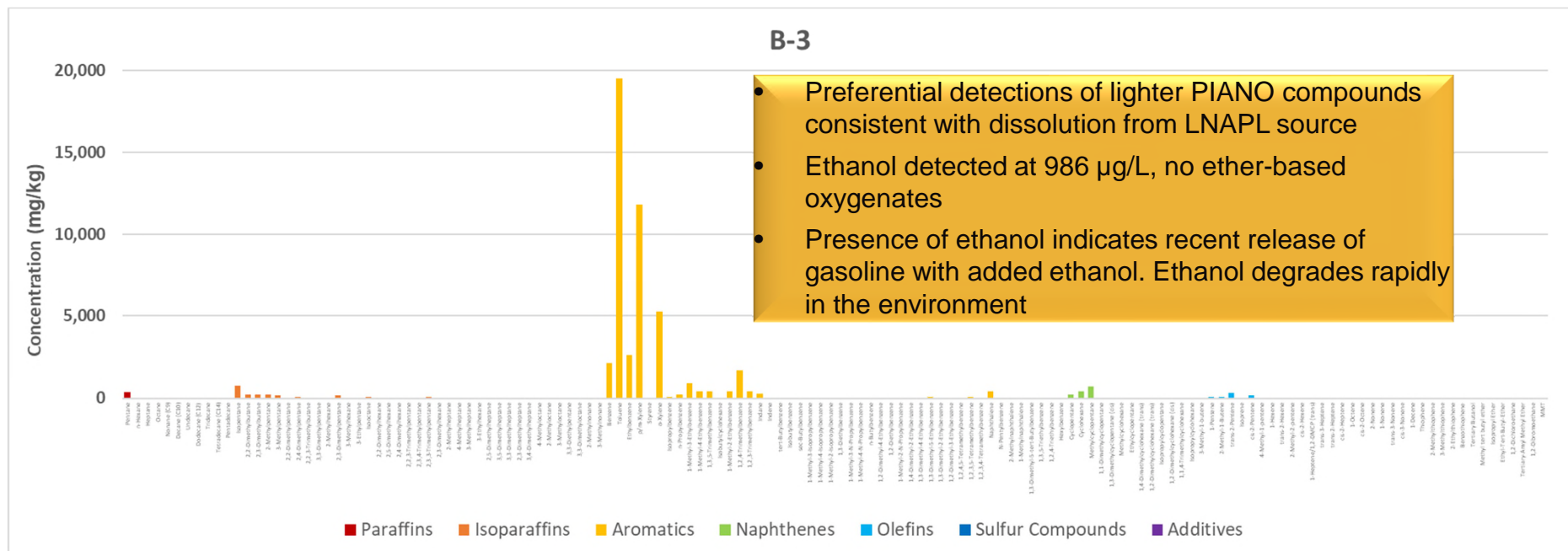
BTEX CONCENTRATIONS WITH TIME

ARCADIS | FIGURE 7

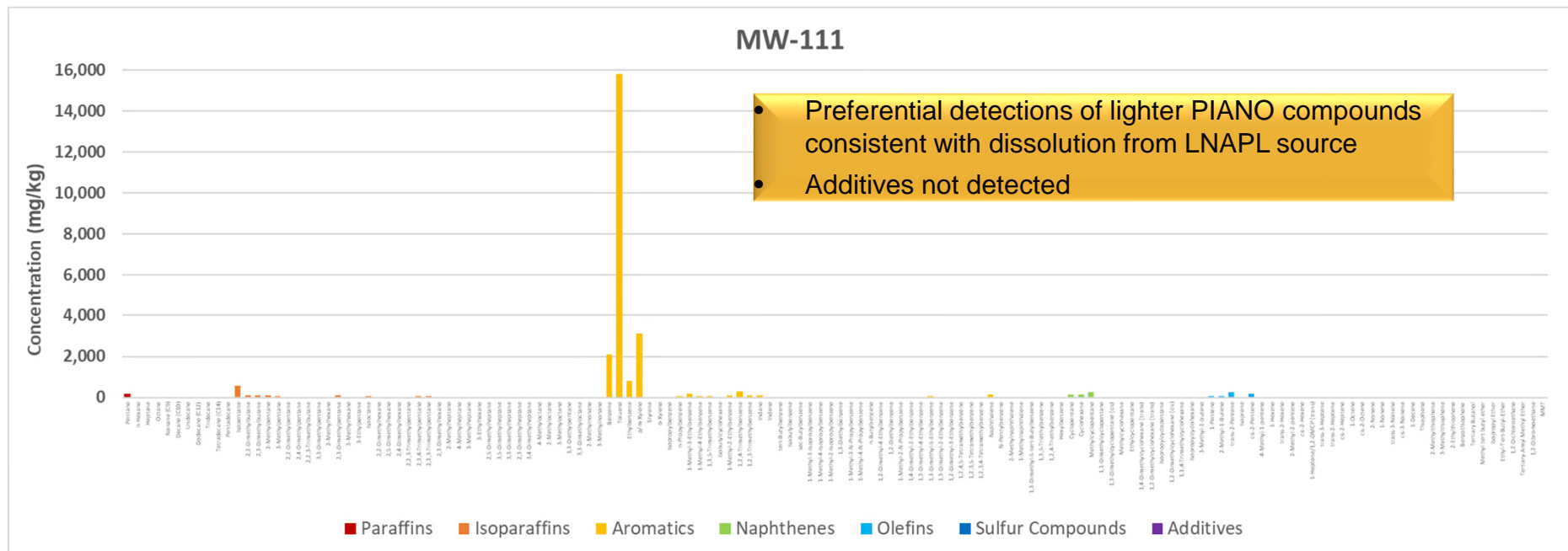




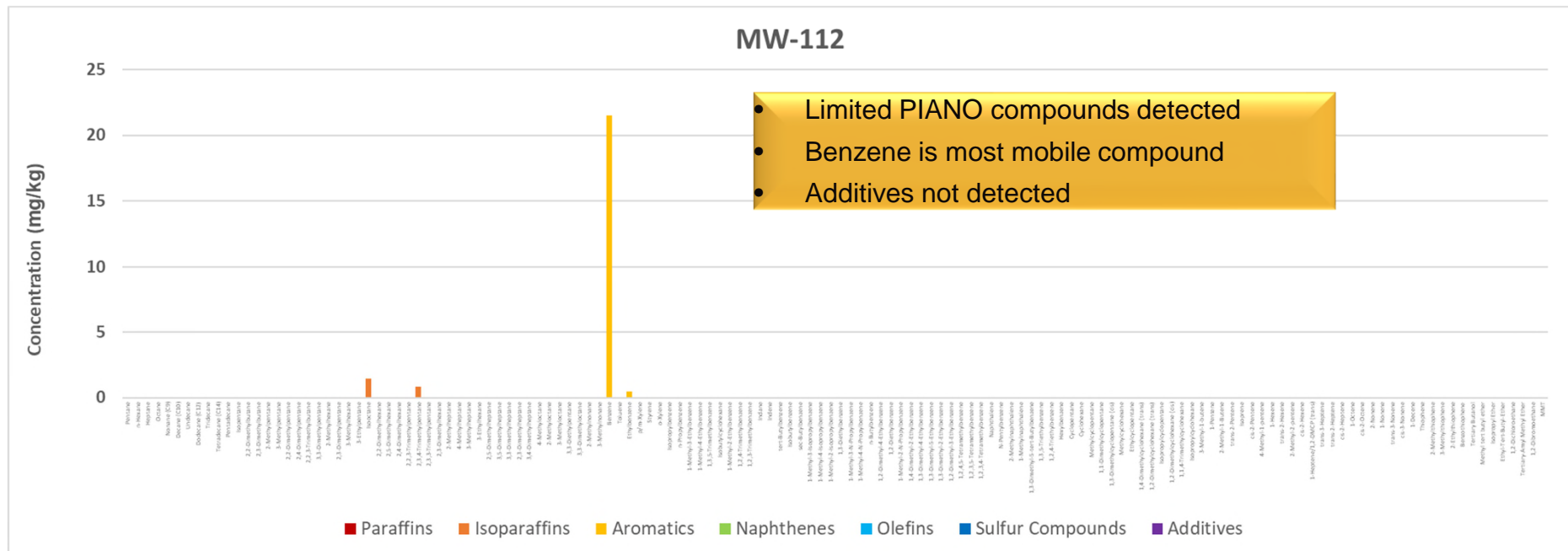
- High concentrations of iso-octane and trimethylpentanes, preferential loss of alkanes
- PIANO distribution for B-4 LNAPL consistent with mildly weathered premium grade gasoline (recent release, months to less than one year since release)



- Preferential detections of lighter PIANO compounds consistent with dissolution from LNAPL source
- Ethanol detected at 986 µg/L, no ether-based oxygenates
- Presence of ethanol indicates recent release of gasoline with added ethanol. Ethanol degrades rapidly in the environment

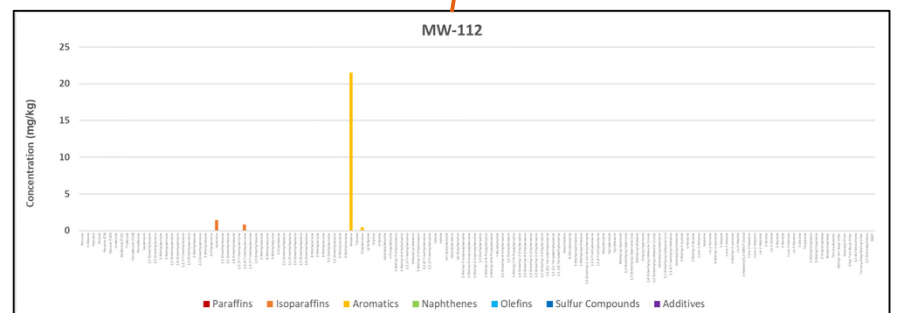
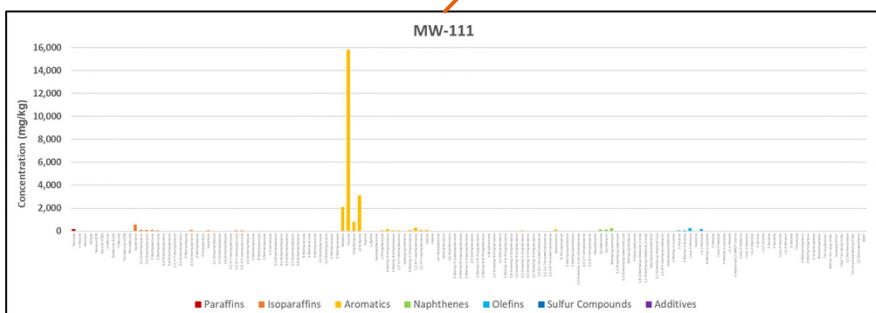
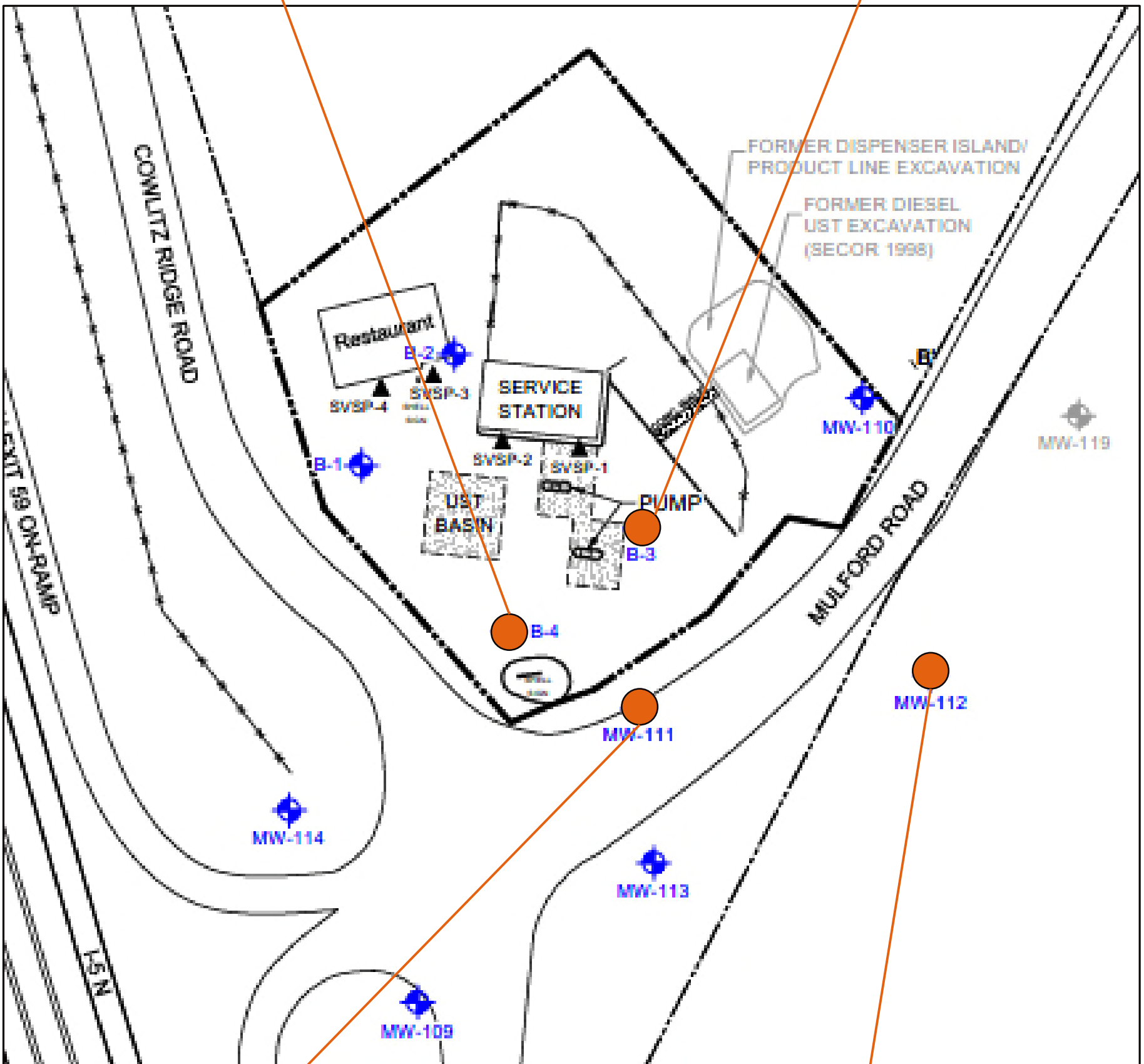
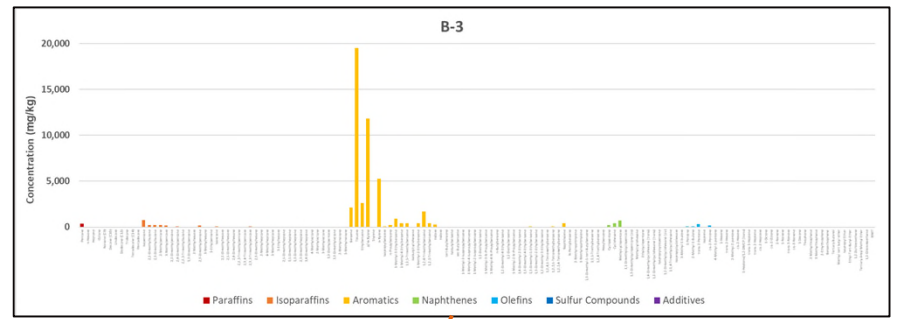
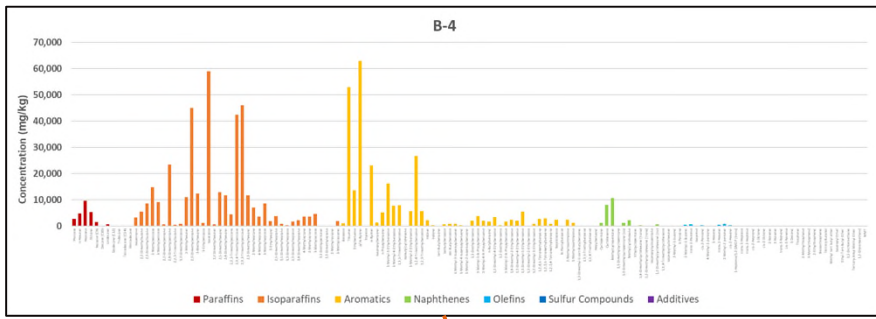


- Preferential detections of lighter PIANO compounds consistent with dissolution from LNAPL source
- Additives not detected



- Limited PIANO compounds detected
- Benzene is most mobile compound
- Additives not detected

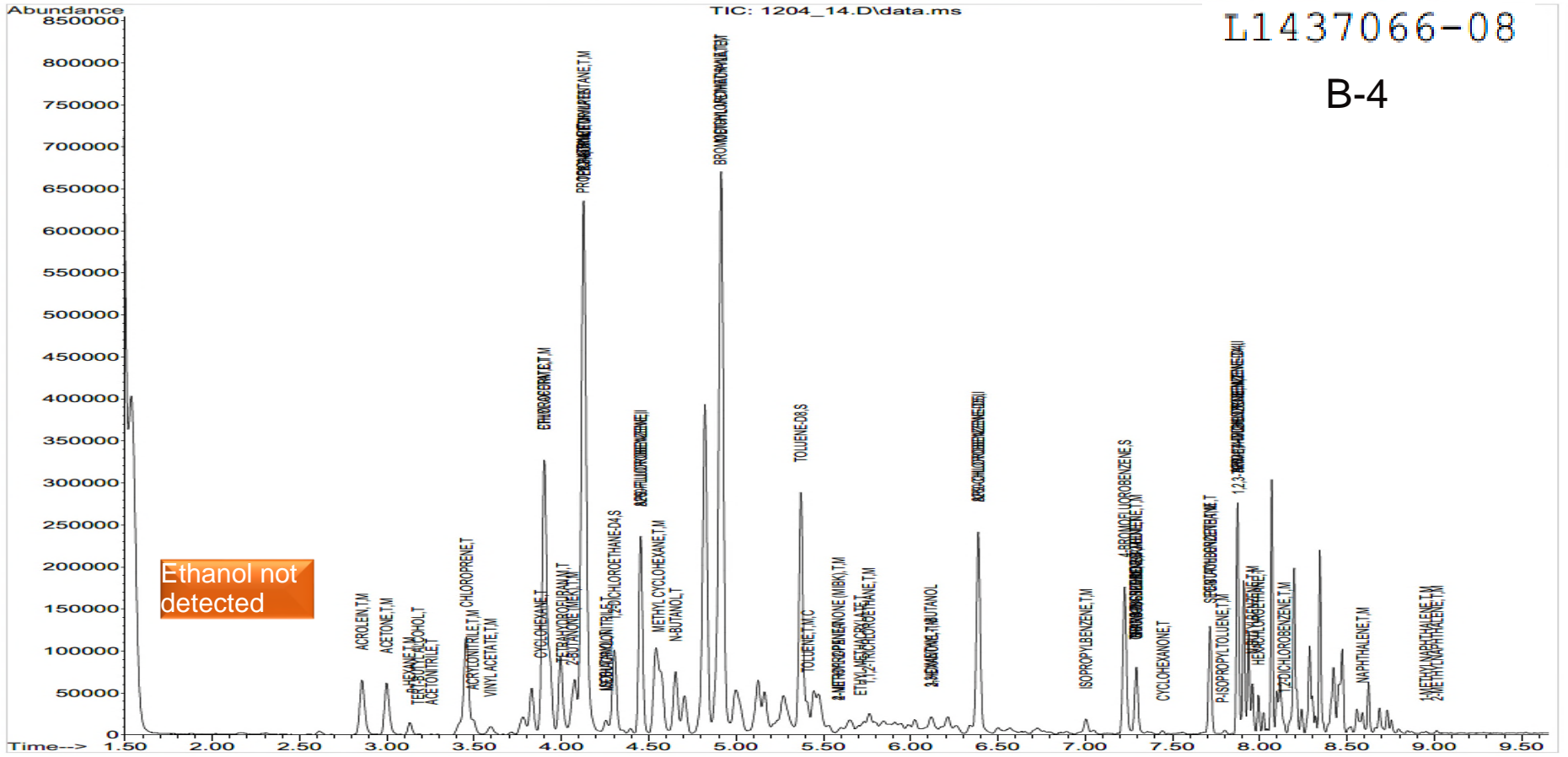
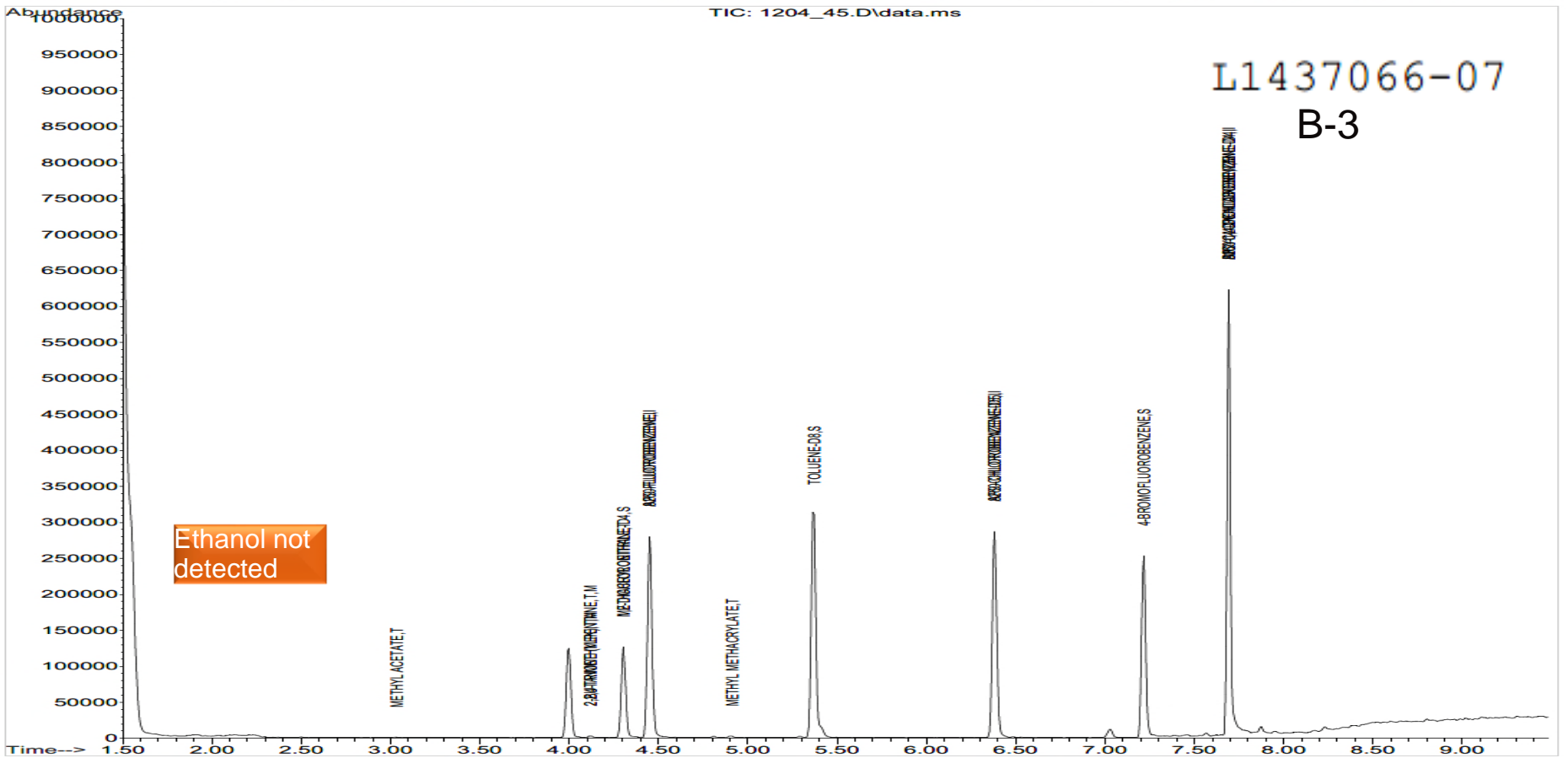
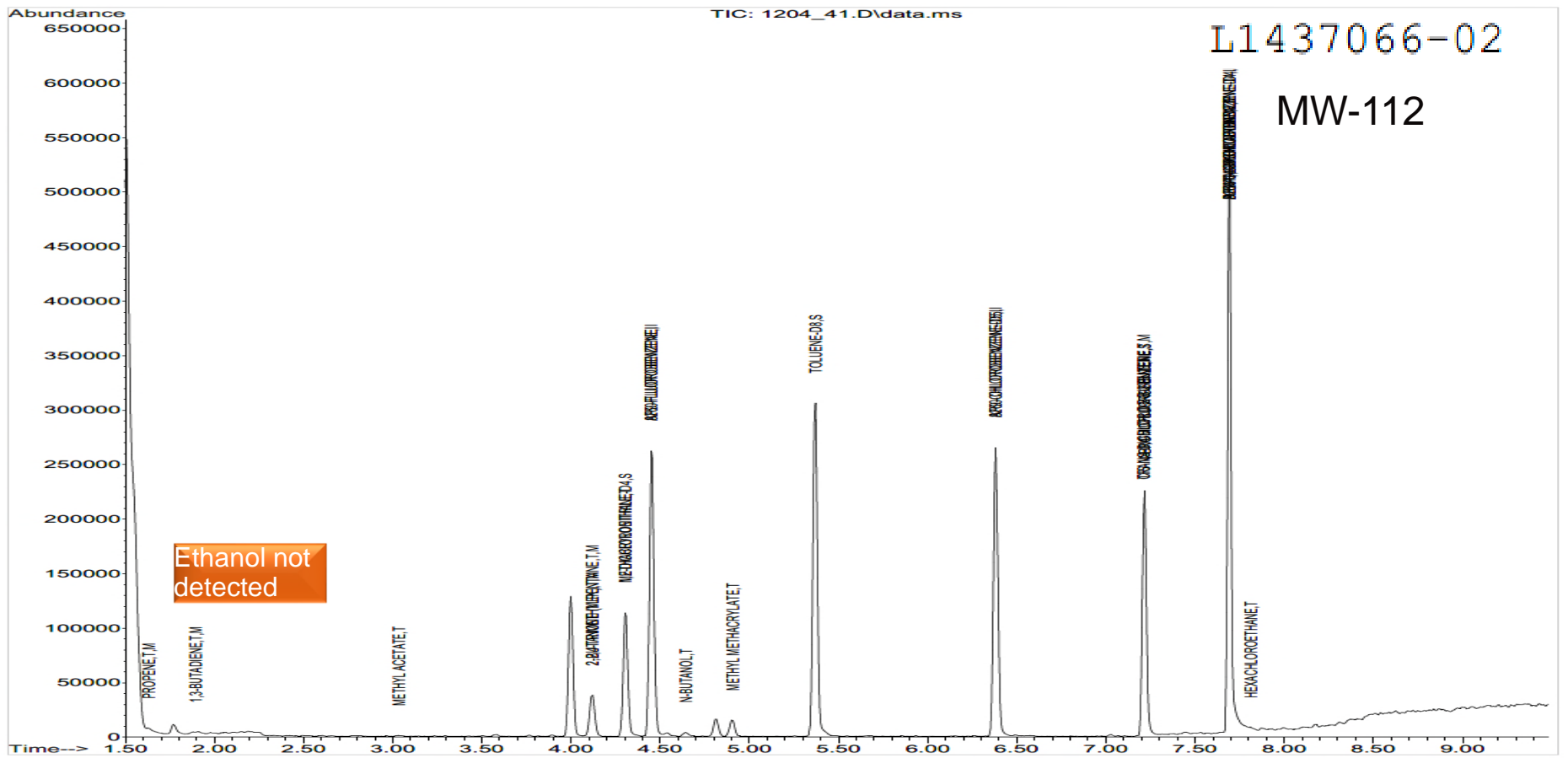
- PIANO distribution for B-4 LNAPL consistent with mildly weathered premium gasoline
- LNAPL not detected at site since July 2004 at MW-111
- Ethanol detection of 986 µg/L at B-3 consistent with recent release of oxygenated fuel



211556 TOLEDO


PIANO GROUNDWATER ANALYTICAL MAP  
JANUARY 20, 2023

FIGURE 9

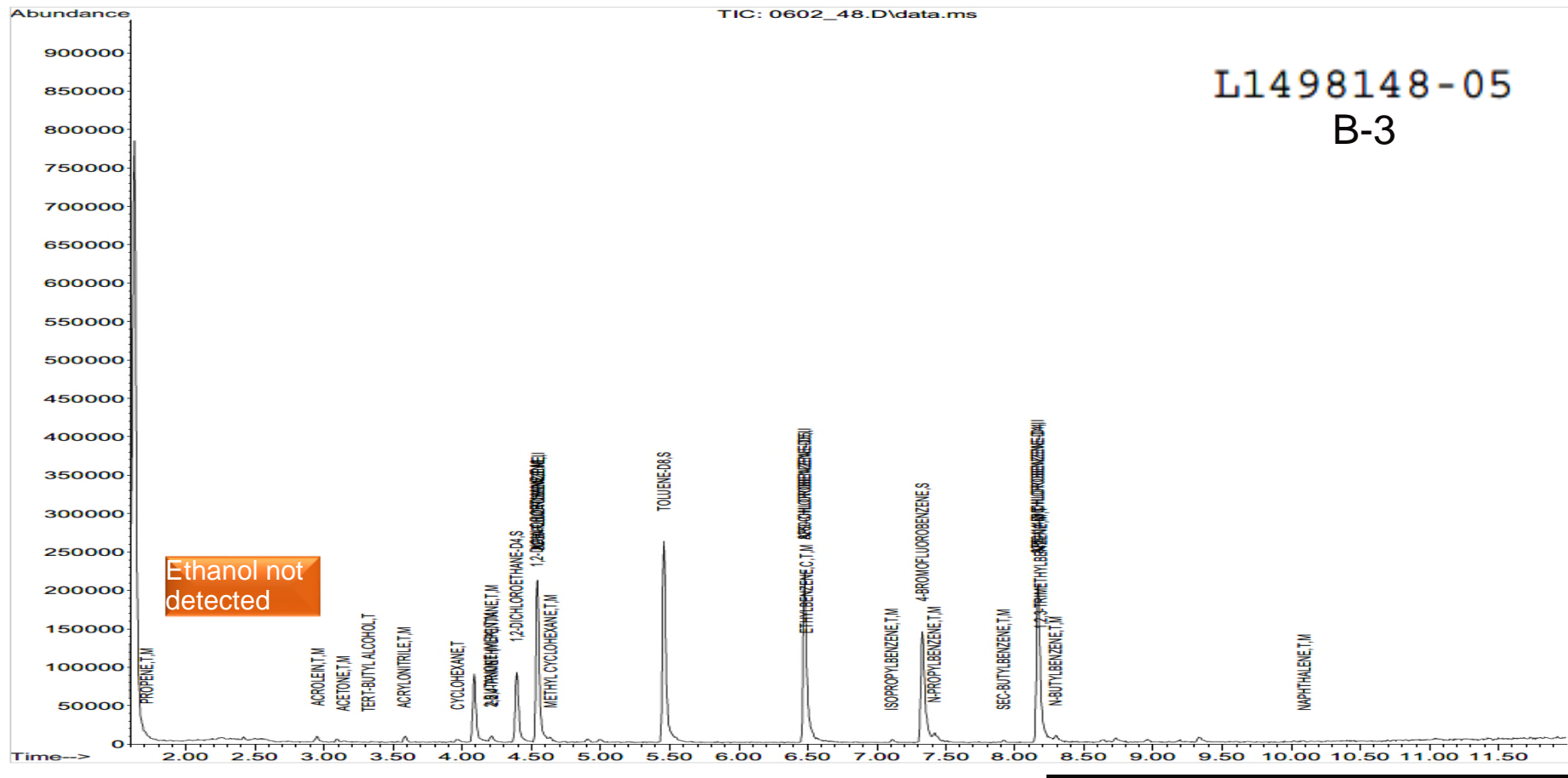
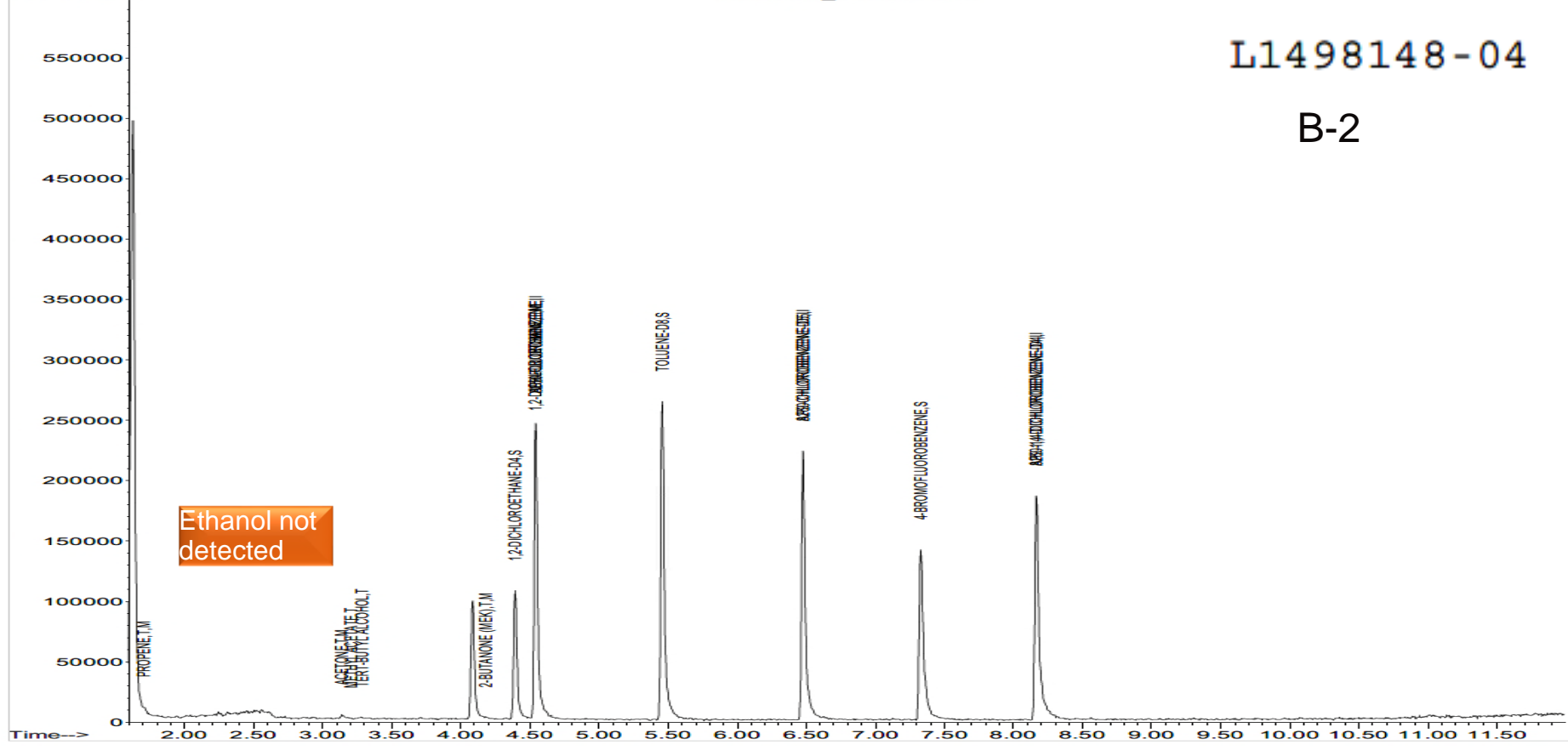
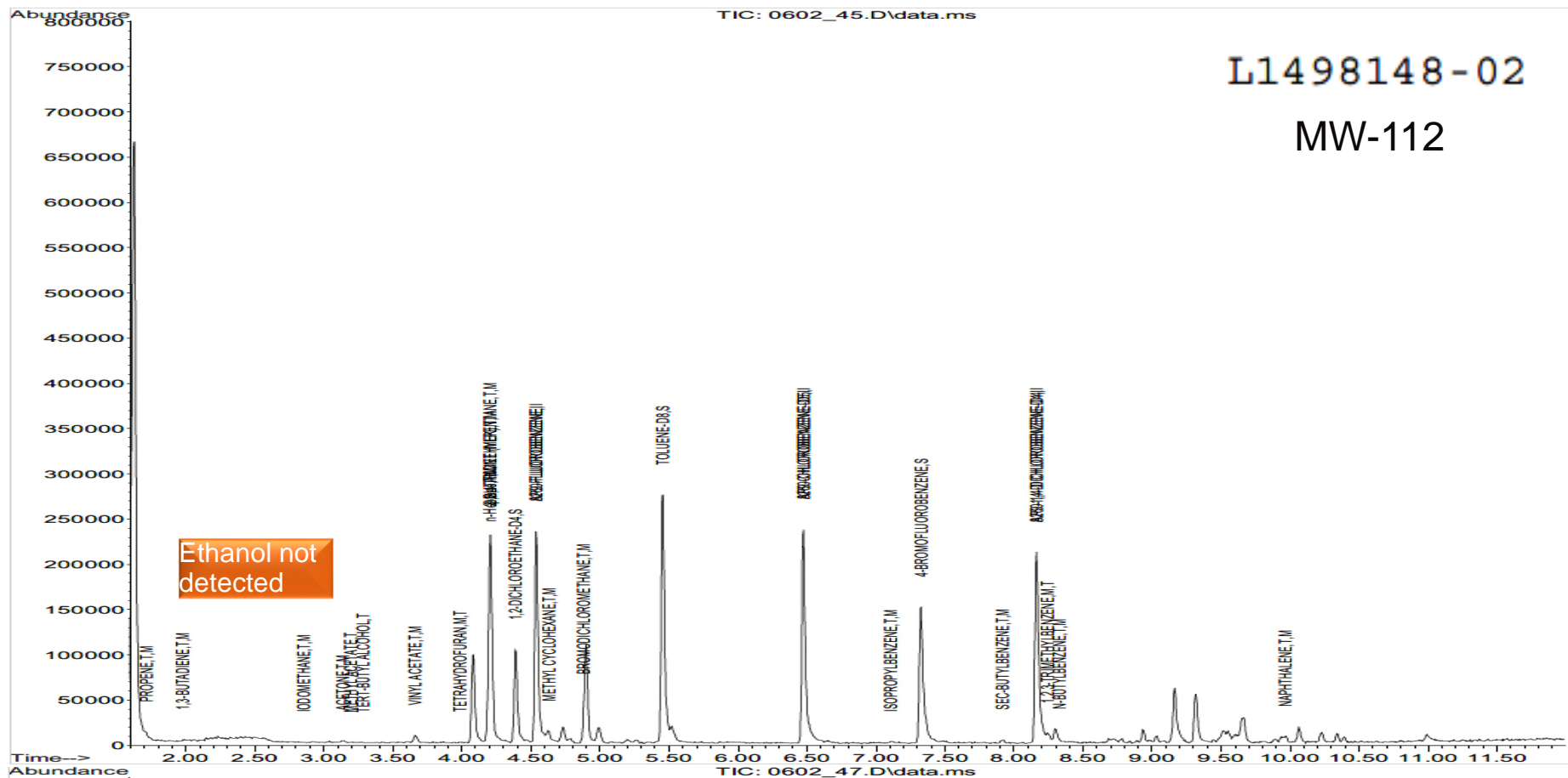


21156 TOLEDO

CHROMATOGRAMS - NOVEMBER 2021

 | FIGURE 10





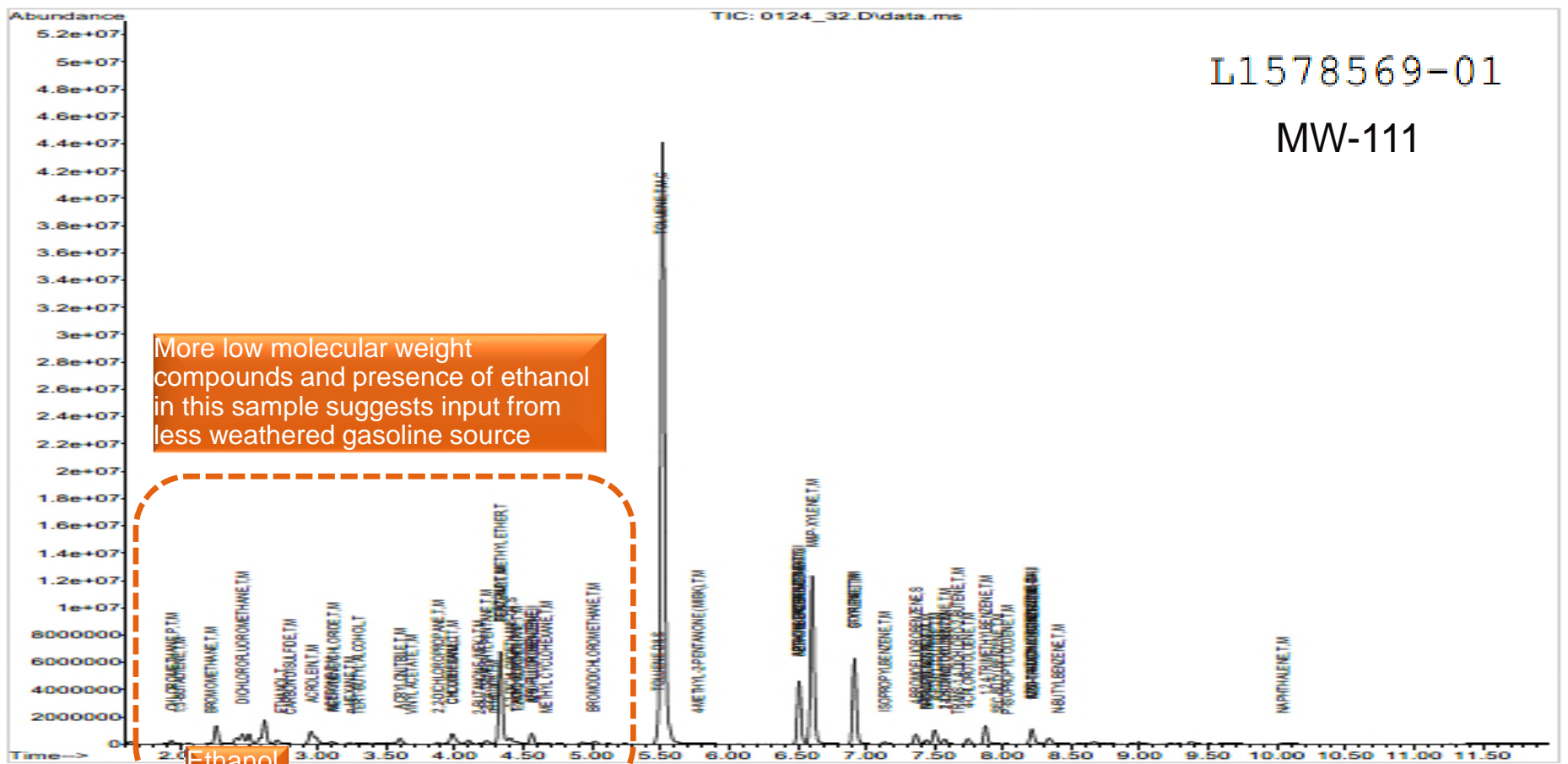
211556 TOLEDO

CHROMATOGRAMS - MAY 2022



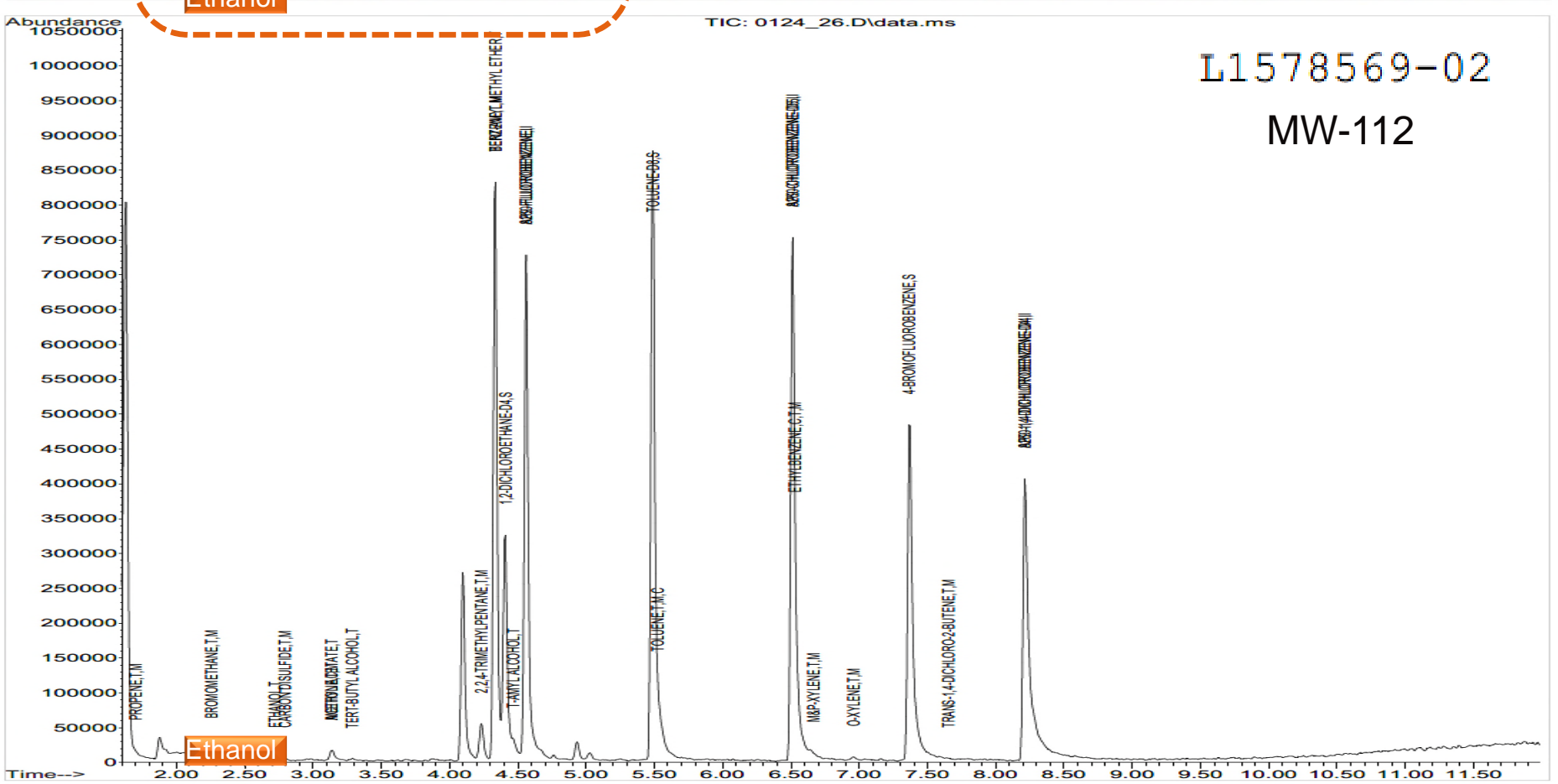
L1578569-01

MW-111



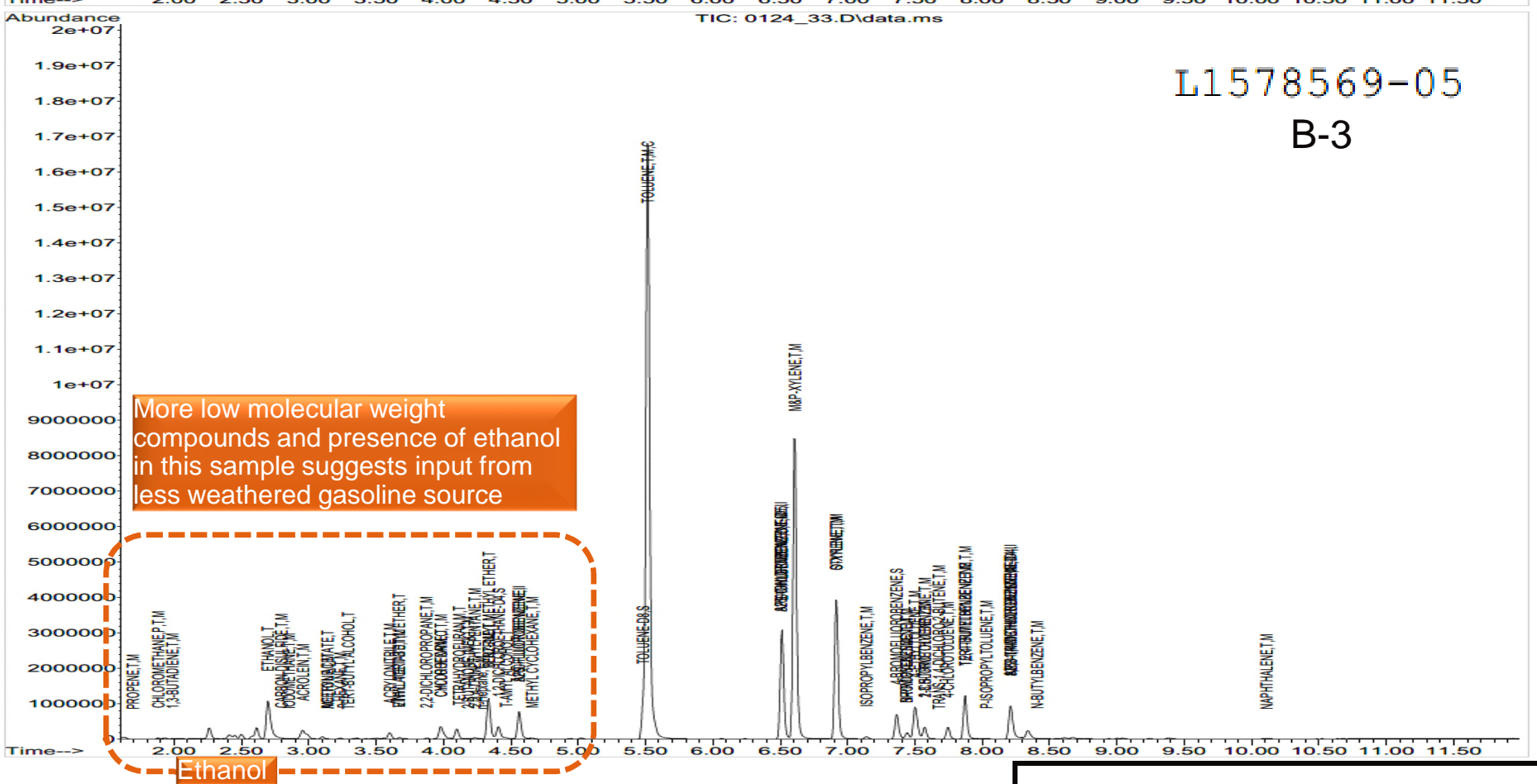
L1578569-02

MW-112



L1578569-05

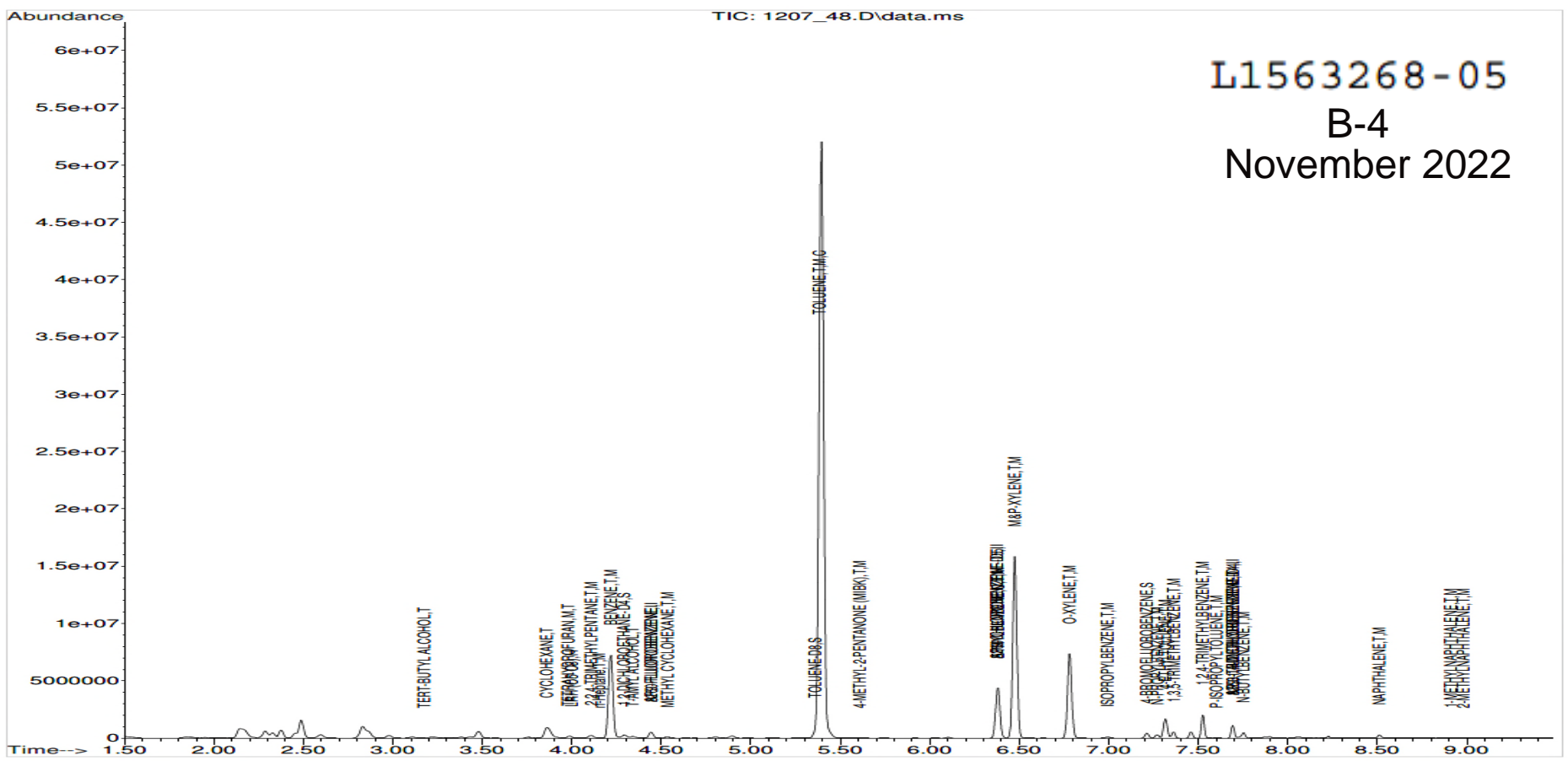
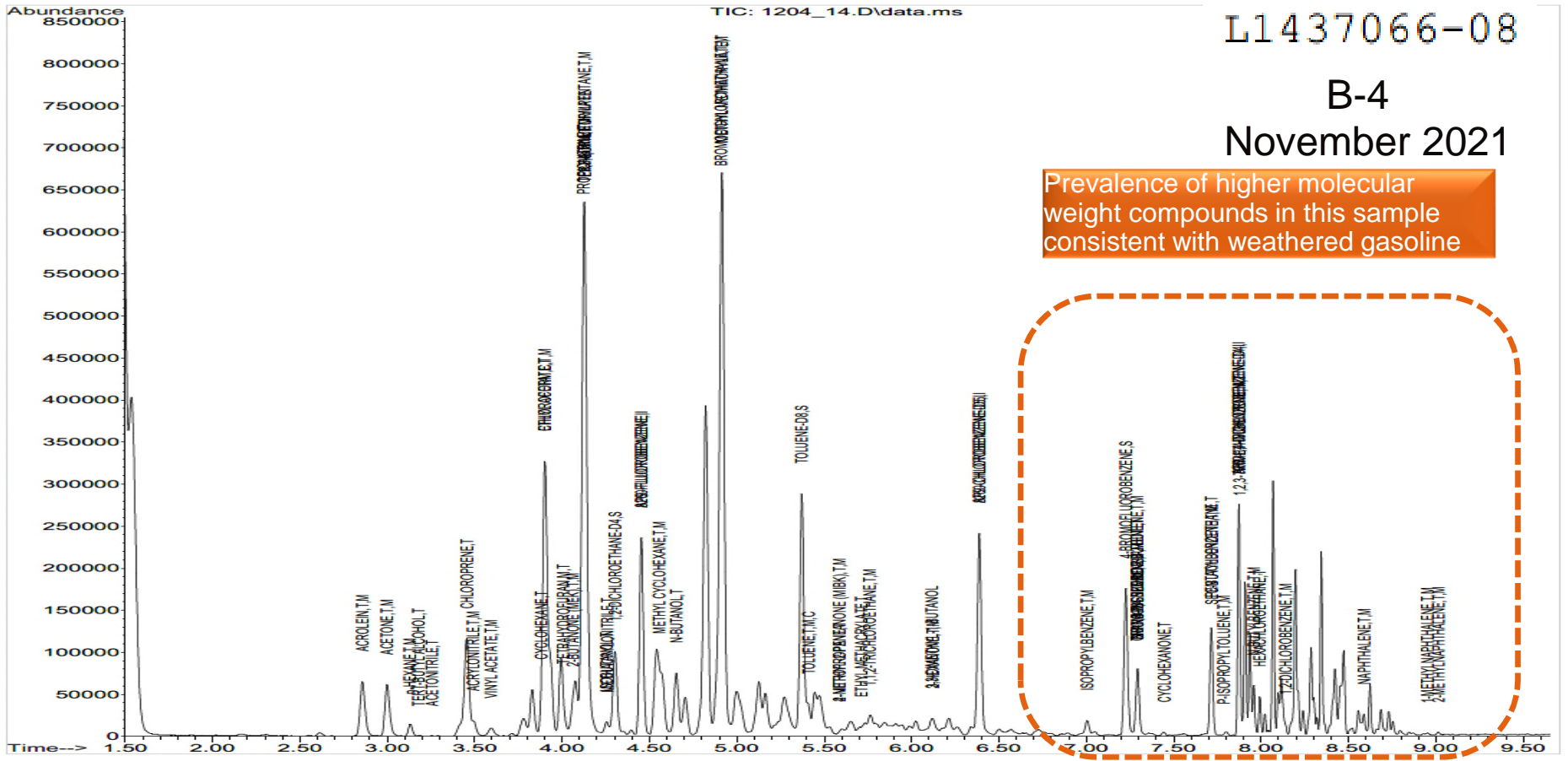
B-3



211556 TOLEDO

CHROMATOGRAMS - JANUARY 2023





211556 TOLEDO

CHROMATOGRAMS - B-4







# ATTACHMENT A

Field Data Sheets and General Procedures





## Groundwater Gauging Log

<b>Project Number</b>		30064316						
<b>Client:</b>		Chevron						
<b>Site ID:</b>		211556						
<b>Site Location:</b>		Toledo, Washington						
<b>Measuring Point:</b>		Top of Casing						
<b>Date(s):</b>		11/29/2022						
<b>Sampler(s):</b>		Lee Bures						
<b>Gauging Equipment:</b>		Water Level Meter						
Well ID	Date	Gauging Time	Static Water Level (ft bmp)	Depth to Product (ft bmp)	Total Depth (ft bmp)	PID Reading (ppm)	LNAPL Removed (gal)	Comments
B-1	11/29/2022	09:46	7.17	ND	19.82	--	--	--
B-2	11/29/2022	09:30	8.06	ND	18.36	--	--	--
B-3	11/29/2022	09:24	8.12	ND	13.81	--	--	--
B-4	11/29/2022	09:13	7.64	ND	14.43	--	--	--
MW-109	11/29/2022	10:06	7.19	ND	12.97	--	--	--
MW-110	11/29/2022	10:30	8.79	ND	19.88	--	--	--
MW-111	11/29/2022	--	--	ND	--	--	--	Area flooded
MW-112	11/29/2022	10:22	7.47	ND	16.88	--	--	--
MW-113	11/29/2022	10:18	8.28	ND	18.37	--	--	--
MW-114	11/29/2022	09:53	6.49	ND	16.44	--	--	--

ft-bmp = feet below measuring point

ND = Not Detected

PID = Photoionization Detector Reading

ppm = parts per million

-- = Not Recorded

<b>Project Number</b>	30064316	<b>Well ID</b>	B-2	<b>Date</b>	11/29/2022	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Snowing	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	8.06	<b>Total Depth (ft-bmp)</b>	18.36	<b>Water Column (ft)</b>	10.30	<b>Gallons in Well</b> 1.67
<b>Water Quality Meter Make/Model</b>	Hach 2100Q, YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	12:40	<b>Well Volumes Purged</b>	0.47	<b>Sample ID</b>	B-2-221129	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	12:20	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	
<b>Purge End</b>	12:35	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
12:23	200	8.04	7.24	2.04	73.0	3.01	2.70	-209.4	Clear	--
12:26	200	8.04	7.22	1.93	70.0	1.91	2.72	-206.2	Clear	--
12:29	200	8.04	7.28	1.93	73.0	1.86	3.12	-206.1	Clear	--
12:32	200	8.04	7.27	1.93	72.0	1.82	3.11	-208.1	Clear	--
12:35	200	8.04	7.28	1.93	70.0	1.80	3.11	-207.7	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: B-2-221129 Sample Time: 12:40 Sample Depth (ft-bmp): 14  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30064316	<b>Well ID</b>	B-3	<b>Date</b>	11/29/2022	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Snowing	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	8.12	<b>Total Depth (ft-bmp)</b>	13.81	<b>Water Column (ft)</b>	5.69	<b>Gallons in Well</b> 0.92
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	11:30	<b>Well Volumes Purged</b>	0.86	<b>Sample ID</b>	B-3-221129	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	11:05	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	
<b>Purge End</b>	11:20	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
11:08	200	8.15	7.09	0.872	33.0	1.21	7.69	-218.3	Clear	--
11:11	200	8.15	7.08	0.869	31.0	1.24	7.84	-219.2	Clear	--
11:14	200	8.15	7.12	0.982	30.0	1.17	8.61	-217.7	Clear	--
11:17	200	8.15	7.11	0.988	32.0	1.15	8.58	-217.1	Clear	--
11:22	200	8.15	7.11	0.983	31.0	1.12	8.57	-216.6	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: B-3-221129 Sample Time: 11:30 Sample Depth (ft-bmp): 11  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30064316	<b>Well ID</b>	B-4	<b>Date</b>	11/29/2022	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Snowing	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	7.64	<b>Total Depth (ft-bmp)</b>	14.43	<b>Water Column (ft)</b>	6.79	<b>Gallons in Well</b> 1.1
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	10:45	<b>Well Volumes Purged</b>	0.72	<b>Sample ID</b>	B-4-221129	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	10:26	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	
<b>Purge End</b>	10:41	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
10:29	200	7.67	6.79	0.822	159	1.10	10.90	-53.2	Clear	--
10:32	200	7.67	6.83	0.826	158	1.02	10.91	-54.7	Clear	--
10:35	200	7.67	6.86	0.824	151	0.97	10.91	-55.1	Clear	--
10:38	200	7.67	6.88	0.821	149	0.94	10.92	-53.9	Clear	--
10:41	200	7.67	6.86	0.822	150	0.98	10.91	-52.8	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: B-4-221129 Sample Time: 10:45 Sample Depth (ft-bmp): 11  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30064316	<b>Well ID</b>	MW-112	<b>Date</b>	11/29/2022	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Snowing	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	7.47	<b>Total Depth (ft-bmp)</b>	16.88	<b>Water Column (ft)</b>	9.41	<b>Gallons in Well</b> 1.53
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	16:06	<b>Well Volumes Purged</b>	0.52	<b>Sample ID</b>	MW-122-221129	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	15:47	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	
<b>Purge End</b>	16:01	<b>Total Purge Time (h:m)</b>	0:14			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
15:50	200	7.45	6.69	0.742	176	0.79	9.43	-202.3	Clear	--
15:53	200	7.45	6.68	0.737	172	0.68	9.41	-203.7	Clear	--
15:56	200	7.45	6.66	0.739	172	0.63	9.41	-204.1	Clear	--
15:59	200	7.45	6.67	0.742	170	0.61	9.40	-204.3	Clear	--
16:01	200	7.45	6.67	0.745	170	0.60	9.39	-204.9	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: MW-122-221129 Sample Time: 16:06 Sample Depth (ft-bmp): 13  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded



<b>Project Number</b>	30064316	<b>Well ID</b>	MW-113	<b>Date</b>	11/29/2022	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Snowing	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	4	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	8.28	<b>Total Depth (ft-bmp)</b>	18.37	<b>Water Column (ft)</b>	10.09	<b>Gallons in Well</b> 6.56
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	15:20	<b>Well Volumes Purged</b>	0.12	<b>Sample ID</b>	MW-113-221129	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	14:57	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	
<b>Purge End</b>	15:12	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
15:00	200	8.26	--	7.07	17.0	4.10	7.20	-238.2	Clear	--
15:03	200	8.26	7.04	0.181	15.0	4.02	7.22	-236.7	Clear	--
15:06	200	8.26	7.06	0.183	15.0	3.96	7.21	-237.3	Clear	--
15:09	200	8.26	7.06	0.185	14.0	3.91	7.21	-238.1	Clear	--
15:12	200	8.26	7.06	0.184	15.0	3.80	7.22	-238.7	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information


Sample ID: MW-113-221129 Sample Time: 15:20 Sample Depth (ft-bmp): 13  
Analytes and Methods: See Chain-of-Custody.

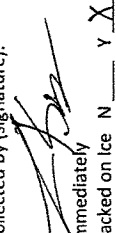
ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

Billing Information:  
**Attn: Accounts Payable**  
**630 Plaza Dr., Ste. 600**  
**Highlands Ranch, CO 80129**

Chain of Custody Page 1 of 1  
  
**MT JULIET, TN**  
 12065 Lebanon Rd Mount Juliet, TN 37122  
 Submitting a sample via this chain of custody  
 constitutes acknowledgment and acceptance of the  
 Pace Terms and Conditions found at:  
<https://info.pacedlabs.com/hubfs/pas-standard-terms.pdf>

Client Project # **30064316**  
 City/State Collected: **Seattle WA**  
 Site/Facility ID # **101 MULFORD ROAD,**  
**101 MULFORD ROAD,**  
 Rush? (Lab MUST Be Notified)  
 Same Day  Five Day   
 Next Day  5 Day (Rad Only)   
 Two Day  10 Day (Rad Only)   
 Three Day   
 Collected by (print): **L. KENG**  
 Collected by (signature):   
 Immediately  Packed on Ice  N  Y  X

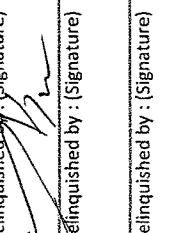
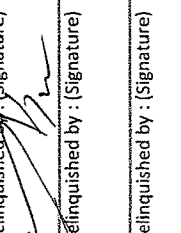
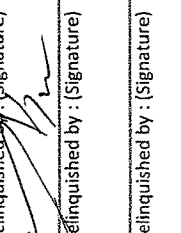
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-12-221129	G	GW	—	11/29/21	1600	10
MW-13-221129	G	GW	—	1520		10
B-2-221129	G	GW	—	1240		10
B-3-221129	G	GW	—	1130		10
B-4-221129	G	GW	—	1045		10
TB-1-221129	G	GW	—	1000		2
		GW				
		GW				

Lab Project # **CHEVARCWA-211556**  
 P.O. #  
 Quote #  
 Date Results Needed

Analysis / Container / Preservative

Analysis / Container / Preservative	FF Diss Lead 6020 250mIHDPPE HNO3	NWTPHDX no silica 40mlamb-HCl-BT	NWTPHDX w/ silica 40mlamb-HCl-BT	NWTPHGX 40mlamb HCl
BTEX 8260D 40mlamb-HCl	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X

Remarks:  
 \* Matrix: **SS - Soil AIR - Air F - Filter**  
**GW - Groundwater B - Bioassay**  
**WW - WasteWater**  
**DW - Drinking Water**  
**OT - Other**

Relinquished by: (Signature)   
 Relinquished by: (Signature)   
 Relinquished by: (Signature) 

Samples returned via:  UPS  FedEx  Courier

Date: **12/1/21** Time: **1600**  
 Date: Time:  
 Date: Time:

Tracking #  
 Received by: (Signature) **SHARON VIA FedEx**  
 Received by: (Signature)  
 Received for lab by: (Signature)

Temp: °C Bottles Received: HCl / Meoth TBR  
 pH Temp  
 Flow Other

Sample Receipt Checklist  
 COC Seal Present/Intact:  NP  Y  N  
 COC Signed/Accurate:  Y  N  
 Bottles arrive intact:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 If Applicable  
 VOA Zero Headpace:  Y  N  
 Preservation Correct/Checked:  Y  N  
 RAD screen < 0.5 mkr/hr:  Y  N

if preservation required by Login: Date/Time  
 Hold: Condition: NCF / OK

# WELLHEAD INSPECTION FORM

Client: ARCADIS Site: TOLEDO - 101 MULFORD RD Date: 11/29/22  
 Job #: 221129LK-1 Technician: L. KING Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency											Well Not Inspected (explain in notes)	Notes <small>(list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)</small>		
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade			Other (explain in notes)	
MW-109	X															
MW-110	X															
MW-111	—													X	UNABLE TO ACCESS	
MW-112	X															
MW-113	X															
MW-114	X															
B-1	X															
B-2	X															
B-3	X															
B-4	X															

NOTES: \_\_\_\_\_





## Permit To Work

for Chevron EMC Sites

Client: ARCADIS Date 11/29/22  
 Site Address: TOLEDO - 101 MULFORD RD  
 Job Number: 221129LK-1 Technician(s): LAMIER KING

### Pre-Job Safety Review

1. JMP reviewed, site restrictions and parking/access issues addressed. Reviewed:

2. Special Permit Required Task Review

Are there any conditions or tasks that would require:	Yes	No
Confined space entry	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Working at height	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lock-out/Tag-out	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Excavations greater than 4 feet deep	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Excavations within 3 feet of a buried active electrical line or product piping or within 10 feet of a high pressure gas line.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Use of overhead equipment within 15 feet of an overhead electrical power line or pole supporting one	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hot work	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If "Yes" was the answer to any of the Special Permit Required Tasks above, the Project Manager will contact the client and arrange to modify the Scope of Work so that the Special Permit Required Tasks are not required to be performed by Blaine Tech Services employees.

	Yes	No
3. Is a Traffic Control Permit required for today's work?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If so is it in the folder?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is it current?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Do you understand the Traffic Control Plan and what equipment you will need?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### On site Pre-Job Safety Review

- |   |                                     |
|---|-------------------------------------|
| 1. Reviewed and signed the site specific HASP.  | <input checked="" type="checkbox"/> |
| 2. Route to hospital understood.  | <input checked="" type="checkbox"/> |
| 3. Reviewed "Groundwater Monitoring Well Sampling General Job Safety Analysis included in the HASP.   | <input checked="" type="checkbox"/> |
| 4. Exceptional circumstances today that are not covered by the HASP, JSA or JMP have been addressed and mitigated.                          | <input checked="" type="checkbox"/> |
| 5. Understands procedure to follow, if site circumstances change, to address new site hazards.  | <input checked="" type="checkbox"/> |
| 6. There are no unexpected conditions which would make your task a Special Permit Required Task. If there is, contact your Project Manager. | <input checked="" type="checkbox"/> |
| 7. All site hazards have been communicated to all necessary onsite personnel during tailgate safety meeting.                                | <input checked="" type="checkbox"/> |
| 8. After lunch tailgate safety meeting refresher conducted.   | <input checked="" type="checkbox"/> |

If Checklist Task cannot be completed, explain:

Permit To Work Authority: LAMIER KING SAMPLE TECH 11/29/22 0930  
 Name Title Date Time





## Groundwater Gauging Log

<b>Project Number</b>		30064316						
<b>Client:</b>		Chevron						
<b>Site ID:</b>		211556						
<b>Site Location:</b>		Toledo, Washington						
<b>Measuring Point:</b>		Top of Casing						
<b>Date(s):</b>		01/20/2023						
<b>Sampler(s):</b>		Lee Bures						
<b>Gauging Equipment:</b>		Water Level Meter						
Well ID	Date	Gauging Time	Static Water Level (ft bmp)	Depth to Product (ft bmp)	Total Depth (ft bmp)	PID Reading (ppm)	LNAPL Removed (gal)	Comments
B-1	01/20/2023	08:42	6.35	ND	19.98	--	--	--
B-2	01/20/2023	08:40	7.49	ND	19.36	--	--	--
B-3	01/20/2023	08:36	7.05	ND	13.87	--	--	--
B-4	01/20/2023	08:20	6.51	6.31	17.69	--	--	--
MW-109	01/20/2023	08:48	6.35	ND	12.85	--	--	--
MW-110	01/20/2023	08:26	7.96	ND	19.95	--	--	--
MW-111	01/20/2023	08:34	6.15	ND	17.69	--	--	--
MW-112	01/20/2023	08:28	6.58	ND	17.05	--	--	--
MW-113	01/20/2023	08:31	7.49	ND	18.31	--	--	--
MW-114	01/20/2023	08:45	5.74	ND	16.54	--	--	--

ft-bmp = feet below measuring point

ND = Not Detected

PID = Photoionization Detector Reading

ppm = parts per million

-- = Not Recorded

<b>Project Number</b>	30064316	<b>Well ID</b>	MW-111	<b>Date</b>	1/20/2023	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	4	<b>Well Casing Material</b>
<b>Static Water Level (ft-bmp)</b>	6.15	<b>Total Depth (ft-bmp)</b>	17.69	<b>Water Column (ft)</b>	11.54	<b>Gallons in Well</b> 7.5
<b>Water Quality Meter Make/Model</b>	Hach 2100Q, YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	10:15	<b>Well Volumes Purged</b>	0.11	<b>Sample ID</b>	MW-111-W-20230120	<b>Purge Equipment</b> Peristaltic
<b>Purge Start</b>	09:57	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	<b>Sample Equipment</b> Peristaltic
<b>Purge End</b>	10:12	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
10:00	200	6.15	7.62	0.732	18.0	0.71	7.99	193.8	Clear	--
10:03	200	6.15	7.63	0.732	15.0	0.67	8.67	195	Clear	--
10:06	200	6.15	7.63	0.727	15.0	0.61	8.31	197.1	Clear	--
10:09	200	6.15	7.64	0.725	14.0	0.59	8.27	198	Clear	--
10:12	200	6.15	7.63	0.723	14.0	0.57	8.24	198.7	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: MW-111-W-20230120 Sample Time: 10:15 Sample Depth (ft-bmp): 11.5  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30064316	<b>Well ID</b>	B-3	<b>Date</b>	1/20/2023	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b>
<b>Static Water Level (ft-bmp)</b>	7.05	<b>Total Depth (ft-bmp)</b>	13.87	<b>Water Column (ft)</b>	6.82	<b>Gallons in Well</b> 1.11
<b>Water Quality Meter Make/Model</b>	YSI 556 MP5,Hach 2100Q	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	10:55	<b>Well Volumes Purged</b>	0.71	<b>Sample ID</b>	B-3-W-20230120	<b>Purge Equipment</b> Peristaltic
<b>Purge Start</b>	10:37	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	<b>Sample Equipment</b> Peristaltic
<b>Purge End</b>	10:52	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
10:40	200	7.1	7.91	0.806	13.0	0.49	10.58	196.2	Clear	--
10:43	200	7.1	7.85	0.828	12.0	0.35	11.72	197	Clear	--
10:46	200	7.1	7.74	0.836	10.0	0.31	11.79	196.3	Clear	--
10:49	200	7.1	7.70	0.832	10.0	0.29	11.73	197.1	Clear	--
10:52	200	7.1	7.66	0.830	10.0	0.29	11.70	195	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: B-3-W-20230120 Sample Time: 10:55 Sample Depth (ft-bmp): 10.5  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30064316	<b>Well ID</b>	MW-112	<b>Date</b>	1/20/2023	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b>
<b>Static Water Level (ft-bmp)</b>	6.58	<b>Total Depth (ft-bmp)</b>	17.05	<b>Water Column (ft)</b>	10.47	<b>Gallons in Well</b> 1.7
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	11:27	<b>Well Volumes Purged</b>	0.47	<b>Sample ID</b>	MW-112-W-20230120	<b>Purge Equipment</b> Peristaltic
<b>Purge Start</b>	11:09	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	<b>Sample Equipment</b> Peristaltic
<b>Purge End</b>	11:24	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
11:12	200	6.62	7.74	0.280	71.0	0.13	9.92	210	Clear	--
11:15	200	6.62	7.75	0.278	60.0	0.13	9.92	210	Clear	--
11:18	200	6.62	7.76	0.279	55.0	0.12	10.12	199.6	Clear	--
11:21	200	6.62	7.76	0.281	52.0	0.12	10.20	192.9	Clear	--
11:24	200	6.62	7.74	0.283	50.0	0.13	10.19	193.2	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: MW-112-W-20230120 Sample Time: 11:27 Sample Depth (ft-bmp): 11.75  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30064316	<b>Well ID</b>	B-2	<b>Date</b>	1/20/2023	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b>
<b>Static Water Level (ft-bmp)</b>	7.49	<b>Total Depth (ft-bmp)</b>	19.36	<b>Water Column (ft)</b>	11.87	<b>Gallons in Well</b> 1.93
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	09:21	<b>Well Volumes Purged</b>	0.41	<b>Sample ID</b>	B-2-W-20230120	<b>Purge Equipment</b> Peristaltic
<b>Purge Start</b>	09:03	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	BD-1-20230120	<b>Sample Equipment</b> Peristaltic
<b>Purge End</b>	09:18	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
09:06	200	7.59	6.68	0.401	48.0	1.62	6.39	187.5	Clear	--
09:09	200	7.63	6.79	0.360	30.0	1.41	6.78	180.2	Clear	--
09:12	200	7.65	6.95	0.346	27.0	1.43	7.61	178	Clear	--
09:15	200	7.65	6.98	0.341	26.0	1.45	7.63	179	Clear	--
09:18	200	7.65	7.00	0.344	26.0	1.49	7.57	180.1	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: B-2-W-20230120 Sample Time: 09:21 Sample Depth (ft-bmp): 13.5  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30064316	<b>Well ID</b>	MW-113	<b>Date</b>	1/20/2023	
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	4	<b>Well Casing Material</b>
<b>Static Water Level (ft-bmp)</b>	7.49	<b>Total Depth (ft-bmp)</b>	18.31	<b>Water Column (ft)</b>	10.82	<b>Gallons in Well</b> 7.03
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	12:18	<b>Well Volumes Purged</b>	0.11	<b>Sample ID</b>	MW-113-W-20230120	<b>Purge Equipment</b> Peristaltic
<b>Purge Start</b>	12:00	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	BD-2-20230120	<b>Sample Equipment</b> Peristaltic
<b>Purge End</b>	12:15	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
12:03	200	7.56	7.91	0.146	11.0	0.98	11.01	207.9	Clear	--
12:06	200	7.56	7.88	0.148	11.0	0.94	11.39	200.6	Clear	--
12:09	200	7.56	7.80	0.149	10.0	0.89	11.57	206.7	Clear	--
12:12	200	7.56	7.75	0.150	10.0	0.87	11.58	210.6	Clear	--
12:15	200	7.56	7.73	0.149	10.0	0.84	11.61	209.8	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: MW-113-W-20230120 Sample Time: 12:18 Sample Depth (ft-bmp): 13

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded



<b>Project Number</b>	30064316	<b>Well ID</b>	B-4	<b>Date</b>	1/20/2023			
<b>Site Location</b>	Toledo, Washington	<b>Site ID</b>	211556	<b>Weather</b> (°F)	Cloudy	<b>Sampled by</b>	Lee Bures	
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b>		
<b>Static Water Level (ft-bmp)</b>	6.51	<b>Total Depth (ft-bmp)</b>	17.69	<b>Water Column (ft)</b>	11.18	<b>Gallons in Well</b>		1.82
<b>Water Quality Meter Make/Model</b>	<b>Purge Method</b>		No-Purge	<b>Sample Method</b>		Grab		
<b>Sample Time</b>	12:45	<b>Well Volumes Purged</b>	N/A	<b>Sample ID</b>	B-4-W-20230120	<b>Purge Equipment</b>	Bailer	
<b>Purge Start</b>		<b>Gallons Purged</b>		<b>Duplicate ID</b>	--	<b>Sample Equipment</b>	Bailer	
<b>Purge End</b>		<b>Total Purge Time (h:m)</b>	--					

Time	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
								Color	Odor
don't report	--			--	--		--	--	--

**Comments:** SPH sample collected

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: B-4-W-20230120 Sample Time: 12:45 Sample Depth (ft-bmp): --  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

Billing Information:  
**Attn: Accounts Payable**  
**630 Plaza Dr., Ste. 600**  
**Highlands Ranch, CO 80129**

Email To: **Ada.Hamilton@arcadis.com; Alexander.Laws@ar**  
 City/State Collected: **Toledo, WA**  
 Client Project #: **30064316**  
 Lab Project #: **CHEVARCWA-211556**

Site/Facility ID #: **101 MULFORD ROAD,**  
**Christina Mroz**  
 Collected by (signature):  
 Rush? (Lab MUST Be Notified)  
 Same Day  Five Day   
 Next Day  5 Day (Rad Only)   
 Two Day  10 Day (Rad Only)   
 Three Day

Quote #  
 Date Results Needed  
 No. of Cntrs  
 Date  
 Time  
 Matrix \*  
 Depth  
 Comp/Grab  
 Sample ID

Sample ID	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Pres Chk
WW-111-W-20230120	GW	—	1/20/23	1015	11	BTEX 8260D 40mlamb-HCl	
MW-112-W-20230120	GW	—		1127	9	NWTFPHDX w/ silica 40mlamb-HCl-BT	
MW-113-W-20230120	GW	—		1218	9	NWTFPHDX no silica 40mlamb-HCl-BT	
B-2-W-20230120	GW	—		0921	9	NWTFPHGX 40mlamb HCl	
B-3-W-20230120	GW	—		1055	9		
BD-1-20230120	GW	—		1200	9		
BD-2-20230120	GW	—		1200	9		
TB-W-20230120	GW	—		0800	2		

**Remarks:**  
 \* Matrix: SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - Waste Water  
 DW - Drinking Water  
 OT - Other

Samples returned via:  UPS  FedEx  Courier

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

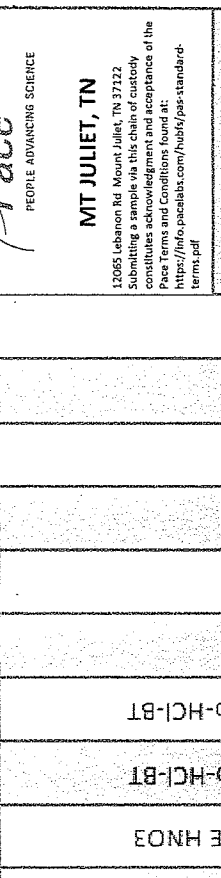
Tracking # \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received for lab by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Trip Blank Received: Yes / No  
 HCL / MeOH  
 TBR

Temp: \_\_\_\_\_ °C  
 Bottles Received: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Hold: \_\_\_\_\_ Condition: NCF / OK



**MT JULIET, TN**  
 12065 Lebanon Rd Mount Juliet, TN 37122  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG #  
 Table #  
 Acctnum: **CHEVARCWA**  
 Template: **T219872**  
 Prelogin: **P962860**  
 PM: **110 - Brian Ford**  
 PB:  
 Shipped Via:  
 Remarks  
 Sample # (lab only)

**Sample Receipt Checklist**

COC Seal Present/Intact:	NP	Y	N
COC Signed/Accurate:		Y	N
Bottles arrive intact:		Y	N
Correct bottles used:		Y	N
Sufficient volume sent:		Y	N
If Applicable		Y	N
VOA Zero HeadSpace:		Y	N
Preservation Correct/Checked:		Y	N
RAD Screen <0.5 mR/hr:		Y	N

If preservation required by Login: Date/Time



# WELLHEAD INSPECTION FORM

Client: Arcadis Site: 101 mulford Rd Toledo, WA Date: 1/20/23

Job #: 230120-cm1 Technician: cm Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency											Well Not Inspected (explain in notes)	Notes <small>(list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)</small>		
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade			Other (explain in notes)	
MW-109	X															
MW-110	X															
MW-111					3/3											
MW-112	X															
MW-113					3/3											
MW-114	X															
B-1	X															
B-2					3/3											
B-3					2/3											
B-4					1/3											

NOTES: \_\_\_\_\_







**Permit To Work**  
for Chevron EMC Sites

Client: Acadis Date: 1/20/23  
 Site Address: 101 Mulford Rd, Toledo, WA  
 Job Number: 230120-CM1 Technician(s): CM

**Pre-Job Safety Review**

<b>1. JMP reviewed, site restrictions and parking/access issues addressed.</b>	Reviewed: <input checked="" type="checkbox"/>	
<b>2. Special Permit Required Task Review</b>		
<b>Are there any conditions or tasks that would require:</b>	<b>Yes</b>	<b>No</b>
Confined space entry	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Working at height	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lock-out/Tag-out	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Excavations greater than 4 feet deep	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Excavations within 3 feet of a buried active electrical line or product piping or within 10 feet of a high pressure gas line.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Use of overhead equipment within 15 feet of an overhead electrical power line or pole supporting one	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hot work	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>If "Yes" was the answer to any of the Special Permit Required Tasks above, the Project Manager will contact the client and arrange to modify the Scope of Work so that the Special Permit Required Tasks are not required to be performed by Blaine Tech Services employees.</p>		
<b>3. Is a Traffic Control Permit required for today's work?</b>	<b>Yes</b>	<b>No</b>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If so is it in the folder?	<input type="checkbox"/>	<input type="checkbox"/>
Is it current?	<input type="checkbox"/>	<input type="checkbox"/>
Do you understand the Traffic Control Plan and what equipment you will need?	<input type="checkbox"/>	<input type="checkbox"/>

**On site Pre-Job Safety Review**

1. Reviewed and signed the site specific HASP.	<input checked="" type="checkbox"/>
2. Route to hospital understood.	<input checked="" type="checkbox"/>
3. Reviewed "Groundwater Monitoring Well Sampling General Job Safety Analysis included in the HASP.	<input checked="" type="checkbox"/>
4. Exceptional circumstances today that are not covered by the HASP, JSA or JMP have been addressed and mitigated.	<input checked="" type="checkbox"/>
5. Understands procedure to follow, if site circumstances change, to address new site hazards.	<input checked="" type="checkbox"/>
6. There are no unexpected conditions which would make your task a Special Permit Required Task. If there is, contact your Project Manager.	<input checked="" type="checkbox"/>
7. All site hazards have been communicated to all necessary onsite personnel during tailgate safety meeting.	<input checked="" type="checkbox"/>
8. After lunch tailgate safety meeting refresher conducted.	<input checked="" type="checkbox"/>
If Checklist Task cannot be completed, explain:	

**Permit To Work Authority:** Christina Mroz field Tech 1/20/23 0611  
 Name Title Date Time

# ATTACHMENT B

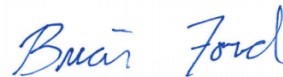
Laboratory Report and Chain-of-Custody Documentation



**Arcadis - Chevron - WA**

Sample Delivery Group: L1563268  
Samples Received: 12/02/2022  
Project Number: 30064316  
Description: 211556  
Site: 101 MULFORD ROAD, TOLEDO, WA  
Report To: Ada Hamilton  
1100 Olive Way  
Suite 800  
Seattle, WA 98101

Entire Report Reviewed By:



Brian Ford  
Project Manager

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

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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# SAMPLE SUMMARY

## MW-112-221129 L1563268-01 GW

Collected by L. King  
 Collected date/time 11/29/22 16:06  
 Received date/time 12/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1974971	1	12/15/22 14:08	12/15/22 18:34	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1968942	1	12/04/22 21:11	12/04/22 21:11	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1970222	1	12/06/22 22:50	12/06/22 22:50	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1970890	10	12/08/22 04:50	12/08/22 04:50	MGF	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1968960	1	12/04/22 07:31	12/05/22 23:10	JDJ	Mt. Juliet, TN



## MW-113-221129 L1563268-02 GW

Collected by L. King  
 Collected date/time 11/29/22 15:20  
 Received date/time 12/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1974971	1	12/15/22 14:08	12/15/22 18:37	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1968942	1	12/04/22 21:33	12/04/22 21:33	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1970222	1	12/06/22 23:11	12/06/22 23:11	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1968960	1	12/04/22 07:31	12/05/22 23:30	JDJ	Mt. Juliet, TN



## B-2-221129 L1563268-03 GW

Collected by L. King  
 Collected date/time 11/29/22 12:40  
 Received date/time 12/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1974971	1	12/15/22 14:08	12/15/22 18:21	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1968942	1	12/04/22 21:55	12/04/22 21:55	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1970222	1	12/06/22 23:32	12/06/22 23:32	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1968960	1	12/04/22 07:31	12/05/22 23:50	JDJ	Mt. Juliet, TN



## B-3-221129 L1563268-04 GW

Collected by L. King  
 Collected date/time 11/29/22 11:30  
 Received date/time 12/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1974971	1	12/15/22 14:08	12/15/22 18:41	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1970864	200	12/08/22 07:19	12/08/22 07:19	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1970890	200	12/08/22 05:12	12/08/22 05:12	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1971299	1000	12/08/22 15:02	12/08/22 15:02	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1968777	1	12/04/22 09:38	12/05/22 05:13	DMG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1968778	1	12/04/22 10:09	12/05/22 12:17	DMG	Mt. Juliet, TN

## B-4-221129 L1563268-05 GW

Collected by L. King  
 Collected date/time 11/29/22 10:45  
 Received date/time 12/02/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1974971	1	12/15/22 14:08	12/15/22 18:44	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1972878	100	12/12/22 18:53	12/12/22 18:53	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1970890	20	12/08/22 05:34	12/08/22 05:34	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1971299	250	12/08/22 15:22	12/08/22 15:22	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1968777	1	12/04/22 09:38	12/05/22 05:34	DMG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1968778	1	12/04/22 10:09	12/05/22 18:41	DMG	Mt. Juliet, TN

# SAMPLE SUMMARY

TB-1-221129 L1563268-06 GW

Collected by: L. King  
 Collected date/time: 11/29/22 10:00  
 Received date/time: 12/02/22 09:00


Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1969147	1	12/04/22 21:27	12/04/22 21:27	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1970222	1	12/06/22 22:29	12/06/22 22:29	JCP	Mt. Juliet, TN

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



# CASE NARRATIVE

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



Brian Ford  
Project Manager

## Sample Delivery Group (SDG) Narrative

---

pH outside of method requirement.

<u>Lab Sample ID</u>	<u>Project Sample ID</u>	<u>Method</u>
<a href="#">L1563268-05</a>	<a href="#">B-4-221129</a>	8260D

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	U		0.849	2.00	1	12/15/2022 18:34	<a href="#">WG1974971</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	3470		31.6	100	1	12/04/2022 21:11	<a href="#">WG1968942</a>
(S) a,a,a-Trifluorotoluene(FID)	108			78.0-120		12/04/2022 21:11	<a href="#">WG1968942</a>

- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	33.0		0.0941	1.00	1	12/06/2022 22:50	<a href="#">WG1970222</a>
Toluene	734		2.78	10.0	10	12/08/2022 04:50	<a href="#">WG1970890</a>
Ethylbenzene	31.9		0.137	1.00	1	12/06/2022 22:50	<a href="#">WG1970222</a>
Total Xylenes	140		0.174	3.00	1	12/06/2022 22:50	<a href="#">WG1970222</a>
(S) Toluene-d8	106			80.0-120		12/06/2022 22:50	<a href="#">WG1970222</a>
(S) Toluene-d8	103			80.0-120		12/08/2022 04:50	<a href="#">WG1970890</a>
(S) 4-Bromofluorobenzene	79.0			77.0-126		12/06/2022 22:50	<a href="#">WG1970222</a>
(S) 4-Bromofluorobenzene	92.4			77.0-126		12/08/2022 04:50	<a href="#">WG1970890</a>
(S) 1,2-Dichloroethane-d4	73.2			70.0-130		12/06/2022 22:50	<a href="#">WG1970222</a>
(S) 1,2-Dichloroethane-d4	98.8			70.0-130		12/08/2022 04:50	<a href="#">WG1970890</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	12/05/2022 23:10	<a href="#">WG1968960</a>
Residual Range Organics (RRO)	U		83.3	250	1	12/05/2022 23:10	<a href="#">WG1968960</a>
(S) o-Terphenyl	77.9			52.0-156		12/05/2022 23:10	<a href="#">WG1968960</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	U		0.849	2.00	1	12/15/2022 18:37	<a href="#">WG1974971</a>

1 Cp  
2 Tc  
3 Ss  
4 Cn  
5 Sr

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	64.7	<u>B J</u>	31.6	100	1	12/04/2022 21:33	<a href="#">WG1968942</a>
(S) a,a,a-Trifluorotoluene(FID)	109			78.0-120		12/04/2022 21:33	<a href="#">WG1968942</a>

6 Qc  
7 Gl  
8 Al  
9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	12/06/2022 23:11	<a href="#">WG1970222</a>
Toluene	U		0.278	1.00	1	12/06/2022 23:11	<a href="#">WG1970222</a>
Ethylbenzene	U		0.137	1.00	1	12/06/2022 23:11	<a href="#">WG1970222</a>
Total Xylenes	U		0.174	3.00	1	12/06/2022 23:11	<a href="#">WG1970222</a>
(S) Toluene-d8	131	<u>J1</u>		80.0-120		12/06/2022 23:11	<a href="#">WG1970222</a>
(S) 4-Bromofluorobenzene	87.7			77.0-126		12/06/2022 23:11	<a href="#">WG1970222</a>
(S) 1,2-Dichloroethane-d4	74.1			70.0-130		12/06/2022 23:11	<a href="#">WG1970222</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	12/05/2022 23:30	<a href="#">WG1968960</a>
Residual Range Organics (RRO)	U		83.3	250	1	12/05/2022 23:30	<a href="#">WG1968960</a>
(S) o-Terphenyl	80.0			52.0-156		12/05/2022 23:30	<a href="#">WG1968960</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	5.18		0.849	2.00	1	12/15/2022 18:21	<a href="#">WG1974971</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	57.7	<u>B</u>	31.6	100	1	12/04/2022 21:55	<a href="#">WG1968942</a>
(S) a,a,a-Trifluorotoluene(FID)	110			78.0-120		12/04/2022 21:55	<a href="#">WG1968942</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	12/06/2022 23:32	<a href="#">WG1970222</a>
Toluene	U		0.278	1.00	1	12/06/2022 23:32	<a href="#">WG1970222</a>
Ethylbenzene	U		0.137	1.00	1	12/06/2022 23:32	<a href="#">WG1970222</a>
Total Xylenes	U		0.174	3.00	1	12/06/2022 23:32	<a href="#">WG1970222</a>
(S) Toluene-d8	96.8			80.0-120		12/06/2022 23:32	<a href="#">WG1970222</a>
(S) 4-Bromofluorobenzene	88.2			77.0-126		12/06/2022 23:32	<a href="#">WG1970222</a>
(S) 1,2-Dichloroethane-d4	82.0			70.0-130		12/06/2022 23:32	<a href="#">WG1970222</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	12/05/2022 23:50	<a href="#">WG1968960</a>
Residual Range Organics (RRO)	U		83.3	250	1	12/05/2022 23:50	<a href="#">WG1968960</a>
(S) o-Terphenyl	74.7			52.0-156		12/05/2022 23:50	<a href="#">WG1968960</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Lead,Dissolved	14.5		0.849	2.00	1	12/15/2022 18:41	<a href="#">WG1974971</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	219000		6320	20000	200	12/08/2022 07:19	<a href="#">WG1970864</a>
(S) a,a,a-Trifluorotoluene(FID)	100			78.0-120		12/08/2022 07:19	<a href="#">WG1970864</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzene	6770		18.8	200	200	12/08/2022 05:12	<a href="#">WG1970890</a>
Toluene	48300		278	1000	1000	12/08/2022 15:02	<a href="#">WG1971299</a>
Ethylbenzene	3280		27.4	200	200	12/08/2022 05:12	<a href="#">WG1970890</a>
Total Xylenes	20400		34.8	600	200	12/08/2022 05:12	<a href="#">WG1970890</a>
(S) Toluene-d8	103			80.0-120		12/08/2022 05:12	<a href="#">WG1970890</a>
(S) Toluene-d8	103			80.0-120		12/08/2022 15:02	<a href="#">WG1971299</a>
(S) 4-Bromofluorobenzene	98.3			77.0-126		12/08/2022 05:12	<a href="#">WG1970890</a>
(S) 4-Bromofluorobenzene	104			77.0-126		12/08/2022 15:02	<a href="#">WG1971299</a>
(S) 1,2-Dichloroethane-d4	94.1			70.0-130		12/08/2022 05:12	<a href="#">WG1970890</a>
(S) 1,2-Dichloroethane-d4	96.4			70.0-130		12/08/2022 15:02	<a href="#">WG1971299</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Diesel Range Organics (DRO)	6640		66.7	200	1	12/05/2022 05:13	<a href="#">WG1968777</a>
Residual Range Organics (RRO)	211	J	83.3	250	1	12/05/2022 05:13	<a href="#">WG1968777</a>
(S) o-Terphenyl	91.6			52.0-156		12/05/2022 05:13	<a href="#">WG1968777</a>

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)	378		66.7	200	1	12/05/2022 12:17	<a href="#">WG1968778</a>
Residual Range Organics (RRO)	U		83.3	250	1	12/05/2022 12:17	<a href="#">WG1968778</a>
(S) o-Terphenyl	53.2			52.0-156		12/05/2022 12:17	<a href="#">WG1968778</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	3.18		0.849	2.00	1	12/15/2022 18:44	<a href="#">WG1974971</a>

1 Cp  
2 Tc  
3 Ss  
4 Cn  
5 Sr

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	112000		3160	10000	100	12/12/2022 18:53	<a href="#">WG1972878</a>
(S) a,a,a-Trifluorotoluene(FID)	112			78.0-120		12/12/2022 18:53	<a href="#">WG1972878</a>

6 Qc  
7 Gl  
8 Al  
9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	3050		1.88	20.0	20	12/08/2022 05:34	<a href="#">WG1970890</a>
Toluene	19600	E	69.5	250	250	12/08/2022 15:22	<a href="#">WG1971299</a>
Ethylbenzene	1450		2.74	20.0	20	12/08/2022 05:34	<a href="#">WG1970890</a>
Total Xylenes	8750		3.48	60.0	20	12/08/2022 05:34	<a href="#">WG1970890</a>
(S) Toluene-d8	96.9			80.0-120		12/08/2022 05:34	<a href="#">WG1970890</a>
(S) Toluene-d8	102			80.0-120		12/08/2022 15:22	<a href="#">WG1971299</a>
(S) 4-Bromofluorobenzene	92.3			77.0-126		12/08/2022 05:34	<a href="#">WG1970890</a>
(S) 4-Bromofluorobenzene	104			77.0-126		12/08/2022 15:22	<a href="#">WG1971299</a>
(S) 1,2-Dichloroethane-d4	93.6			70.0-130		12/08/2022 05:34	<a href="#">WG1970890</a>
(S) 1,2-Dichloroethane-d4	99.6			70.0-130		12/08/2022 15:22	<a href="#">WG1971299</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1400		66.7	200	1	12/05/2022 05:34	<a href="#">WG1968777</a>
Residual Range Organics (RRO)	U		83.3	250	1	12/05/2022 05:34	<a href="#">WG1968777</a>
(S) o-Terphenyl	79.5			52.0-156		12/05/2022 05:34	<a href="#">WG1968777</a>

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	305		66.7	200	1	12/05/2022 18:41	<a href="#">WG1968778</a>
Residual Range Organics (RRO)	U		83.3	250	1	12/05/2022 18:41	<a href="#">WG1968778</a>
(S) o-Terphenyl	71.1			52.0-156		12/05/2022 18:41	<a href="#">WG1968778</a>



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	12/04/2022 21:27	<a href="#">WG1969147</a>
(S) a,a,a-Trifluorotoluene(FID)	104			78.0-120		12/04/2022 21:27	<a href="#">WG1969147</a>

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

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	12/06/2022 22:29	<a href="#">WG1970222</a>
Toluene	U		0.278	1.00	1	12/06/2022 22:29	<a href="#">WG1970222</a>
Ethylbenzene	U		0.137	1.00	1	12/06/2022 22:29	<a href="#">WG1970222</a>
Total Xylenes	U		0.174	3.00	1	12/06/2022 22:29	<a href="#">WG1970222</a>
(S) Toluene-d8	118			80.0-120		12/06/2022 22:29	<a href="#">WG1970222</a>
(S) 4-Bromofluorobenzene	98.1			77.0-126		12/06/2022 22:29	<a href="#">WG1970222</a>
(S) 1,2-Dichloroethane-d4	86.0			70.0-130		12/06/2022 22:29	<a href="#">WG1970222</a>

Method Blank (MB)

(MB) R3872557-1 12/15/22 18:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Lead,Dissolved	U		0.849	2.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Laboratory Control Sample (LCS)

(LCS) R3872557-2 12/15/22 18:17

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Lead,Dissolved	50.0	49.7	99.4	80.0-120	

<sup>4</sup>Cn

<sup>5</sup>Sr

L1563268-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1563268-03 12/15/22 18:21 • (MS) R3872557-4 12/15/22 18:27 • (MSD) R3872557-5 12/15/22 18:31

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Lead,Dissolved	50.0	5.18	52.4	55.1	94.3	99.7	1	75.0-125			5.03	20

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3869368-2 12/04/22 19:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	59.5	↓	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	110			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3869368-1 12/04/22 18:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5550	101	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			114	78.0-120	

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

Method Blank (MB)

(MB) R3870632-2 12/04/22 20:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	102			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3870632-1 12/04/22 19:56

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4840	88.0	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			86.2	78.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3870197-2 12/08/22 01:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	104			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3870197-1 12/08/22 00:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5430	98.7	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			84.7	78.0-120	

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

Method Blank (MB)

(MB) R3870969-2 12/12/22 15:34

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	63.5	↓	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	114			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3870969-1 12/12/22 14:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	6340	115	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			119	78.0-120	

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



Method Blank (MB)

(MB) R3869387-3 12/06/22 21:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.0941	1.00
Toluene	U		0.278	1.00
Ethylbenzene	U		0.137	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	98.4			80.0-120
(S) 4-Bromofluorobenzene	89.6			77.0-126
(S) 1,2-Dichloroethane-d4	73.8			70.0-130

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

(LCS) R3869387-1 12/06/22 19:55 • (LCSD) R3869387-2 12/06/22 20:16

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	5.00	4.06	4.09	81.2	81.8	70.0-123			0.736	20
Toluene	5.00	4.20	4.28	84.0	85.6	79.0-120			1.89	20
Ethylbenzene	5.00	4.49	4.66	89.8	93.2	79.0-123			3.72	20
Xylenes, Total	15.0	13.3	14.1	88.7	94.0	79.0-123			5.84	20
(S) Toluene-d8				102	97.1	80.0-120				
(S) 4-Bromofluorobenzene				96.2	91.8	77.0-126				
(S) 1,2-Dichloroethane-d4				77.6	73.7	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3869588-3 12/07/22 22:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Toluene	U		0.278	1.00
Ethylbenzene	U		0.137	1.00
Xylenes, Total	U		0.174	3.00
<i>(S) Toluene-d8</i>	105			80.0-120
<i>(S) 4-Bromofluorobenzene</i>	86.4			77.0-126
<i>(S) 1,2-Dichloroethane-d4</i>	100			70.0-130

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

(LCS) R3869588-1 12/07/22 21:11 • (LCSD) R3869588-4 12/07/22 23:01

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	5.56	5.70	111	114	70.0-123			2.49	20
Toluene	5.00	5.58	5.32	112	106	79.0-120			4.77	20
Ethylbenzene	5.00	5.74	5.64	115	113	79.0-123			1.76	20
Xylenes, Total	15.0	17.6	17.4	117	116	79.0-123			1.14	20
<i>(S) Toluene-d8</i>				107	104	80.0-120				
<i>(S) 4-Bromofluorobenzene</i>				94.7	94.8	77.0-126				
<i>(S) 1,2-Dichloroethane-d4</i>				101	102	70.0-130				

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Method Blank (MB)

(MB) R3870004-3 12/08/22 12:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Toluene	U		0.278	1.00
(S) Toluene-d8	104			80.0-120
(S) 4-Bromofluorobenzene	103			77.0-126
(S) 1,2-Dichloroethane-d4	101			70.0-130

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

(LCS) R3870004-1 12/08/22 11:36 • (LCSD) R3870004-2 12/08/22 11:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Toluene	5.00	4.60	5.07	92.0	101	79.0-120			9.72	20
(S) Toluene-d8				103	104	80.0-120				
(S) 4-Bromofluorobenzene				102	102	77.0-126				
(S) 1,2-Dichloroethane-d4				98.9	105	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3868102-1 12/05/22 02:32

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	82.0			52.0-156

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

(LCS) R3868102-2 12/05/22 02:52 • (LCSD) R3868102-3 12/05/22 03:12

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	1620	1630	108	109	50.0-150			0.615	20
<i>(S) o-Terphenyl</i>				78.5	76.5	52.0-156				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3868067-1 12/05/22 01:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	77.0			52.0-156

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

(LCS) R3868067-2 12/05/22 01:22 • (LCSD) R3868067-3 12/05/22 01:42

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	1460	1460	97.3	97.3	50.0-150			0.000	20
<i>(S) o-Terphenyl</i>				86.5	86.0	52.0-156				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3868103-1 12/05/22 03:32

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	74.5			52.0-156

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

(LCS) R3868103-2 12/05/22 03:53 • (LCSD) R3868103-3 12/05/22 04:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Diesel Range Organics (DRO)	1500	1300	1570	86.7	105	50.0-150			18.8	20
<i>(S) o-Terphenyl</i>				59.0	77.0	52.0-156				

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



# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

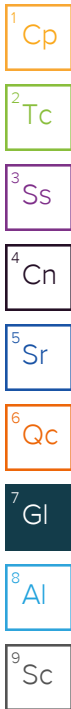
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.



# 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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.




Company Name/Address: <b>Arcadis - Chevron - WA</b> 1100 Olive Way Suite 800 Seattle, WA 98101		Billing Information: Attn: Accounts Payable 630 Plaza Dr., Ste. 600 Highlands Ranch, CO 80129		Pres Chk L2		Analysis / Container / Preservative					Chain of Custody Page 1 of 1							
Report to: Ada Hamilton		Email To: Ada.Hamilton@arcadis.com; Alexander.Laws@ar									 <b>MT JULIET, TN</b> <small>12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf</small>							
Project Description: 211556		City/State Collected:		Please Circle: PT MT CT ET							SDG # <u>4563268</u> Table # <b>B045</b> Acct # <u>CHEVARCWA</u> Template: <b>T219872</b> Prelogin: <b>P962860</b> PM: <b>110 - Brian Ford</b> PB:							
Phone: 206-325-5254		Client Project # 30064316		Lab Project # CHEVARCWA-211556							Shipped Via:							
Collected by (print): L. KENG		Site/Facility ID # 101 MULFORD ROAD,		P.O. #							Remarks      Sample # (lab only)							
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #														
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/> X				Date Results Needed														
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	BTEX 8260D 40mlAmb-HCl	FF Diss Lead 6020 250mHDPE HNO3	NWTPHDX no silica 40mlAmb-HCl-BT	NWTPHDX w/ silica 40mlAmb-HCl-BT	NWTPHGX 40mlAmb HCl						
MW-112-221129	G	GW	-	11/29/22	1600	10	X	X	X	X	X	X						-01
MW-113-221129	G	GW	-	↓	1520	10	X	X	X	X	X	X						-02
B-2-221129	G	GW	-		1240	10	X	X	X	X	X	X						-03
B-3-221129	G	GW	-		1130	10	X	X	X	X	X	X						-04
B-4-221129	G	GW	-		1045	10	X	X	X	X	X	X						-05
TB-1-221129	G	GW	-		1000	2	X						X					-06
		GW																
		GW																

\* Matrix:  
 SS - Soil    AIR - Air    F - Filter  
 GW - Groundwater    B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other \_\_\_\_\_

Remarks:  
 pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_  
 Samples returned via:  
 UPS    FedEx    Courier \_\_\_\_\_  
 Tracking # 5528 5951 8099

Sample Receipt Checklist

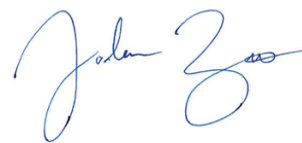
COC Seal Present/Intact:	<input checked="" type="checkbox"/> NP	N
COC Signed/Accurate:	<input checked="" type="checkbox"/>	N
Bottles arrive intact:	<input checked="" type="checkbox"/>	N
Correct bottles used:	<input checked="" type="checkbox"/>	N
Sufficient volume sent:	<input checked="" type="checkbox"/>	N
If Applicable		
VOA Zero Headspace:	<input checked="" type="checkbox"/>	N
Preservation Correct/Checked:	<input checked="" type="checkbox"/>	N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/>	N

Relinquished by: (Signature) 	Date: 12/1/22	Time: 1600	Received by: (Signature) SHIPPED VIA FedEx	Trip Blank Received: <input checked="" type="checkbox"/> Yes / No MeOH TBR	Bottles Received: 2.3 x 0 = 2.3 50	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Hold:
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:	Condition: NCF <input checked="" type="checkbox"/> OK

## Arcadis - Chevron - WA

Sample Delivery Group: L1578569  
Samples Received: 01/24/2023  
Project Number: 30064316  
Description: 211556  
Site: 101 MULFORD ROAD, TOLEDO, WA  
Report To: Ada Hamilton  
1100 Olive Way  
Suite 800  
Seattle, WA 98101

Entire Report Reviewed By:

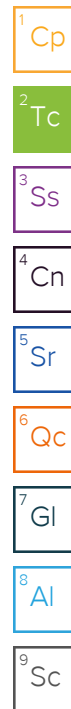


Jordan N Zito  
Project Manager

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.

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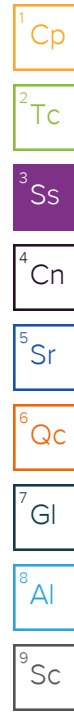


# SAMPLE SUMMARY

## MW-111-W-20230120 L1578569-01 GW

Collected by Christina M  
 Collected date/time 01/20/23 10:15  
 Received date/time 01/24/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1993872	1	01/24/23 15:35	01/24/23 17:45	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1994108	20	01/26/23 09:36	01/26/23 09:36	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994172	20	01/25/23 02:35	01/25/23 02:35	JTO	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994842	250	01/25/23 23:46	01/25/23 23:46	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1995598	1	01/27/23 08:58	01/28/23 04:46	TJD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1995599	1	01/27/23 08:52	01/28/23 15:12	DMG	Mt. Juliet, TN



## MW-112-W-20230120 L1578569-02 GW

Collected by Christina M  
 Collected date/time 01/20/23 11:27  
 Received date/time 01/24/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1993872	1	01/24/23 15:35	01/24/23 18:34	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1994108	1	01/26/23 03:46	01/26/23 03:46	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994172	1	01/25/23 00:31	01/25/23 00:31	JTO	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1995647	1	01/27/23 07:30	01/27/23 11:47	HLJ	Mt. Juliet, TN

## MW-113-W-20230120 L1578569-03 GW

Collected by Christina M  
 Collected date/time 01/20/23 11:27  
 Received date/time 01/24/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1993872	1	01/24/23 15:35	01/24/23 18:38	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1994108	1	01/26/23 04:08	01/26/23 04:08	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994172	1	01/25/23 00:51	01/25/23 00:51	JTO	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1995647	1	01/27/23 07:30	01/27/23 12:10	HLJ	Mt. Juliet, TN

## B-2-W-20230120 L1578569-04 GW

Collected by Christina M  
 Collected date/time 01/20/23 11:27  
 Received date/time 01/24/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1993872	1	01/24/23 15:35	01/24/23 18:41	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1994108	1	01/26/23 04:30	01/26/23 04:30	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994172	1	01/25/23 01:12	01/25/23 01:12	JTO	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1995647	1	01/27/23 07:30	01/27/23 12:33	HLJ	Mt. Juliet, TN

## B-3-W-20230120 L1578569-05 GW

Collected by Christina M  
 Collected date/time 01/20/23 11:27  
 Received date/time 01/24/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1993872	1	01/24/23 15:35	01/24/23 18:44	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1994108	100	01/26/23 09:57	01/26/23 09:57	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994172	100	01/25/23 02:56	01/25/23 02:56	JTO	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994842	500	01/26/23 00:07	01/26/23 00:07	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1995647	1	01/27/23 07:30	01/27/23 12:56	HLJ	Mt. Juliet, TN

## BD-1-20230120 L1578569-06 GW

Collected by Christina M  
 Collected date/time 01/20/23 11:27  
 Received date/time 01/24/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1993872	1	01/24/23 15:35	01/24/23 18:48	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1994108	1	01/26/23 04:52	01/26/23 04:52	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994172	1	01/25/23 01:33	01/25/23 01:33	JTO	Mt. Juliet, TN



# SAMPLE SUMMARY

## BD-1-20230120 L1578569-06 GW

Collected by: Christina M  
 Collected date/time: 01/20/23 11:27  
 Received date/time: 01/24/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1995647	1	01/27/23 07:30	01/27/23 14:28	HLJ	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

## BD-2-20230120 L1578569-07 GW

Collected by: Christina M  
 Collected date/time: 01/20/23 11:27  
 Received date/time: 01/24/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1993872	1	01/24/23 15:35	01/24/23 18:51	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1994108	1	01/26/23 05:13	01/26/23 05:13	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994172	1	01/25/23 01:54	01/25/23 01:54	JTO	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1995647	1	01/27/23 07:30	01/27/23 14:50	HLJ	Mt. Juliet, TN

4 Cn

5 Sr

6 Qc

## TB-W-20230120 L1578569-08 GW

Collected by: Christina M  
 Collected date/time: 01/20/23 11:27  
 Received date/time: 01/24/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1994108	1	01/26/23 03:02	01/26/23 03:02	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1994172	1	01/24/23 23:07	01/24/23 23:07	JTO	Mt. Juliet, TN

7 Gl

8 Al

9 Sc



# CASE NARRATIVE

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



Jordan N Zito  
Project Manager

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

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Lead,Dissolved	10.7	B	0.849	2.00	1	01/24/2023 17:45	<a href="#">WG1993872</a>

1 Cp  
2 Tc  
3 Ss  
4 Cn  
5 Sr

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	62600		632	2000	20	01/26/2023 09:36	<a href="#">WG1994108</a>
(S) a,a,a-Trifluorotoluene(FID)	96.0			78.0-120		01/26/2023 09:36	<a href="#">WG1994108</a>

6 Qc  
7 Gl  
8 Al  
9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzene	2610		1.88	20.0	20	01/25/2023 02:35	<a href="#">WG1994172</a>
Toluene	17300		69.5	250	250	01/25/2023 23:46	<a href="#">WG1994842</a>
Ethylbenzene	1070		2.74	20.0	20	01/25/2023 02:35	<a href="#">WG1994172</a>
Total Xylenes	5650		3.48	60.0	20	01/25/2023 02:35	<a href="#">WG1994172</a>
(S) Toluene-d8	103			80.0-120		01/25/2023 02:35	<a href="#">WG1994172</a>
(S) Toluene-d8	112			80.0-120		01/25/2023 23:46	<a href="#">WG1994842</a>
(S) 4-Bromofluorobenzene	100			77.0-126		01/25/2023 02:35	<a href="#">WG1994172</a>
(S) 4-Bromofluorobenzene	114			77.0-126		01/25/2023 23:46	<a href="#">WG1994842</a>
(S) 1,2-Dichloroethane-d4	98.4			70.0-130		01/25/2023 02:35	<a href="#">WG1994172</a>
(S) 1,2-Dichloroethane-d4	87.1			70.0-130		01/25/2023 23:46	<a href="#">WG1994842</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Diesel Range Organics (DRO)	3010		66.7	200	1	01/28/2023 04:46	<a href="#">WG1995598</a>
Residual Range Organics (RRO)	1710		83.3	250	1	01/28/2023 04:46	<a href="#">WG1995598</a>
(S) o-Terphenyl	111			52.0-156		01/28/2023 04:46	<a href="#">WG1995598</a>

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)	676		66.7	200	1	01/28/2023 15:12	<a href="#">WG1995599</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/28/2023 15:12	<a href="#">WG1995599</a>
(S) o-Terphenyl	80.0			52.0-156		01/28/2023 15:12	<a href="#">WG1995599</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	U		0.849	2.00	1	01/24/2023 18:34	<a href="#">WG1993872</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	94.9	<u>B</u>	31.6	100	1	01/26/2023 03:46	<a href="#">WG1994108</a>
(S) a,a,a-Trifluorotoluene(FID)	95.9			78.0-120		01/26/2023 03:46	<a href="#">WG1994108</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	17.5		0.0941	1.00	1	01/25/2023 00:31	<a href="#">WG1994172</a>
Toluene	U		0.278	1.00	1	01/25/2023 00:31	<a href="#">WG1994172</a>
Ethylbenzene	0.264	<u>J</u>	0.137	1.00	1	01/25/2023 00:31	<a href="#">WG1994172</a>
Total Xylenes	0.269	<u>J</u>	0.174	3.00	1	01/25/2023 00:31	<a href="#">WG1994172</a>
(S) Toluene-d8	110			80.0-120		01/25/2023 00:31	<a href="#">WG1994172</a>
(S) 4-Bromofluorobenzene	99.7			77.0-126		01/25/2023 00:31	<a href="#">WG1994172</a>
(S) 1,2-Dichloroethane-d4	95.4			70.0-130		01/25/2023 00:31	<a href="#">WG1994172</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	01/27/2023 11:47	<a href="#">WG1995647</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/27/2023 11:47	<a href="#">WG1995647</a>
(S) o-Terphenyl	82.1			52.0-156		01/27/2023 11:47	<a href="#">WG1995647</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	U		0.849	2.00	1	01/24/2023 18:38	<a href="#">WG1993872</a>

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	79.8	<u>B</u> <u>J</u>	31.6	100	1	01/26/2023 04:08	<a href="#">WG1994108</a>
(S) a,a,a-Trifluorotoluene(FID)	95.8			78.0-120		01/26/2023 04:08	<a href="#">WG1994108</a>

- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/25/2023 00:51	<a href="#">WG1994172</a>
Toluene	0.319	<u>J</u>	0.278	1.00	1	01/25/2023 00:51	<a href="#">WG1994172</a>
Ethylbenzene	U		0.137	1.00	1	01/25/2023 00:51	<a href="#">WG1994172</a>
Total Xylenes	1.39	<u>J</u>	0.174	3.00	1	01/25/2023 00:51	<a href="#">WG1994172</a>
(S) Toluene-d8	107			80.0-120		01/25/2023 00:51	<a href="#">WG1994172</a>
(S) 4-Bromofluorobenzene	94.8			77.0-126		01/25/2023 00:51	<a href="#">WG1994172</a>
(S) 1,2-Dichloroethane-d4	96.1			70.0-130		01/25/2023 00:51	<a href="#">WG1994172</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	01/27/2023 12:10	<a href="#">WG1995647</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/27/2023 12:10	<a href="#">WG1995647</a>
(S) o-Terphenyl	83.2			52.0-156		01/27/2023 12:10	<a href="#">WG1995647</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	U		0.849	2.00	1	01/24/2023 18:41	<a href="#">WG1993872</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	37.9	<u>B</u>	31.6	100	1	01/26/2023 04:30	<a href="#">WG1994108</a>
(S) a,a,a-Trifluorotoluene(FID)	97.4			78.0-120		01/26/2023 04:30	<a href="#">WG1994108</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/25/2023 01:12	<a href="#">WG1994172</a>
Toluene	U		0.278	1.00	1	01/25/2023 01:12	<a href="#">WG1994172</a>
Ethylbenzene	U		0.137	1.00	1	01/25/2023 01:12	<a href="#">WG1994172</a>
Total Xylenes	U		0.174	3.00	1	01/25/2023 01:12	<a href="#">WG1994172</a>
(S) Toluene-d8	111			80.0-120		01/25/2023 01:12	<a href="#">WG1994172</a>
(S) 4-Bromofluorobenzene	100			77.0-126		01/25/2023 01:12	<a href="#">WG1994172</a>
(S) 1,2-Dichloroethane-d4	98.1			70.0-130		01/25/2023 01:12	<a href="#">WG1994172</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	01/27/2023 12:33	<a href="#">WG1995647</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/27/2023 12:33	<a href="#">WG1995647</a>
(S) o-Terphenyl	85.8			52.0-156		01/27/2023 12:33	<a href="#">WG1995647</a>

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	9.24	B	0.849	2.00	1	01/24/2023 18:44	<a href="#">WG1993872</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	130000		3160	10000	100	01/26/2023 09:57	<a href="#">WG1994108</a>
(S) a,a,a-Trifluorotoluene(FID)	94.7			78.0-120		01/26/2023 09:57	<a href="#">WG1994108</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	2230		9.41	100	100	01/25/2023 02:56	<a href="#">WG1994172</a>
Toluene	28800		139	500	500	01/26/2023 00:07	<a href="#">WG1994842</a>
Ethylbenzene	3010		13.7	100	100	01/25/2023 02:56	<a href="#">WG1994172</a>
Total Xylenes	19000		17.4	300	100	01/25/2023 02:56	<a href="#">WG1994172</a>
(S) Toluene-d8	100			80.0-120		01/25/2023 02:56	<a href="#">WG1994172</a>
(S) Toluene-d8	107			80.0-120		01/26/2023 00:07	<a href="#">WG1994842</a>
(S) 4-Bromofluorobenzene	96.1			77.0-126		01/25/2023 02:56	<a href="#">WG1994172</a>
(S) 4-Bromofluorobenzene	110			77.0-126		01/26/2023 00:07	<a href="#">WG1994842</a>
(S) 1,2-Dichloroethane-d4	96.6			70.0-130		01/25/2023 02:56	<a href="#">WG1994172</a>
(S) 1,2-Dichloroethane-d4	89.4			70.0-130		01/26/2023 00:07	<a href="#">WG1994842</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	3520		66.7	200	1	01/27/2023 12:56	<a href="#">WG1995647</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/27/2023 12:56	<a href="#">WG1995647</a>
(S) o-Terphenyl	86.8			52.0-156		01/27/2023 12:56	<a href="#">WG1995647</a>

Sample Narrative:

L1578569-05 WG1995647: Sample does not resemble laboratory standards.

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	U		0.849	2.00	1	01/24/2023 18:48	<a href="#">WG1993872</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	37.7	<u>B</u>	31.6	100	1	01/26/2023 04:52	<a href="#">WG1994108</a>
(S) a,a,a-Trifluorotoluene(FID)	98.0			78.0-120		01/26/2023 04:52	<a href="#">WG1994108</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/25/2023 01:33	<a href="#">WG1994172</a>
Toluene	U		0.278	1.00	1	01/25/2023 01:33	<a href="#">WG1994172</a>
Ethylbenzene	U		0.137	1.00	1	01/25/2023 01:33	<a href="#">WG1994172</a>
Total Xylenes	U		0.174	3.00	1	01/25/2023 01:33	<a href="#">WG1994172</a>
(S) Toluene-d8	109			80.0-120		01/25/2023 01:33	<a href="#">WG1994172</a>
(S) 4-Bromofluorobenzene	99.5			77.0-126		01/25/2023 01:33	<a href="#">WG1994172</a>
(S) 1,2-Dichloroethane-d4	99.7			70.0-130		01/25/2023 01:33	<a href="#">WG1994172</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	01/27/2023 14:28	<a href="#">WG1995647</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/27/2023 14:28	<a href="#">WG1995647</a>
(S) o-Terphenyl	84.2			52.0-156		01/27/2023 14:28	<a href="#">WG1995647</a>



Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead,Dissolved	U		0.849	2.00	1	01/24/2023 18:51	<a href="#">WG1993872</a>

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	76.9	<u>B</u>	31.6	100	1	01/26/2023 05:13	<a href="#">WG1994108</a>
(S) a,a,a-Trifluorotoluene(FID)	94.9			78.0-120		01/26/2023 05:13	<a href="#">WG1994108</a>

3 Ss

4 Cn

5 Sr

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/25/2023 01:54	<a href="#">WG1994172</a>
Toluene	0.316	<u>J</u>	0.278	1.00	1	01/25/2023 01:54	<a href="#">WG1994172</a>
Ethylbenzene	U		0.137	1.00	1	01/25/2023 01:54	<a href="#">WG1994172</a>
Total Xylenes	1.43	<u>J</u>	0.174	3.00	1	01/25/2023 01:54	<a href="#">WG1994172</a>
(S) Toluene-d8	110			80.0-120		01/25/2023 01:54	<a href="#">WG1994172</a>
(S) 4-Bromofluorobenzene	98.3			77.0-126		01/25/2023 01:54	<a href="#">WG1994172</a>
(S) 1,2-Dichloroethane-d4	100			70.0-130		01/25/2023 01:54	<a href="#">WG1994172</a>

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	01/27/2023 14:50	<a href="#">WG1995647</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/27/2023 14:50	<a href="#">WG1995647</a>
(S) o-Terphenyl	86.3			52.0-156		01/27/2023 14:50	<a href="#">WG1995647</a>

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	39.4	<u>B</u> <u>J</u>	31.6	100	1	01/26/2023 03:02	<a href="#">WG1994108</a>
(S) a,a,a-Trifluorotoluene(FID)	97.4			78.0-120		01/26/2023 03:02	<a href="#">WG1994108</a>

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

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/24/2023 23:07	<a href="#">WG1994172</a>
Toluene	U		0.278	1.00	1	01/24/2023 23:07	<a href="#">WG1994172</a>
Ethylbenzene	U		0.137	1.00	1	01/24/2023 23:07	<a href="#">WG1994172</a>
Total Xylenes	U		0.174	3.00	1	01/24/2023 23:07	<a href="#">WG1994172</a>
(S) Toluene-d8	110			80.0-120		01/24/2023 23:07	<a href="#">WG1994172</a>
(S) 4-Bromofluorobenzene	100			77.0-126		01/24/2023 23:07	<a href="#">WG1994172</a>
(S) 1,2-Dichloroethane-d4	99.2			70.0-130		01/24/2023 23:07	<a href="#">WG1994172</a>

Method Blank (MB)

(MB) R3884004-1 01/24/23 17:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Lead,Dissolved	1.27	↓	0.849	2.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Laboratory Control Sample (LCS)

(LCS) R3884004-2 01/24/23 17:42

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Lead,Dissolved	50.0	47.1	94.1	80.0-120	

<sup>4</sup>Cn

<sup>5</sup>Sr

L1578569-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1578569-01 01/24/23 17:45 • (MS) R3884004-4 01/24/23 17:52 • (MSD) R3884004-5 01/24/23 17:55

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Lead,Dissolved	50.0	10.7	57.8	61.6	94.2	102	1	75.0-125			6.43	20

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3884593-2 01/26/23 02:40

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	51.8	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	97.0			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3884593-1 01/26/23 01:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5290	96.2	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			102	78.0-120	

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

Method Blank (MB)

(MB) R3884443-2 01/24/23 20:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Toluene	U		0.278	1.00
Ethylbenzene	U		0.137	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	114			80.0-120
(S) 4-Bromofluorobenzene	99.7			77.0-126
(S) 1,2-Dichloroethane-d4	96.4			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3884443-1 01/24/23 19:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	4.55	91.0	70.0-123	
Toluene	5.00	4.51	90.2	79.0-120	
Ethylbenzene	5.00	4.70	94.0	79.0-123	
Xylenes, Total	15.0	13.8	92.0	79.0-123	
(S) Toluene-d8			107	80.0-120	
(S) 4-Bromofluorobenzene			97.8	77.0-126	
(S) 1,2-Dichloroethane-d4			97.2	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3884997-3 01/25/23 19:13

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Toluene	U		0.278	1.00
(S) Toluene-d8	107			80.0-120
(S) 4-Bromofluorobenzene	108			77.0-126
(S) 1,2-Dichloroethane-d4	87.3			70.0-130

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

(LCS) R3884997-1 01/25/23 18:09 • (LCSD) R3884997-2 01/25/23 18:30

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 %
Toluene	5.00	4.96	4.58	99.2	91.6	79.0-120			7.97	20
(S) Toluene-d8				108	107	80.0-120				
(S) 4-Bromofluorobenzene				110	109	77.0-126				
(S) 1,2-Dichloroethane-d4				88.4	85.9	70.0-130				

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Method Blank (MB)

(MB) R3885396-1 01/28/23 00:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	91.0			52.0-156

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

(LCS) R3885396-2 01/28/23 01:08 • (LCSD) R3885396-3 01/28/23 01:30

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	1590	1560	106	104	50.0-150			1.90	20
<i>(S) o-Terphenyl</i>				116	116	52.0-156				

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



Method Blank (MB)

(MB) R3885296-1 01/27/23 10:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	99.0			52.0-156

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

(LCS) R3885296-2 01/27/23 11:02 • (LCSD) R3885296-3 01/27/23 11:24

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	1470	1480	98.0	98.7	50.0-150			0.678	20
<i>(S) o-Terphenyl</i>				109	106	52.0-156				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3885395-1 01/28/23 01:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	89.0			52.0-156

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

(LCS) R3885395-2 01/28/23 02:14 • (LCSD) R3885395-3 01/28/23 02:36

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	1170	1260	78.0	84.0	50.0-150			7.41	20
<i>(S) o-Terphenyl</i>				83.0	104	52.0-156				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# 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.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 AI

9 Sc

# 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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.



Company Name/Address:  
**Arcadis - Chevron - WA**  
 1100 Olive Way  
 Suite 800  
 Seattle, WA 98101

Billing Information:  
**Attn: Accounts Payable**  
 630 Plaza Dr., Ste. 600  
 Highlands Ranch, CO 80129

Pres  
 Chk

Report to:  
**Ada Hamilton**

Email To:  
**Ada.Hamilton@arcadis.com; Alexander.Laws@ar**

Project Description:  
**211556**

City/State  
 Collected: **Toledo, WA**

Please Circle:  
 PT  MT  CT  ET

Phone: **206-325-5254**

Client Project #  
**30064316**

Lab Project #  
**CHEVARCWA-211556**

Collected by (print):  
**Christina mroz**

Site/Facility ID #  
**101 MULFORD ROAD,**

P.O. #

Collected by (signature):  
 Immediately  
 Packed on Ice N  Y

**Rush?** (Lab MUST Be Notified)  
 Same Day  Five Day  
 Next Day  5 Day (Rad Only)  
 Two Day  10 Day (Rad Only)  
 Three Day

Quote #  
 Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
-----------	-----------	----------	-------	------	------	--------------

MW-111-W-20230120	Grab	GW	—	1/20/23	1015	11
MW-112-W-20230120		GW	—		1127	9
MW-113-W-20230120		GW	—		1218	9
B-2-W-20230120		GW	—		0921	9
B-3-W-20230120		GW	—		1055	9
BD-1-20230120		GW	—		1200	9
BD-2-20230120		GW	—		1200	9
TB-W-20230120		GW	—		0800	2

Analysis / Container / Preservative	
BTEX 8260D 40miAmb-HCl	
FF Diss Lead 6020 250mlHDPE HNO3	
NWTPHDX no silica 40miAmb-HCl-BT	
NWTPHDX w/ silica 40miAmb-HCl-BT	
NWTPHGX 40miAmb HCl	

Chain of Custody Page 1 of 1



**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG # **L1578569**  
**H192**

Acctnum: **CHEVARCWA**  
 Template: **T219872**  
 Prelogin: **P962860**  
 PM: **110 - Brian Ford**  
 PB:

Shipped Via:  
 Remarks Sample # (lab only)

\* Matrix:  
 SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other

Remarks:  
 pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_  
 Samples returned via:  
 UPS  FedEx  Courier  
 Tracking # **6053 38078921**

**Sample Receipt Checklist**  
 COC Seal Present/Intact:  NP  N  
 COC Signed/Accurate:  Y  N  
 Bottles arrive intact:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 If Applicable  
 VOA Zero Headspace:  Y  N  
 Preservation Correct/Checked:  Y  N  
 RAD Screen <0.5 mR/hr:  Y  N

Relinquished by: (Signature)

Date: Time:

Received by: (Signature)

Trip Blank Received:  Yes  No  
 HCL  MeOH  
 TBR

Relinquished by: (Signature)

Date: Time:

Received by: (Signature)

Temp: **6BA2°C**  
**2.870 = 2.865**  
 Bottles Received:

If preservation required by Login: Date/Time

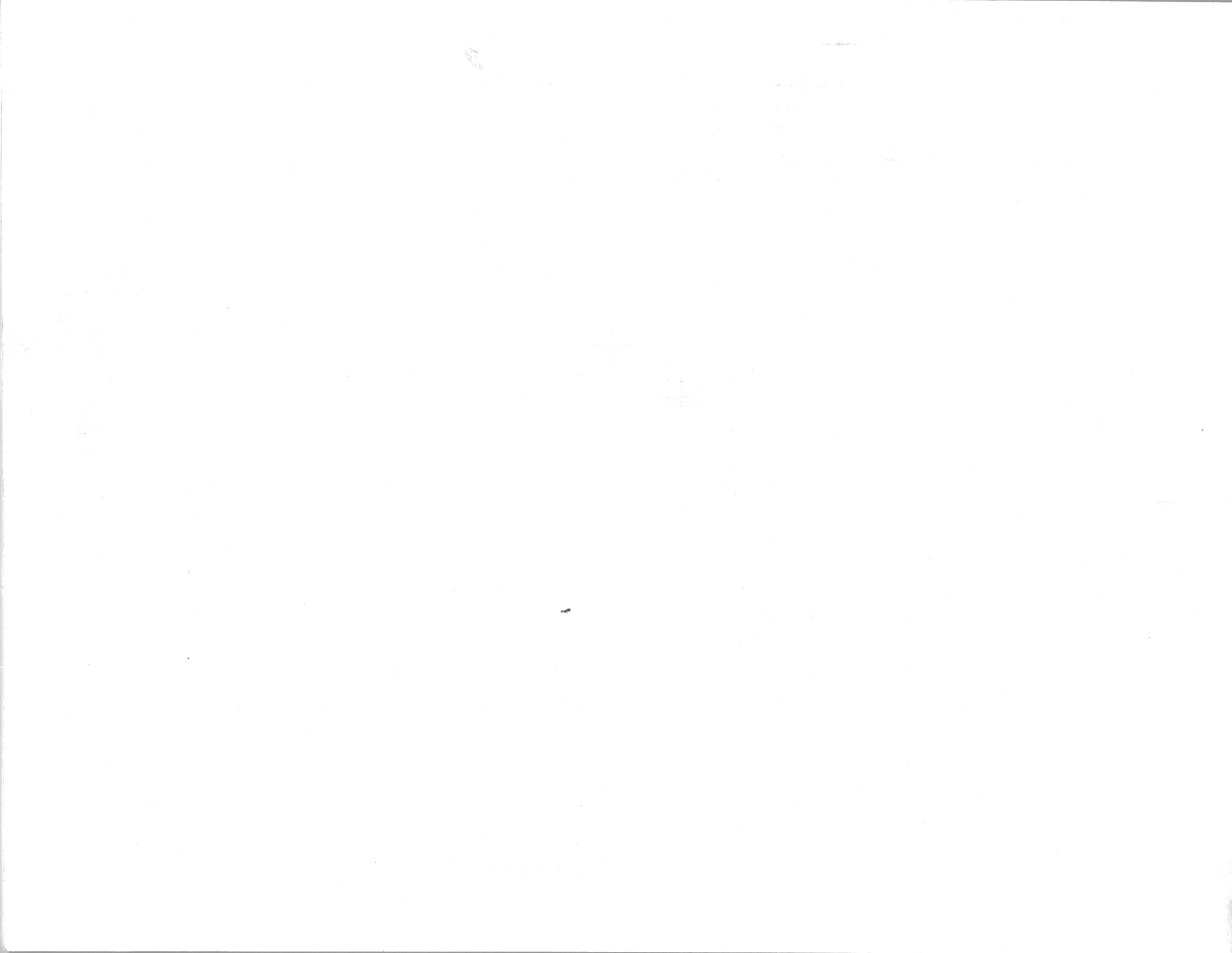
Relinquished by: (Signature)

Date: Time:

Received for lab by: (Signature)

Date: Time:  
**1-24-23 9AM**

Hold: Condition:  
 NCF / OK





## ANALYTICAL REPORT

Lab Number:	L2304138
Client:	Arcadis G&M, Inc. 1100 Olive Way Suite 800 Seattle, WA 98101
ATTN:	Ada Hamilton
Phone:	(206) 413-6430
Project Name:	CHEVRON 211556
Project Number:	30064316
Report Date:	02/16/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

---

320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)





**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L2304138-01	B-4-IN-20230120	OIL	TOLEDO, WA	01/20/23 12:45	01/25/23
L2304138-02	MW-111-W-20230120	WATER	TOLEDO, WA	01/20/23 10:15	01/25/23
L2304138-03	MW-112-W-20230120	WATER	TOLEDO, WA	01/20/23 11:27	01/25/23
L2304138-04	B-3-W-20230120	WATER	TOLEDO, WA	01/20/23 10:55	01/25/23
L2304138-05	TB-W-20230120	WATER	TOLEDO, WA	01/20/23 08:00	01/25/23

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

**HOLD POLICY** - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

---

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

### Case Narrative (continued)

#### Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

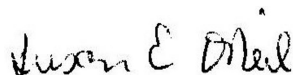
#### PIANO Volatile Organics

L2304138-01D, -02, and -04D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L2304138-01D2 and -04D2: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Susan O'Neil

Title: Technical Director/Representative

Date: 02/16/23

# ORGANICS

# VOLATILES

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-01 D2  
 Client ID: B-4-IN-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 12:45  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil  
 Analytical Method: 1,8260D  
 Analytical Date: 01/31/23 17:42  
 Analyst: RAY  
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	59000		mg/kg	2000	218.	200
Toluene	53000		mg/kg	2000	272.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	85		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	103		70-130

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-01 D  
 Client ID: B-4-IN-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 12:45  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil  
 Analytical Method: 1,8260D  
 Analytical Date: 01/31/23 03:50  
 Analyst: RAY  
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3-Methyl-1-butene	ND		mg/kg	501	74.4	50
Isopentane	3240		mg/kg	501	91.7	50
1-Pentene	114	J	mg/kg	501	91.4	50
2-Methyl-1-Butene	447	J	mg/kg	501	77.9	50
Pentane	2780		mg/kg	501	156.	50
trans-2-Pentene	693		mg/kg	501	67.6	50
Isoprene	ND		mg/kg	501	89.4	50
cis-2-Pentene	336	J	mg/kg	501	80.7	50
Tertiary Butanol	ND		mg/kg	6260	812.	50
2,2-Dimethylbutane	5600		mg/kg	501	154.	50
4-Methyl-1-pentene	94.9	J	mg/kg	501	77.9	50
Cyclopentane	1170		mg/kg	501	130.	50
2,3-Dimethylbutane	8560		mg/kg	501	207.	50
2-Methylpentane	14900		mg/kg	501	136.	50
Methyl tert butyl ether	ND		mg/kg	501	103.	50
3-Methylpentane	9170		mg/kg	501	79.4	50
1-Hexene	144	J	mg/kg	501	70.4	50
n-Hexane	4900		mg/kg	501	82.4	50
Isopropyl Ether	ND		mg/kg	501	60.6	50
trans-2-Hexene	564		mg/kg	501	65.4	50
2-Methyl-2-pentene	820		mg/kg	501	76.6	50
cis-2-Hexene	274	J	mg/kg	501	67.9	50
Ethyl-Tert-Butyl-Ether	ND		mg/kg	501	75.9	50
2,2-Dimethylpentane	764		mg/kg	501	67.4	50
Methylcyclopentane	8060		mg/kg	501	67.1	50
2,4-Dimethylpentane	23400		mg/kg	501	61.9	50
2,2,3-Trimethylbutane	534		mg/kg	501	67.6	50
1,2-Dichloroethane	ND		mg/kg	501	73.9	50



Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-01 D

Date Collected: 01/20/23 12:45

Client ID: B-4-IN-20230120

Date Received: 01/25/23

Sample Location: TOLEDO, WA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
3,3-Dimethylpentane	934		mg/kg	501	93.2	50
Cyclohexane	10700		mg/kg	501	61.9	50
2-Methylhexane	11000		mg/kg	501	78.9	50
Benzene	1060		mg/kg	501	76.4	50
2,3-Dimethylpentane	45000		mg/kg	501	66.4	50
Thiophene	ND		mg/kg	501	71.1	50
1,1-Dimethylcyclopentane	ND		mg/kg	501	60.1	50
3-Methylhexane	12400		mg/kg	501	80.2	50
Tertiary-Amyl Methyl Ether	ND		mg/kg	501	61.6	50
1,3-Dimethylcyclopentane (cis)	1280		mg/kg	501	75.4	50
3-Ethylpentane	1200		mg/kg	501	72.4	50
1-Heptene/1,2-DMCP (trans)	ND		mg/kg	1000	146.	50
Isooctane	67600	E	mg/kg	501	54.6	50
trans-3-Heptene	ND		mg/kg	501	77.9	50
Heptane	9640		mg/kg	501	87.2	50
trans-2-Heptene	ND		mg/kg	501	64.1	50
cis-2-Heptene	ND		mg/kg	501	96.9	50
2,2-Dimethylhexane	624		mg/kg	501	72.6	50
Methylcyclohexane	2270		mg/kg	501	67.6	50
2,5-Dimethylhexane	12900		mg/kg	501	87.2	50
2,4-Dimethylhexane	11800		mg/kg	501	60.9	50
Ethylcyclopentane	ND		mg/kg	501	66.4	50
2,2,3-Trimethylpentane	4500		mg/kg	501	86.9	50
2,3,4-Trimethylpentane	42500		mg/kg	501	65.4	50
2,3,3-Trimethylpentane	46000		mg/kg	501	99.4	50
2,3-Dimethylhexane	11700		mg/kg	501	121.	50
2-Methylheptane	7060		mg/kg	501	84.7	50
4-Methylheptane	3600		mg/kg	501	86.2	50
3-Methylheptane	8610		mg/kg	501	71.4	50
3-Ethylhexane	1900		mg/kg	501	89.7	50
Toluene	58700	E	mg/kg	501	67.9	50
2-Methylthiophene	ND		mg/kg	501	42.6	50
1,4-Dimethylcyclohexane (trans)	386	J	mg/kg	501	65.1	50
3-Methylthiophene	ND		mg/kg	501	58.6	50
1-Octene	ND		mg/kg	1250	76.9	50
Octane	5320		mg/kg	501	58.9	50
1,2-Dimethylcyclohexane (trans)	ND		mg/kg	501	73.6	50

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-01 D

Date Collected: 01/20/23 12:45

Client ID: B-4-IN-20230120

Date Received: 01/25/23

Sample Location: TOLEDO, WA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1,2-Dibromoethane	ND		mg/kg	501	80.2	50
cis-2-Octene	ND		mg/kg	501	57.4	50
Isopropylcyclopentane	ND		mg/kg	501	73.4	50
1,2-Dimethylcyclohexane (cis)	689		mg/kg	501	146.	50
2,5-Dimethylheptane	3880		mg/kg	501	83.9	50
3,5-Dimethylheptane	950		mg/kg	501	70.6	50
3,3-Dimethylheptane	415	J	mg/kg	501	60.6	50
1,1,4-Trimethylcyclohexane	ND		mg/kg	501	49.8	50
2,3-Dimethylheptane	1800		mg/kg	501	57.1	50
3,4-Dimethylheptane	2170		mg/kg	501	85.2	50
4-Methyloctane	3720		mg/kg	501	83.7	50
2-Methyloctane	3670		mg/kg	501	128.	50
Ethylbenzene	13600		mg/kg	501	54.1	50
2-Ethylthiophene	ND		mg/kg	501	44.1	50
3-Methyloctane	4740		mg/kg	501	56.1	50
3,3-Diethylpentane	ND		mg/kg	501	58.4	50
p/m-Xylene	63000		mg/kg	1000	95.4	50
1-Nonene	ND		mg/kg	1250	67.6	50
trans-3-Nonene	ND		mg/kg	501	59.4	50
cis-3-Nonene	ND		mg/kg	501	93.7	50
Nonane (C9)	1600		mg/kg	501	77.9	50
Styrene	54.1	J	mg/kg	501	50.6	50
o-Xylene	23200		mg/kg	501	52.4	50
Xylene (Total) <sup>1</sup>	86200		mg/kg	501	52.4	50
2-Nonene	ND		mg/kg	1250	63.6	50
Isopropylcyclohexane	ND		mg/kg	501	53.1	50
Isopropylbenzene	1320		mg/kg	501	46.8	50
3,3-Dimethyloctane	220	J	mg/kg	501	50.6	50
n-Propylbenzene	5160		mg/kg	501	44.3	50
2-Methylnonane	ND		mg/kg	501	70.9	50
3-Methylnonane	1920		mg/kg	501	69.9	50
1-Methyl-3-Ethylbenzene	16200		mg/kg	501	79.2	50
1-Methyl-4-Ethylbenzene	7750		mg/kg	501	70.6	50
1,3,5-Trimethylbenzene	8000		mg/kg	501	57.6	50
1-Decene	ND		mg/kg	501	65.1	50
Isobutylcyclohexane	ND		mg/kg	501	40.8	50
1-Methyl-2-Ethylbenzene	5650		mg/kg	501	42.6	50

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-01 D

Date Collected: 01/20/23 12:45

Client ID: B-4-IN-20230120

Date Received: 01/25/23

Sample Location: TOLEDO, WA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Decane (C10)	ND		mg/kg	501	67.9	50
tert-Butylbenzene	ND		mg/kg	501	52.8	50
1,2,4-Trimethylbenzene	26700		mg/kg	501	51.8	50
Isobutylbenzene	770		mg/kg	501	67.6	50
sec-Butylbenzene	811		mg/kg	501	64.9	50
1-Methyl-3-Isopropylbenzene	925		mg/kg	501	64.6	50
1-Methyl-4-Isopropylbenzene	309	J	mg/kg	501	53.1	50
1,2,3-Trimethylbenzene	5670		mg/kg	501	55.9	50
1-Methyl-2-Isopropylbenzene	83.4	J	mg/kg	501	54.4	50
Indane	2170		mg/kg	501	30.8	50
1,3-Diethylbenzene	2030		mg/kg	501	62.4	50
1-Methyl-3-N-Propylbenzene	3780		mg/kg	501	50.6	50
Indene	286	J	mg/kg	501	29.0	50
1-Methyl-4-N-Propylbenzene	2040		mg/kg	501	62.6	50
n-Butylbenzene	1750		mg/kg	501	49.3	50
1,2-Dimethyl-4-Ethylbenzene	3400		mg/kg	501	61.4	50
1,2-Diethylbenzene	337	J	mg/kg	501	74.1	50
1-Methyl-2-N-Propylbenzene	1760		mg/kg	501	62.4	50
1,4-Dimethyl-2-Ethylbenzene	2380		mg/kg	501	46.8	50
Undecane	782		mg/kg	501	55.6	50
1,3-Dimethyl-4-Ethylbenzene	2030		mg/kg	501	48.6	50
1,3-Dimethyl-5-Ethylbenzene	5600		mg/kg	501	59.1	50
1,3-Dimethyl-2-Ethylbenzene	271	J	mg/kg	501	37.3	50
1,2-Dimethyl-3-Ethylbenzene	949		mg/kg	501	31.8	50
1,2,4,5-Tetramethylbenzene	2810		mg/kg	501	38.8	50
1,2,3,5-Tetramethylbenzene	2910		mg/kg	501	38.1	50
N-Pentylbenzene	221	J	mg/kg	501	62.4	50
1,2,3,4-Tetramethylbenzene	903		mg/kg	501	53.6	50
1,3-Dimethyl-5-tert-Butylbenzene	ND		mg/kg	501	71.4	50
Dodecane (C12)	ND		mg/kg	1250	164.	50
1,3,5-Triethylbenzene	ND		mg/kg	501	95.2	50
Naphthalene	2450		mg/kg	501	209.	50
Benzothiophene	ND		mg/kg	501	265.	50
1,2,4-Triethylbenzene	ND		mg/kg	501	85.2	50
Hexylbenzene	ND		mg/kg	501	96.4	50
MMT	ND		mg/kg	1250	322.	50
Tridecane	ND		mg/kg	1250	349.	50

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

**Lab ID:** L2304138-01      D  
**Client ID:** B-4-IN-20230120  
**Sample Location:** TOLEDO, WA

**Date Collected:** 01/20/23 12:45  
**Date Received:** 01/25/23  
**Field Prep:** Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
2-Methylnaphthalene	2400		mg/kg	1250	331.	50
1-Methylnaphthalene	1220	J	mg/kg	1250	368.	50
Tetradecane (C14)	ND		mg/kg	1250	153.	50
Pentadecane	ND		mg/kg	1250	279.	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	86		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	103		70-130

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-02  
 Client ID: MW-111-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 10:15  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8015D  
 Analytical Date: 01/31/23 20:25  
 Analyst: DP

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alcohol Analysis by GC/FID - Mansfield Lab						
Ethyl Alcohol	ND		mg/l	2.00	1.88	1

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-02  
 Client ID: MW-111-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 10:15  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 01/31/23 20:05  
 Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3-Methyl-1-butene	ND		ug/l	200	29.7	100
Isopentane	572		ug/l	200	36.6	100
1-Pentene	53.0	J	ug/l	200	36.5	100
2-Methyl-1-Butene	77.7	J	ug/l	200	31.1	100
Pentane	198	J	ug/l	200	62.4	100
trans-2-Pentene	276		ug/l	200	27.0	100
Isoprene	ND		ug/l	200	35.7	100
cis-2-Pentene	170	J	ug/l	200	32.2	100
Tertiary Butanol	ND		ug/l	2500	324.	100
2,2-Dimethylbutane	120	J	ug/l	200	61.7	100
4-Methyl-1-pentene	ND		ug/l	200	31.1	100
Cyclopentane	159	J	ug/l	200	51.9	100
2,3-Dimethylbutane	109	J	ug/l	200	82.6	100
2-Methylpentane	96.5	J	ug/l	200	54.2	100
Methyl tert butyl ether	ND		ug/l	200	41.2	100
3-Methylpentane	68.6	J	ug/l	200	31.7	100
1-Hexene	ND		ug/l	200	28.1	100
n-Hexane	ND		ug/l	200	32.9	100
Isopropyl Ether	ND		ug/l	200	24.2	100
trans-2-Hexene	ND		ug/l	200	26.1	100
2-Methyl-2-pentene	ND		ug/l	200	30.6	100
cis-2-Hexene	ND		ug/l	200	27.1	100
Ethyl-Tert-Butyl-Ether	ND		ug/l	200	30.3	100
2,2-Dimethylpentane	ND		ug/l	200	26.9	100
Methylcyclopentane	153	J	ug/l	200	26.8	100
2,4-Dimethylpentane	42.6	J	ug/l	200	24.7	100
2,2,3-Trimethylbutane	ND		ug/l	200	27.0	100
1,2-Dichloroethane	ND		ug/l	200	29.5	100

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-02  
 Client ID: MW-111-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 10:15  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
3,3-Dimethylpentane	ND		ug/l	200	37.2	100
Cyclohexane	259		ug/l	200	24.7	100
2-Methylhexane	ND		ug/l	200	31.5	100
Benzene	2090		ug/l	200	30.5	100
2,3-Dimethylpentane	95.4	J	ug/l	200	26.5	100
Thiophene	ND		ug/l	200	28.4	100
1,1-Dimethylcyclopentane	ND		ug/l	200	24.0	100
3-Methylhexane	ND		ug/l	200	32.0	100
Tertiary-Amyl Methyl Ether	ND		ug/l	200	24.6	100
1,3-Dimethylcyclopentane (cis)	ND		ug/l	200	30.1	100
3-Ethylpentane	ND		ug/l	200	28.9	100
1-Heptene/1,2-DMCP (trans)	ND		ug/l	400	58.5	100
Isooctane	73.9	J	ug/l	200	21.8	100
trans-3-Heptene	ND		ug/l	200	31.1	100
Heptane	ND		ug/l	200	34.8	100
trans-2-Heptene	ND		ug/l	200	25.6	100
cis-2-Heptene	ND		ug/l	200	38.7	100
2,2-Dimethylhexane	ND		ug/l	200	29.0	100
Methylcyclohexane	ND		ug/l	200	27.0	100
2,5-Dimethylhexane	ND		ug/l	200	34.8	100
2,4-Dimethylhexane	ND		ug/l	200	24.3	100
Ethylcyclopentane	ND		ug/l	200	26.5	100
2,2,3-Trimethylpentane	ND		ug/l	200	34.7	100
2,3,4-Trimethylpentane	46.6	J	ug/l	200	26.1	100
2,3,3-Trimethylpentane	69.0	J	ug/l	200	39.7	100
2,3-Dimethylhexane	ND		ug/l	200	48.5	100
2-Methylheptane	ND		ug/l	200	33.8	100
4-Methylheptane	ND		ug/l	200	34.4	100
3-Methylheptane	ND		ug/l	200	38.5	100
3-Ethylhexane	ND		ug/l	200	35.8	100
Toluene	15800		ug/l	200	27.1	100
2-Methylthiophene	ND		ug/l	200	17.0	100
1,4-Dimethylcyclohexane (trans)	ND		ug/l	200	26.0	100
3-Methylthiophene	ND		ug/l	200	23.4	100
1-Octene	ND		ug/l	500	30.7	100
Octane	ND		ug/l	200	23.5	100
1,2-Dimethylcyclohexane (trans)	ND		ug/l	200	29.4	100



Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-02  
 Client ID: MW-111-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 10:15  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1,2-Dibromoethane	ND		ug/l	200	32.0	100
cis-2-Octene	ND		ug/l	200	22.9	100
Isopropylcyclopentane	ND		ug/l	200	29.3	100
1,2-Dimethylcyclohexane (cis)	ND		ug/l	200	58.1	100
2,5-Dimethylheptane	ND		ug/l	200	33.5	100
3,5-Dimethylheptane	ND		ug/l	200	28.2	100
3,3-Dimethylheptane	ND		ug/l	200	24.2	100
1,1,4-Trimethylcyclohexane	ND		ug/l	200	19.9	100
2,3-Dimethylheptane	ND		ug/l	200	22.8	100
3,4-Dimethylheptane	ND		ug/l	200	34.0	100
4-Methyloctane	ND		ug/l	200	33.4	100
2-Methyloctane	ND		ug/l	200	51.2	100
Ethylbenzene	805		ug/l	200	21.6	100
2-Ethylthiophene	ND		ug/l	200	17.6	100
3-Methyloctane	ND		ug/l	200	22.4	100
3,3-Diethylpentane	ND		ug/l	200	23.3	100
p/m-Xylene	3120		ug/l	400	38.1	100
1-Nonene	ND		ug/l	500	27.0	100
trans-3-Nonene	ND		ug/l	200	23.7	100
cis-3-Nonene	ND		ug/l	200	37.4	100
Nonane (C9)	ND		ug/l	200	31.1	100
Styrene	ND		ug/l	200	20.2	100
o-Xylene	1520		ug/l	200	20.9	100
Xylene (Total) <sup>1</sup>	4640		ug/l	200	20.9	100
2-Nonene	ND		ug/l	500	25.4	100
Isopropylcyclohexane	ND		ug/l	200	21.2	100
Isopropylbenzene	36.4	J	ug/l	200	18.7	100
3,3-Dimethyloctane	ND		ug/l	200	20.2	100
n-Propylbenzene	69.5	J	ug/l	200	17.7	100
2-Methylnonane	ND		ug/l	200	28.3	100
3-Methylnonane	ND		ug/l	200	27.9	100
1-Methyl-3-Ethylbenzene	170	J	ug/l	200	31.6	100
1-Methyl-4-Ethylbenzene	82.2	J	ug/l	200	28.2	100
1,3,5-Trimethylbenzene	80.7	J	ug/l	200	23.0	100
1-Decene	ND		ug/l	200	26.0	100
Isobutylcyclohexane	ND		ug/l	200	16.3	100
1-Methyl-2-Ethylbenzene	88.1	J	ug/l	200	17.0	100

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-02  
 Client ID: MW-111-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 10:15  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Decane (C10)	ND		ug/l	200	27.1	100
tert-Butylbenzene	ND		ug/l	200	21.1	100
1,2,4-Trimethylbenzene	308		ug/l	200	20.7	100
Isobutylbenzene	ND		ug/l	200	27.0	100
sec-Butylbenzene	ND		ug/l	200	25.9	100
1-Methyl-3-Isopropylbenzene	ND		ug/l	200	25.8	100
1-Methyl-4-Isopropylbenzene	ND		ug/l	200	21.2	100
1,2,3-Trimethylbenzene	104	J	ug/l	200	22.3	100
1-Methyl-2-Isopropylbenzene	ND		ug/l	200	21.7	100
Indane	93.5	J	ug/l	200	12.3	100
1,3-Diethylbenzene	ND		ug/l	200	24.9	100
1-Methyl-3-N-Propylbenzene	ND		ug/l	200	20.2	100
Indene	ND		ug/l	200	11.6	100
1-Methyl-4-N-Propylbenzene	ND		ug/l	200	25.0	100
n-Butylbenzene	ND		ug/l	200	19.7	100
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	200	24.5	100
1,2-Diethylbenzene	ND		ug/l	200	29.6	100
1-Methyl-2-N-Propylbenzene	ND		ug/l	200	24.9	100
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	200	18.7	100
Undecane	ND		ug/l	200	22.2	100
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	200	19.4	100
1,3-Dimethyl-5-Ethylbenzene	49.4	J	ug/l	200	23.6	100
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	200	14.9	100
1,2-Dimethyl-3-Ethylbenzene	ND		ug/l	200	12.7	100
1,2,4,5-Tetramethylbenzene	34.5	J	ug/l	200	15.5	100
1,2,3,5-Tetramethylbenzene	23.2	J	ug/l	200	15.2	100
N-Pentylbenzene	ND		ug/l	200	24.9	100
1,2,3,4-Tetramethylbenzene	ND		ug/l	200	21.4	100
1,3-Dimethyl-5-tert-Butylbenzene	ND		ug/l	200	28.5	100
Dodecane (C12)	ND		ug/l	500	65.7	100
1,3,5-Triethylbenzene	ND		ug/l	200	38.0	100
Naphthalene	131	J	ug/l	200	83.5	100
Benzothiophene	ND		ug/l	200	106.	100
1,2,4-Triethylbenzene	ND		ug/l	200	34.0	100
Hexylbenzene	ND		ug/l	200	38.5	100
MMT	ND		ug/l	500	129.	100
Tridecane	ND		ug/l	500	139.	100

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

**Lab ID:** L2304138-02  
**Client ID:** MW-111-W-20230120  
**Sample Location:** TOLEDO, WA

**Date Collected:** 01/20/23 10:15  
**Date Received:** 01/25/23  
**Field Prep:** Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
2-Methylnaphthalene	ND		ug/l	500	132.	100
1-Methylnaphthalene	ND		ug/l	500	147.	100
Tetradecane (C14)	ND		ug/l	500	61.2	100
Pentadecane	ND		ug/l	500	112.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	89		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	100		70-130

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-03  
 Client ID: MW-112-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 11:27  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8015D  
 Analytical Date: 01/31/23 21:04  
 Analyst: DP

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alcohol Analysis by GC/FID - Mansfield Lab						
Ethyl Alcohol	ND		mg/l	2.00	1.88	1

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-03  
 Client ID: MW-112-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 11:27  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 01/30/23 23:03  
 Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3-Methyl-1-butene	ND		ug/l	2.00	0.297	1
Isopentane	ND		ug/l	2.00	0.366	1
1-Pentene	ND		ug/l	2.00	0.365	1
2-Methyl-1-Butene	ND		ug/l	2.00	0.311	1
Pentane	ND		ug/l	2.00	0.624	1
trans-2-Pentene	ND		ug/l	2.00	0.270	1
Isoprene	ND		ug/l	2.00	0.357	1
cis-2-Pentene	ND		ug/l	2.00	0.322	1
Tertiary Butanol	ND		ug/l	25.0	3.24	1
2,2-Dimethylbutane	ND		ug/l	2.00	0.617	1
4-Methyl-1-pentene	ND		ug/l	2.00	0.311	1
Cyclopentane	ND		ug/l	2.00	0.519	1
2,3-Dimethylbutane	ND		ug/l	2.00	0.826	1
2-Methylpentane	ND		ug/l	2.00	0.542	1
Methyl tert butyl ether	ND		ug/l	2.00	0.412	1
3-Methylpentane	ND		ug/l	2.00	0.317	1
1-Hexene	ND		ug/l	2.00	0.281	1
n-Hexane	ND		ug/l	2.00	0.329	1
Isopropyl Ether	ND		ug/l	2.00	0.242	1
trans-2-Hexene	ND		ug/l	2.00	0.261	1
2-Methyl-2-pentene	ND		ug/l	2.00	0.306	1
cis-2-Hexene	ND		ug/l	2.00	0.271	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.303	1
2,2-Dimethylpentane	ND		ug/l	2.00	0.269	1
Methylcyclopentane	ND		ug/l	2.00	0.268	1
2,4-Dimethylpentane	ND		ug/l	2.00	0.247	1
2,2,3-Trimethylbutane	ND		ug/l	2.00	0.270	1
1,2-Dichloroethane	ND		ug/l	2.00	0.295	1

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-03  
 Client ID: MW-112-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 11:27  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
3,3-Dimethylpentane	ND		ug/l	2.00	0.372	1
Cyclohexane	ND		ug/l	2.00	0.247	1
2-Methylhexane	ND		ug/l	2.00	0.315	1
Benzene	21.5		ug/l	2.00	0.305	1
2,3-Dimethylpentane	ND		ug/l	2.00	0.265	1
Thiophene	ND		ug/l	2.00	0.284	1
1,1-Dimethylcyclopentane	ND		ug/l	2.00	0.240	1
3-Methylhexane	ND		ug/l	2.00	0.320	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.246	1
1,3-Dimethylcyclopentane (cis)	ND		ug/l	2.00	0.301	1
3-Ethylpentane	ND		ug/l	2.00	0.289	1
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	0.585	1
Isooctane	1.42	J	ug/l	2.00	0.218	1
trans-3-Heptene	ND		ug/l	2.00	0.311	1
Heptane	ND		ug/l	2.00	0.348	1
trans-2-Heptene	ND		ug/l	2.00	0.256	1
cis-2-Heptene	ND		ug/l	2.00	0.387	1
2,2-Dimethylhexane	ND		ug/l	2.00	0.290	1
Methylcyclohexane	ND		ug/l	2.00	0.270	1
2,5-Dimethylhexane	ND		ug/l	2.00	0.348	1
2,4-Dimethylhexane	ND		ug/l	2.00	0.243	1
Ethylcyclopentane	ND		ug/l	2.00	0.265	1
2,2,3-Trimethylpentane	ND		ug/l	2.00	0.347	1
2,3,4-Trimethylpentane	0.826	J	ug/l	2.00	0.261	1
2,3,3-Trimethylpentane	ND		ug/l	2.00	0.397	1
2,3-Dimethylhexane	ND		ug/l	2.00	0.485	1
2-Methylheptane	ND		ug/l	2.00	0.338	1
4-Methylheptane	ND		ug/l	2.00	0.344	1
3-Methylheptane	ND		ug/l	2.00	0.385	1
3-Ethylhexane	ND		ug/l	2.00	0.358	1
Toluene	ND		ug/l	2.00	0.271	1
2-Methylthiophene	ND		ug/l	2.00	0.170	1
1,4-Dimethylcyclohexane (trans)	ND		ug/l	2.00	0.260	1
3-Methylthiophene	ND		ug/l	2.00	0.234	1
1-Octene	ND		ug/l	5.00	0.307	1
Octane	ND		ug/l	2.00	0.235	1
1,2-Dimethylcyclohexane (trans)	ND		ug/l	2.00	0.294	1

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-03  
 Client ID: MW-112-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 11:27  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1,2-Dibromoethane	ND		ug/l	2.00	0.320	1
cis-2-Octene	ND		ug/l	2.00	0.229	1
Isopropylcyclopentane	ND		ug/l	2.00	0.293	1
1,2-Dimethylcyclohexane (cis)	ND		ug/l	2.00	0.581	1
2,5-Dimethylheptane	ND		ug/l	2.00	0.335	1
3,5-Dimethylheptane	ND		ug/l	2.00	0.282	1
3,3-Dimethylheptane	ND		ug/l	2.00	0.242	1
1,1,4-Trimethylcyclohexane	ND		ug/l	2.00	0.199	1
2,3-Dimethylheptane	ND		ug/l	2.00	0.228	1
3,4-Dimethylheptane	ND		ug/l	2.00	0.340	1
4-Methyloctane	ND		ug/l	2.00	0.334	1
2-Methyloctane	ND		ug/l	2.00	0.512	1
Ethylbenzene	0.456	J	ug/l	2.00	0.216	1
2-Ethylthiophene	ND		ug/l	2.00	0.176	1
3-Methyloctane	ND		ug/l	2.00	0.224	1
3,3-Diethylpentane	ND		ug/l	2.00	0.233	1
p/m-Xylene	ND		ug/l	4.00	0.381	1
1-Nonene	ND		ug/l	5.00	0.270	1
trans-3-Nonene	ND		ug/l	2.00	0.237	1
cis-3-Nonene	ND		ug/l	2.00	0.374	1
Nonane (C9)	ND		ug/l	2.00	0.311	1
Styrene	ND		ug/l	2.00	0.202	1
o-Xylene	ND		ug/l	2.00	0.209	1
Xylene (Total) <sup>1</sup>	ND		ug/l	2.00	0.209	1
2-Nonene	ND		ug/l	5.00	0.254	1
Isopropylcyclohexane	ND		ug/l	2.00	0.212	1
Isopropylbenzene	ND		ug/l	2.00	0.187	1
3,3-Dimethyloctane	ND		ug/l	2.00	0.202	1
n-Propylbenzene	ND		ug/l	2.00	0.177	1
2-Methylnonane	ND		ug/l	2.00	0.283	1
3-Methylnonane	ND		ug/l	2.00	0.279	1
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.316	1
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.282	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.230	1
1-Decene	ND		ug/l	2.00	0.260	1
Isobutylcyclohexane	ND		ug/l	2.00	0.163	1
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.170	1



Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-03  
 Client ID: MW-112-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 11:27  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Decane (C10)	ND		ug/l	2.00	0.271	1
tert-Butylbenzene	ND		ug/l	2.00	0.211	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	0.207	1
Isobutylbenzene	ND		ug/l	2.00	0.270	1
sec-Butylbenzene	ND		ug/l	2.00	0.259	1
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.258	1
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.212	1
1,2,3-Trimethylbenzene	ND		ug/l	2.00	0.223	1
1-Methyl-2-Isopropylbenzene	ND		ug/l	2.00	0.217	1
Indane	ND		ug/l	2.00	0.123	1
1,3-Diethylbenzene	ND		ug/l	2.00	0.249	1
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.202	1
Indene	ND		ug/l	2.00	0.116	1
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.250	1
n-Butylbenzene	ND		ug/l	2.00	0.197	1
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.245	1
1,2-Diethylbenzene	ND		ug/l	2.00	0.296	1
1-Methyl-2-N-Propylbenzene	ND		ug/l	2.00	0.249	1
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.187	1
Undecane	ND		ug/l	2.00	0.222	1
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.194	1
1,3-Dimethyl-5-Ethylbenzene	ND		ug/l	2.00	0.236	1
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.149	1
1,2-Dimethyl-3-Ethylbenzene	ND		ug/l	2.00	0.127	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.00	0.155	1
1,2,3,5-Tetramethylbenzene	ND		ug/l	2.00	0.152	1
N-Pentylbenzene	ND		ug/l	2.00	0.249	1
1,2,3,4-Tetramethylbenzene	ND		ug/l	2.00	0.214	1
1,3-Dimethyl-5-tert-Butylbenzene	ND		ug/l	2.00	0.285	1
Dodecane (C12)	ND		ug/l	5.00	0.657	1
1,3,5-Triethylbenzene	ND		ug/l	2.00	0.380	1
Naphthalene	ND		ug/l	2.00	0.835	1
Benzothiophene	ND		ug/l	2.00	1.06	1
1,2,4-Triethylbenzene	ND		ug/l	2.00	0.340	1
Hexylbenzene	ND		ug/l	2.00	0.385	1
MMT	ND		ug/l	5.00	1.29	1
Tridecane	ND		ug/l	5.00	1.39	1

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-03  
 Client ID: MW-112-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 11:27  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
2-Methylnaphthalene	ND		ug/l	5.00	1.32	1
1-Methylnaphthalene	ND		ug/l	5.00	1.47	1
Tetradecane (C14)	ND		ug/l	5.00	0.612	1
Pentadecane	ND		ug/l	5.00	1.12	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	93		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	97		70-130

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-04  
 Client ID: B-3-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 10:55  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8015D  
 Analytical Date: 01/31/23 22:23  
 Analyst: DP

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alcohol Analysis by GC/FID - Mansfield Lab						
Ethyl Alcohol	986.		mg/l	2.00	1.88	1

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-04 D2  
 Client ID: B-3-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 10:55  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 01/31/23 00:15  
 Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Toluene	19500		ug/l	500	67.8	250

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	93		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	98		70-130

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-04 D  
 Client ID: B-3-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 10:55  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 02/01/23 12:22  
 Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3-Methyl-1-butene	ND		ug/l	250	37.1	125
Isopentane	753		ug/l	250	45.8	125
1-Pentene	55.6	J	ug/l	250	45.6	125
2-Methyl-1-Butene	65.8	J	ug/l	250	38.9	125
Pentane	348		ug/l	250	78.0	125
trans-2-Pentene	321		ug/l	250	33.8	125
Isoprene	ND		ug/l	250	44.6	125
cis-2-Pentene	185	J	ug/l	250	40.2	125
Tertiary Butanol	ND		ug/l	3120	405.	125
2,2-Dimethylbutane	219	J	ug/l	250	77.1	125
4-Methyl-1-pentene	ND		ug/l	250	38.9	125
Cyclopentane	235	J	ug/l	250	64.9	125
2,3-Dimethylbutane	218	J	ug/l	250	103.	125
2-Methylpentane	225	J	ug/l	250	67.8	125
Methyl tert butyl ether	ND		ug/l	250	51.5	125
3-Methylpentane	164	J	ug/l	250	39.6	125
1-Hexene	ND		ug/l	250	35.1	125
n-Hexane	45.0	J	ug/l	250	41.1	125
Isopropyl Ether	ND		ug/l	250	30.2	125
trans-2-Hexene	ND		ug/l	250	32.6	125
2-Methyl-2-pentene	ND		ug/l	250	38.2	125
cis-2-Hexene	ND		ug/l	250	33.9	125
Ethyl-Tert-Butyl-Ether	ND		ug/l	250	37.9	125
2,2-Dimethylpentane	ND		ug/l	250	33.6	125
Methylcyclopentane	400		ug/l	250	33.5	125
2,4-Dimethylpentane	75.1	J	ug/l	250	30.9	125
2,2,3-Trimethylbutane	ND		ug/l	250	33.8	125
1,2-Dichloroethane	ND		ug/l	250	36.9	125

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-04 D

Date Collected: 01/20/23 10:55

Client ID: B-3-W-20230120

Date Received: 01/25/23

Sample Location: TOLEDO, WA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
3,3-Dimethylpentane	ND		ug/l	250	46.5	125
Cyclohexane	726		ug/l	250	30.9	125
2-Methylhexane	ND		ug/l	250	39.4	125
Benzene	2140		ug/l	250	38.1	125
2,3-Dimethylpentane	183	J	ug/l	250	33.1	125
Thiophene	ND		ug/l	250	35.5	125
1,1-Dimethylcyclopentane	ND		ug/l	250	30.0	125
3-Methylhexane	ND		ug/l	250	40.0	125
Tertiary-Amyl Methyl Ether	ND		ug/l	250	30.8	125
1,3-Dimethylcyclopentane (cis)	ND		ug/l	250	37.6	125
3-Ethylpentane	ND		ug/l	250	36.1	125
1-Heptene/1,2-DMCP (trans)	ND		ug/l	500	73.1	125
Isooctane	80.4	J	ug/l	250	27.2	125
trans-3-Heptene	ND		ug/l	250	38.9	125
Heptane	ND		ug/l	250	43.5	125
trans-2-Heptene	ND		ug/l	250	32.0	125
cis-2-Heptene	ND		ug/l	250	48.4	125
2,2-Dimethylhexane	ND		ug/l	250	36.2	125
Methylcyclohexane	ND		ug/l	250	33.8	125
2,5-Dimethylhexane	ND		ug/l	250	43.5	125
2,4-Dimethylhexane	ND		ug/l	250	30.4	125
Ethylcyclopentane	ND		ug/l	250	33.1	125
2,2,3-Trimethylpentane	ND		ug/l	250	43.4	125
2,3,4-Trimethylpentane	48.8	J	ug/l	250	32.6	125
2,3,3-Trimethylpentane	85.9	J	ug/l	250	49.6	125
2,3-Dimethylhexane	ND		ug/l	250	60.6	125
2-Methylheptane	ND		ug/l	250	42.2	125
4-Methylheptane	ND		ug/l	250	43.0	125
3-Methylheptane	ND		ug/l	250	48.1	125
3-Ethylhexane	ND		ug/l	250	44.8	125
Toluene	26600	E	ug/l	250	33.9	125
2-Methylthiophene	ND		ug/l	250	21.2	125
1,4-Dimethylcyclohexane (trans)	ND		ug/l	250	32.5	125
3-Methylthiophene	ND		ug/l	250	29.2	125
1-Octene	ND		ug/l	625	38.4	125
Octane	ND		ug/l	250	29.4	125
1,2-Dimethylcyclohexane (trans)	ND		ug/l	250	36.8	125

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-04 D

Date Collected: 01/20/23 10:55

Client ID: B-3-W-20230120

Date Received: 01/25/23

Sample Location: TOLEDO, WA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1,2-Dibromoethane	ND		ug/l	250	40.0	125
cis-2-Octene	ND		ug/l	250	28.6	125
Isopropylcyclopentane	ND		ug/l	250	36.6	125
1,2-Dimethylcyclohexane (cis)	ND		ug/l	250	72.6	125
2,5-Dimethylheptane	ND		ug/l	250	41.9	125
3,5-Dimethylheptane	ND		ug/l	250	35.2	125
3,3-Dimethylheptane	ND		ug/l	250	30.2	125
1,1,4-Trimethylcyclohexane	ND		ug/l	250	24.9	125
2,3-Dimethylheptane	ND		ug/l	250	28.5	125
3,4-Dimethylheptane	ND		ug/l	250	42.5	125
4-Methyloctane	ND		ug/l	250	41.8	125
2-Methyloctane	ND		ug/l	250	64.0	125
Ethylbenzene	2640		ug/l	250	27.0	125
2-Ethylthiophene	ND		ug/l	250	22.0	125
3-Methyloctane	ND		ug/l	250	28.0	125
3,3-Diethylpentane	ND		ug/l	250	29.1	125
p/m-Xylene	11800		ug/l	500	47.6	125
1-Nonene	ND		ug/l	625	33.8	125
trans-3-Nonene	ND		ug/l	250	29.6	125
cis-3-Nonene	ND		ug/l	250	46.8	125
Nonane (C9)	ND		ug/l	250	38.9	125
Styrene	ND		ug/l	250	25.2	125
o-Xylene	5260		ug/l	250	26.1	125
Xylene (Total) <sup>1</sup>	17100		ug/l	250	26.1	125
2-Nonene	ND		ug/l	625	31.8	125
Isopropylcyclohexane	ND		ug/l	250	26.5	125
Isopropylbenzene	95.9	J	ug/l	250	23.4	125
3,3-Dimethyloctane	ND		ug/l	250	25.2	125
n-Propylbenzene	210	J	ug/l	250	22.1	125
2-Methylnonane	ND		ug/l	250	35.4	125
3-Methylnonane	ND		ug/l	250	34.9	125
1-Methyl-3-Ethylbenzene	893		ug/l	250	39.5	125
1-Methyl-4-Ethylbenzene	419		ug/l	250	35.2	125
1,3,5-Trimethylbenzene	406		ug/l	250	28.8	125
1-Decene	ND		ug/l	250	32.5	125
Isobutylcyclohexane	ND		ug/l	250	20.4	125
1-Methyl-2-Ethylbenzene	424		ug/l	250	21.2	125

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-04 D

Date Collected: 01/20/23 10:55

Client ID: B-3-W-20230120

Date Received: 01/25/23

Sample Location: TOLEDO, WA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Decane (C10)	ND		ug/l	250	33.9	125
tert-Butylbenzene	ND		ug/l	250	26.4	125
1,2,4-Trimethylbenzene	1690		ug/l	250	25.9	125
Isobutylbenzene	ND		ug/l	250	33.8	125
sec-Butylbenzene	ND		ug/l	250	32.4	125
1-Methyl-3-Isopropylbenzene	ND		ug/l	250	32.2	125
1-Methyl-4-Isopropylbenzene	ND		ug/l	250	26.5	125
1,2,3-Trimethylbenzene	444		ug/l	250	27.9	125
1-Methyl-2-Isopropylbenzene	ND		ug/l	250	27.1	125
Indane	297		ug/l	250	15.4	125
1,3-Diethylbenzene	35.1	J	ug/l	250	31.1	125
1-Methyl-3-N-Propylbenzene	48.6	J	ug/l	250	25.2	125
Indene	29.5	J	ug/l	250	14.5	125
1-Methyl-4-N-Propylbenzene	ND		ug/l	250	31.2	125
n-Butylbenzene	ND		ug/l	250	24.6	125
1,2-Dimethyl-4-Ethylbenzene	54.1	J	ug/l	250	30.6	125
1,2-Diethylbenzene	ND		ug/l	250	37.0	125
1-Methyl-2-N-Propylbenzene	31.5	J	ug/l	250	31.1	125
1,4-Dimethyl-2-Ethylbenzene	50.4	J	ug/l	250	23.4	125
Undecane	ND		ug/l	250	27.8	125
1,3-Dimethyl-4-Ethylbenzene	38.8	J	ug/l	250	24.2	125
1,3-Dimethyl-5-Ethylbenzene	94.6	J	ug/l	250	29.5	125
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	250	18.6	125
1,2-Dimethyl-3-Ethylbenzene	29.5	J	ug/l	250	15.9	125
1,2,4,5-Tetramethylbenzene	53.8	J	ug/l	250	19.4	125
1,2,3,5-Tetramethylbenzene	61.0	J	ug/l	250	19.0	125
N-Pentylbenzene	ND		ug/l	250	31.1	125
1,2,3,4-Tetramethylbenzene	29.9	J	ug/l	250	26.8	125
1,3-Dimethyl-5-tert-Butylbenzene	ND		ug/l	250	35.6	125
Dodecane (C12)	ND		ug/l	625	82.1	125
1,3,5-Triethylbenzene	ND		ug/l	250	47.5	125
Naphthalene	417		ug/l	250	104.	125
Benzothiophene	ND		ug/l	250	132.	125
1,2,4-Triethylbenzene	ND		ug/l	250	42.5	125
Hexylbenzene	ND		ug/l	250	48.1	125
MMT	ND		ug/l	625	161.	125
Tridecane	ND		ug/l	625	174.	125



**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-04 D  
 Client ID: B-3-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 10:55  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
2-Methylnaphthalene	ND		ug/l	625	165.	125
1-Methylnaphthalene	ND		ug/l	625	184.	125
Tetradecane (C14)	ND		ug/l	625	76.5	125
Pentadecane	ND		ug/l	625	139.	125

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	87		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	100		70-130

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-05  
 Client ID: TB-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 08:00  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 01/31/23 01:27  
 Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3-Methyl-1-butene	ND		ug/l	2.00	0.297	1
Isopentane	ND		ug/l	2.00	0.366	1
1-Pentene	ND		ug/l	2.00	0.365	1
2-Methyl-1-Butene	ND		ug/l	2.00	0.311	1
Pentane	ND		ug/l	2.00	0.624	1
trans-2-Pentene	ND		ug/l	2.00	0.270	1
Isoprene	ND		ug/l	2.00	0.357	1
cis-2-Pentene	ND		ug/l	2.00	0.322	1
Tertiary Butanol	ND		ug/l	25.0	3.24	1
2,2-Dimethylbutane	ND		ug/l	2.00	0.617	1
4-Methyl-1-pentene	ND		ug/l	2.00	0.311	1
Cyclopentane	ND		ug/l	2.00	0.519	1
2,3-Dimethylbutane	ND		ug/l	2.00	0.826	1
2-Methylpentane	ND		ug/l	2.00	0.542	1
Methyl tert butyl ether	ND		ug/l	2.00	0.412	1
3-Methylpentane	ND		ug/l	2.00	0.317	1
1-Hexene	ND		ug/l	2.00	0.281	1
n-Hexane	ND		ug/l	2.00	0.329	1
Isopropyl Ether	ND		ug/l	2.00	0.242	1
trans-2-Hexene	ND		ug/l	2.00	0.261	1
2-Methyl-2-pentene	ND		ug/l	2.00	0.306	1
cis-2-Hexene	ND		ug/l	2.00	0.271	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.303	1
2,2-Dimethylpentane	ND		ug/l	2.00	0.269	1
Methylcyclopentane	ND		ug/l	2.00	0.268	1
2,4-Dimethylpentane	ND		ug/l	2.00	0.247	1
2,2,3-Trimethylbutane	ND		ug/l	2.00	0.270	1
1,2-Dichloroethane	ND		ug/l	2.00	0.295	1

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-05  
 Client ID: TB-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 08:00  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
3,3-Dimethylpentane	ND		ug/l	2.00	0.372	1
Cyclohexane	ND		ug/l	2.00	0.247	1
2-Methylhexane	ND		ug/l	2.00	0.315	1
Benzene	ND		ug/l	2.00	0.305	1
2,3-Dimethylpentane	ND		ug/l	2.00	0.265	1
Thiophene	ND		ug/l	2.00	0.284	1
1,1-Dimethylcyclopentane	ND		ug/l	2.00	0.240	1
3-Methylhexane	ND		ug/l	2.00	0.320	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.246	1
1,3-Dimethylcyclopentane (cis)	ND		ug/l	2.00	0.301	1
3-Ethylpentane	ND		ug/l	2.00	0.289	1
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	0.585	1
Isooctane	ND		ug/l	2.00	0.218	1
trans-3-Heptene	ND		ug/l	2.00	0.311	1
Heptane	ND		ug/l	2.00	0.348	1
trans-2-Heptene	ND		ug/l	2.00	0.256	1
cis-2-Heptene	ND		ug/l	2.00	0.387	1
2,2-Dimethylhexane	ND		ug/l	2.00	0.290	1
Methylcyclohexane	ND		ug/l	2.00	0.270	1
2,5-Dimethylhexane	ND		ug/l	2.00	0.348	1
2,4-Dimethylhexane	ND		ug/l	2.00	0.243	1
Ethylcyclopentane	ND		ug/l	2.00	0.265	1
2,2,3-Trimethylpentane	ND		ug/l	2.00	0.347	1
2,3,4-Trimethylpentane	ND		ug/l	2.00	0.261	1
2,3,3-Trimethylpentane	ND		ug/l	2.00	0.397	1
2,3-Dimethylhexane	ND		ug/l	2.00	0.485	1
2-Methylheptane	ND		ug/l	2.00	0.338	1
4-Methylheptane	ND		ug/l	2.00	0.344	1
3-Methylheptane	ND		ug/l	2.00	0.385	1
3-Ethylhexane	ND		ug/l	2.00	0.358	1
Toluene	ND		ug/l	2.00	0.271	1
2-Methylthiophene	ND		ug/l	2.00	0.170	1
1,4-Dimethylcyclohexane (trans)	ND		ug/l	2.00	0.260	1
3-Methylthiophene	ND		ug/l	2.00	0.234	1
1-Octene	ND		ug/l	5.00	0.307	1
Octane	ND		ug/l	2.00	0.235	1
1,2-Dimethylcyclohexane (trans)	ND		ug/l	2.00	0.294	1

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-05  
 Client ID: TB-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 08:00  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1,2-Dibromoethane	ND		ug/l	2.00	0.320	1
cis-2-Octene	ND		ug/l	2.00	0.229	1
Isopropylcyclopentane	ND		ug/l	2.00	0.293	1
1,2-Dimethylcyclohexane (cis)	ND		ug/l	2.00	0.581	1
2,5-Dimethylheptane	ND		ug/l	2.00	0.335	1
3,5-Dimethylheptane	ND		ug/l	2.00	0.282	1
3,3-Dimethylheptane	ND		ug/l	2.00	0.242	1
1,1,4-Trimethylcyclohexane	ND		ug/l	2.00	0.199	1
2,3-Dimethylheptane	ND		ug/l	2.00	0.228	1
3,4-Dimethylheptane	ND		ug/l	2.00	0.340	1
4-Methyloctane	ND		ug/l	2.00	0.334	1
2-Methyloctane	ND		ug/l	2.00	0.512	1
Ethylbenzene	ND		ug/l	2.00	0.216	1
2-Ethylthiophene	ND		ug/l	2.00	0.176	1
3-Methyloctane	ND		ug/l	2.00	0.224	1
3,3-Diethylpentane	ND		ug/l	2.00	0.233	1
p/m-Xylene	ND		ug/l	4.00	0.381	1
1-Nonene	ND		ug/l	5.00	0.270	1
trans-3-Nonene	ND		ug/l	2.00	0.237	1
cis-3-Nonene	ND		ug/l	2.00	0.374	1
Nonane (C9)	ND		ug/l	2.00	0.311	1
Styrene	ND		ug/l	2.00	0.202	1
o-Xylene	ND		ug/l	2.00	0.209	1
Xylene (Total) <sup>1</sup>	ND		ug/l	2.00	0.209	1
2-Nonene	ND		ug/l	5.00	0.254	1
Isopropylcyclohexane	ND		ug/l	2.00	0.212	1
Isopropylbenzene	ND		ug/l	2.00	0.187	1
3,3-Dimethyloctane	ND		ug/l	2.00	0.202	1
n-Propylbenzene	ND		ug/l	2.00	0.177	1
2-Methylnonane	ND		ug/l	2.00	0.283	1
3-Methylnonane	ND		ug/l	2.00	0.279	1
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.316	1
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.282	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.230	1
1-Decene	ND		ug/l	2.00	0.260	1
Isobutylcyclohexane	ND		ug/l	2.00	0.163	1
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.170	1

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

## SAMPLE RESULTS

Lab ID: L2304138-05  
 Client ID: TB-W-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 08:00  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Decane (C10)	ND		ug/l	2.00	0.271	1
tert-Butylbenzene	ND		ug/l	2.00	0.211	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	0.207	1
Isobutylbenzene	ND		ug/l	2.00	0.270	1
sec-Butylbenzene	ND		ug/l	2.00	0.259	1
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.258	1
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.212	1
1,2,3-Trimethylbenzene	ND		ug/l	2.00	0.223	1
1-Methyl-2-Isopropylbenzene	ND		ug/l	2.00	0.217	1
Indane	ND		ug/l	2.00	0.123	1
1,3-Diethylbenzene	ND		ug/l	2.00	0.249	1
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.202	1
Indene	ND		ug/l	2.00	0.116	1
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.250	1
n-Butylbenzene	ND		ug/l	2.00	0.197	1
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.245	1
1,2-Diethylbenzene	ND		ug/l	2.00	0.296	1
1-Methyl-2-N-Propylbenzene	ND		ug/l	2.00	0.249	1
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.187	1
Undecane	ND		ug/l	2.00	0.222	1
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.194	1
1,3-Dimethyl-5-Ethylbenzene	ND		ug/l	2.00	0.236	1
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.149	1
1,2-Dimethyl-3-Ethylbenzene	ND		ug/l	2.00	0.127	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.00	0.155	1
1,2,3,5-Tetramethylbenzene	ND		ug/l	2.00	0.152	1
N-Pentylbenzene	ND		ug/l	2.00	0.249	1
1,2,3,4-Tetramethylbenzene	ND		ug/l	2.00	0.214	1
1,3-Dimethyl-5-tert-Butylbenzene	ND		ug/l	2.00	0.285	1
Dodecane (C12)	ND		ug/l	5.00	0.657	1
1,3,5-Triethylbenzene	ND		ug/l	2.00	0.380	1
Naphthalene	ND		ug/l	2.00	0.835	1
Benzothiophene	ND		ug/l	2.00	1.06	1
1,2,4-Triethylbenzene	ND		ug/l	2.00	0.340	1
Hexylbenzene	ND		ug/l	2.00	0.385	1
MMT	ND		ug/l	5.00	1.29	1
Tridecane	ND		ug/l	5.00	1.39	1

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

**Lab ID:** L2304138-05  
**Client ID:** TB-W-20230120  
**Sample Location:** TOLEDO, WA

**Date Collected:** 01/20/23 08:00  
**Date Received:** 01/25/23  
**Field Prep:** Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
2-Methylnaphthalene	ND		ug/l	5.00	1.32	1
1-Methylnaphthalene	ND		ug/l	5.00	1.47	1
Tetradecane (C14)	ND		ug/l	5.00	0.612	1
Pentadecane	ND		ug/l	5.00	1.12	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	93		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	96		70-130

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 17:40  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 02-05 Batch: WG1739048-5					
3-Methyl-1-butene	ND		ug/l	2.00	0.297
Isopentane	ND		ug/l	2.00	0.366
1-Pentene	ND		ug/l	2.00	0.365
2-Methyl-1-Butene	ND		ug/l	2.00	0.311
Pentane	ND		ug/l	2.00	0.624
trans-2-Pentene	ND		ug/l	2.00	0.270
Isoprene	ND		ug/l	2.00	0.357
cis-2-Pentene	ND		ug/l	2.00	0.322
Tertiary Butanol	7.83	J	ug/l	25.0	3.24
2,2-Dimethylbutane	ND		ug/l	2.00	0.617
4-Methyl-1-pentene	ND		ug/l	2.00	0.311
Cyclopentane	ND		ug/l	2.00	0.519
2,3-Dimethylbutane	ND		ug/l	2.00	0.826
2-Methylpentane	ND		ug/l	2.00	0.542
Methyl tert butyl ether	ND		ug/l	2.00	0.412
3-Methylpentane	ND		ug/l	2.00	0.317
1-Hexene	ND		ug/l	2.00	0.281
n-Hexane	ND		ug/l	2.00	0.329
Isopropyl Ether	ND		ug/l	2.00	0.242
trans-2-Hexene	ND		ug/l	2.00	0.261
2-Methyl-2-pentene	ND		ug/l	2.00	0.306
cis-2-Hexene	ND		ug/l	2.00	0.271
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.303
2,2-Dimethylpentane	ND		ug/l	2.00	0.269
Methylcyclopentane	ND		ug/l	2.00	0.268
2,4-Dimethylpentane	ND		ug/l	2.00	0.247
2,2,3-Trimethylbutane	ND		ug/l	2.00	0.270
1,2-Dichloroethane	ND		ug/l	2.00	0.295
3,3-Dimethylpentane	ND		ug/l	2.00	0.372

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 17:40  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 02-05 Batch: WG1739048-5					
Cyclohexane	ND		ug/l	2.00	0.247
2-Methylhexane	ND		ug/l	2.00	0.315
Benzene	ND		ug/l	2.00	0.305
2,3-Dimethylpentane	ND		ug/l	2.00	0.265
Thiophene	ND		ug/l	2.00	0.284
1,1-Dimethylcyclopentane	ND		ug/l	2.00	0.240
3-Methylhexane	ND		ug/l	2.00	0.320
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.246
1,3-Dimethylcyclopentane (cis)	ND		ug/l	2.00	0.301
3-Ethylpentane	ND		ug/l	2.00	0.289
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	0.585
Isooctane	ND		ug/l	2.00	0.218
trans-3-Heptene	ND		ug/l	2.00	0.311
Heptane	ND		ug/l	2.00	0.348
trans-2-Heptene	ND		ug/l	2.00	0.256
cis-2-Heptene	ND		ug/l	2.00	0.387
2,2-Dimethylhexane	ND		ug/l	2.00	0.290
Methylcyclohexane	ND		ug/l	2.00	0.270
2,5-Dimethylhexane	ND		ug/l	2.00	0.348
2,4-Dimethylhexane	ND		ug/l	2.00	0.243
Ethylcyclopentane	ND		ug/l	2.00	0.265
2,2,3-Trimethylpentane	ND		ug/l	2.00	0.347
2,3,4-Trimethylpentane	ND		ug/l	2.00	0.261
2,3,3-Trimethylpentane	ND		ug/l	2.00	0.397
2,3-Dimethylhexane	ND		ug/l	2.00	0.485
2-Methylheptane	ND		ug/l	2.00	0.338
4-Methylheptane	ND		ug/l	2.00	0.344
3-Methylheptane	ND		ug/l	2.00	0.385
3-Ethylhexane	ND		ug/l	2.00	0.358



**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 17:40  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 02-05 Batch: WG1739048-5					
Toluene	ND		ug/l	2.00	0.271
2-Methylthiophene	ND		ug/l	2.00	0.170
1,4-Dimethylcyclohexane (trans)	ND		ug/l	2.00	0.260
3-Methylthiophene	ND		ug/l	2.00	0.234
1-Octene	ND		ug/l	5.00	0.307
Octane	ND		ug/l	2.00	0.235
1,2-Dimethylcyclohexane (trans)	ND		ug/l	2.00	0.294
1,2-Dibromoethane	ND		ug/l	2.00	0.320
cis-2-Octene	ND		ug/l	2.00	0.229
Isopropylcyclopentane	ND		ug/l	2.00	0.293
1,2-Dimethylcyclohexane (cis)	ND		ug/l	2.00	0.581
2,5-Dimethylheptane	ND		ug/l	2.00	0.335
3,5-Dimethylheptane	ND		ug/l	2.00	0.282
3,3-Dimethylheptane	ND		ug/l	2.00	0.242
1,1,4-Trimethylcyclohexane	ND		ug/l	2.00	0.199
2,3-Dimethylheptane	ND		ug/l	2.00	0.228
3,4-Dimethylheptane	ND		ug/l	2.00	0.340
4-Methyloctane	ND		ug/l	2.00	0.334
2-Methyloctane	ND		ug/l	2.00	0.512
Ethylbenzene	ND		ug/l	2.00	0.216
2-Ethylthiophene	ND		ug/l	2.00	0.176
3-Methyloctane	ND		ug/l	2.00	0.224
3,3-Diethylpentane	ND		ug/l	2.00	0.233
p/m-Xylene	ND		ug/l	4.00	0.381
1-Nonene	ND		ug/l	5.00	0.270
trans-3-Nonene	ND		ug/l	2.00	0.237
cis-3-Nonene	ND		ug/l	2.00	0.374
Nonane (C9)	ND		ug/l	2.00	0.311
Styrene	ND		ug/l	2.00	0.202

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 17:40  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 02-05 Batch: WG1739048-5					
o-Xylene	ND		ug/l	2.00	0.209
Xylene (Total) <sup>1</sup>	ND		ug/l	2.00	0.209
2-Nonene	ND		ug/l	5.00	0.254
Isopropylcyclohexane	ND		ug/l	2.00	0.212
Isopropylbenzene	ND		ug/l	2.00	0.187
3,3-Dimethyloctane	ND		ug/l	2.00	0.202
n-Propylbenzene	ND		ug/l	2.00	0.177
2-Methylnonane	ND		ug/l	2.00	0.283
3-Methylnonane	ND		ug/l	2.00	0.279
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.316
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.282
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.230
1-Decene	ND		ug/l	2.00	0.260
Isobutylcyclohexane	ND		ug/l	2.00	0.163
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.170
Decane (C10)	ND		ug/l	2.00	0.271
tert-Butylbenzene	ND		ug/l	2.00	0.211
1,2,4-Trimethylbenzene	ND		ug/l	2.00	0.207
Isobutylbenzene	ND		ug/l	2.00	0.270
sec-Butylbenzene	ND		ug/l	2.00	0.259
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.258
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.212
1,2,3-Trimethylbenzene	ND		ug/l	2.00	0.223
1-Methyl-2-Isopropylbenzene	ND		ug/l	2.00	0.217
Indane	ND		ug/l	2.00	0.123
1,3-Diethylbenzene	ND		ug/l	2.00	0.249
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.202
Indene	ND		ug/l	2.00	0.116
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.250

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 17:40  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 02-05 Batch: WG1739048-5					
n-Butylbenzene	ND		ug/l	2.00	0.197
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.245
1,2-Diethylbenzene	ND		ug/l	2.00	0.296
1-Methyl-2-N-Propylbenzene	ND		ug/l	2.00	0.249
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.187
Undecane	ND		ug/l	2.00	0.222
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.194
1,3-Dimethyl-5-Ethylbenzene	ND		ug/l	2.00	0.236
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.149
1,2-Dimethyl-3-Ethylbenzene	ND		ug/l	2.00	0.127
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.00	0.155
1,2,3,5-Tetramethylbenzene	ND		ug/l	2.00	0.152
N-Pentylbenzene	ND		ug/l	2.00	0.249
1,2,3,4-Tetramethylbenzene	ND		ug/l	2.00	0.214
1,3-Dimethyl-5-tert-Butylbenzene	ND		ug/l	2.00	0.285
Dodecane (C12)	ND		ug/l	5.00	0.657
1,3,5-Triethylbenzene	ND		ug/l	2.00	0.380
Naphthalene	ND		ug/l	2.00	0.835
Benzothiophene	ND		ug/l	2.00	1.06
1,2,4-Triethylbenzene	ND		ug/l	2.00	0.340
Hexylbenzene	ND		ug/l	2.00	0.385
MMT	ND		ug/l	5.00	1.29
Tridecane	ND		ug/l	5.00	1.39
2-Methylnaphthalene	ND		ug/l	5.00	1.32
1-Methylnaphthalene	ND		ug/l	5.00	1.47
Tetradecane (C14)	ND		ug/l	5.00	0.612
Pentadecane	ND		ug/l	5.00	1.12

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 17:40  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 02-05 Batch: WG1739048-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	90		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	97		70-130

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 16:28  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG1739049-5					
3-Methyl-1-butene	ND		mg/kg	10.0	1.48
Isopentane	ND		mg/kg	10.0	1.83
1-Pentene	ND		mg/kg	10.0	1.82
2-Methyl-1-Butene	ND		mg/kg	10.0	1.56
Pentane	ND		mg/kg	10.0	3.12
trans-2-Pentene	ND		mg/kg	10.0	1.35
Isoprene	ND		mg/kg	10.0	1.78
cis-2-Pentene	ND		mg/kg	10.0	1.61
Tertiary Butanol	ND		mg/kg	125	16.2
2,2-Dimethylbutane	ND		mg/kg	10.0	3.08
4-Methyl-1-pentene	ND		mg/kg	10.0	1.56
Cyclopentane	ND		mg/kg	10.0	2.60
2,3-Dimethylbutane	ND		mg/kg	10.0	4.13
2-Methylpentane	ND		mg/kg	10.0	2.71
Methyl tert butyl ether	ND		mg/kg	10.0	2.06
3-Methylpentane	ND		mg/kg	10.0	1.58
1-Hexene	ND		mg/kg	10.0	1.40
n-Hexane	ND		mg/kg	10.0	1.64
Isopropyl Ether	ND		mg/kg	10.0	1.21
trans-2-Hexene	ND		mg/kg	10.0	1.30
2-Methyl-2-pentene	ND		mg/kg	10.0	1.53
cis-2-Hexene	ND		mg/kg	10.0	1.36
Ethyl-Tert-Butyl-Ether	ND		mg/kg	10.0	1.52
2,2-Dimethylpentane	ND		mg/kg	10.0	1.34
Methylcyclopentane	ND		mg/kg	10.0	1.34
2,4-Dimethylpentane	ND		mg/kg	10.0	1.24
2,2,3-Trimethylbutane	ND		mg/kg	10.0	1.35
1,2-Dichloroethane	ND		mg/kg	10.0	1.48
3,3-Dimethylpentane	ND		mg/kg	10.0	1.86

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 16:28  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG1739049-5					
Cyclohexane	ND		mg/kg	10.0	1.24
2-Methylhexane	ND		mg/kg	10.0	1.58
Benzene	1.58	J	mg/kg	10.0	1.52
2,3-Dimethylpentane	ND		mg/kg	10.0	1.32
Thiophene	ND		mg/kg	10.0	1.42
1,1-Dimethylcyclopentane	ND		mg/kg	10.0	1.20
3-Methylhexane	ND		mg/kg	10.0	1.60
Tertiary-Amyl Methyl Ether	ND		mg/kg	10.0	1.23
1,3-Dimethylcyclopentane (cis)	ND		mg/kg	10.0	1.50
3-Ethylpentane	ND		mg/kg	10.0	1.44
1-Heptene/1,2-DMCP (trans)	ND		mg/kg	20.0	2.92
Isooctane	ND		mg/kg	10.0	1.09
trans-3-Heptene	ND		mg/kg	10.0	1.56
Heptane	ND		mg/kg	10.0	1.74
trans-2-Heptene	ND		mg/kg	10.0	1.28
cis-2-Heptene	ND		mg/kg	10.0	1.94
2,2-Dimethylhexane	ND		mg/kg	10.0	1.45
Methylcyclohexane	ND		mg/kg	10.0	1.35
2,5-Dimethylhexane	ND		mg/kg	10.0	1.74
2,4-Dimethylhexane	ND		mg/kg	10.0	1.22
Ethylcyclopentane	ND		mg/kg	10.0	1.32
2,2,3-Trimethylpentane	ND		mg/kg	10.0	1.74
2,3,4-Trimethylpentane	ND		mg/kg	10.0	1.30
2,3,3-Trimethylpentane	ND		mg/kg	10.0	1.98
2,3-Dimethylhexane	ND		mg/kg	10.0	2.42
2-Methylheptane	ND		mg/kg	10.0	1.69
4-Methylheptane	ND		mg/kg	10.0	1.72
3-Methylheptane	ND		mg/kg	10.0	1.42
3-Ethylhexane	ND		mg/kg	10.0	1.79

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 16:28  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG1739049-5					
Toluene	ND		mg/kg	10.0	1.36
2-Methylthiophene	ND		mg/kg	10.0	0.850
1,4-Dimethylcyclohexane (trans)	ND		mg/kg	10.0	1.30
3-Methylthiophene	ND		mg/kg	10.0	1.17
1-Octene	ND		mg/kg	25.0	1.54
Octane	ND		mg/kg	10.0	1.18
1,2-Dimethylcyclohexane (trans)	ND		mg/kg	10.0	1.47
1,2-Dibromoethane	ND		mg/kg	10.0	1.60
cis-2-Octene	ND		mg/kg	10.0	1.14
Isopropylcyclopentane	ND		mg/kg	10.0	1.46
1,2-Dimethylcyclohexane (cis)	ND		mg/kg	10.0	2.90
2,5-Dimethylheptane	ND		mg/kg	10.0	1.68
3,5-Dimethylheptane	ND		mg/kg	10.0	1.41
3,3-Dimethylheptane	ND		mg/kg	10.0	1.21
1,1,4-Trimethylcyclohexane	ND		mg/kg	10.0	0.995
2,3-Dimethylheptane	ND		mg/kg	10.0	1.14
3,4-Dimethylheptane	ND		mg/kg	10.0	1.70
4-Methyloctane	ND		mg/kg	10.0	1.67
2-Methyloctane	ND		mg/kg	10.0	2.56
Ethylbenzene	ND		mg/kg	10.0	1.08
2-Ethylthiophene	ND		mg/kg	10.0	0.880
3-Methyloctane	ND		mg/kg	10.0	1.12
3,3-Diethylpentane	ND		mg/kg	10.0	1.16
p/m-Xylene	ND		mg/kg	20.0	1.90
1-Nonene	ND		mg/kg	25.0	1.35
trans-3-Nonene	ND		mg/kg	10.0	1.18
cis-3-Nonene	ND		mg/kg	10.0	1.87
Nonane (C9)	ND		mg/kg	10.0	1.56
Styrene	ND		mg/kg	10.0	1.01

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 16:28  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG1739049-5					
o-Xylene	ND		mg/kg	10.0	1.04
Xylene (Total) <sup>1</sup>	ND		mg/kg	10.0	1.04
2-Nonene	ND		mg/kg	25.0	1.27
Isopropylcyclohexane	ND		mg/kg	10.0	1.06
Isopropylbenzene	ND		mg/kg	10.0	0.935
3,3-Dimethyloctane	ND		mg/kg	10.0	1.01
n-Propylbenzene	ND		mg/kg	10.0	0.885
2-Methylnonane	ND		mg/kg	10.0	1.42
3-Methylnonane	ND		mg/kg	10.0	1.40
1-Methyl-3-Ethylbenzene	ND		mg/kg	10.0	1.58
1-Methyl-4-Ethylbenzene	ND		mg/kg	10.0	1.41
1,3,5-Trimethylbenzene	ND		mg/kg	10.0	1.15
1-Decene	ND		mg/kg	10.0	1.30
Isobutylcyclohexane	ND		mg/kg	10.0	0.815
1-Methyl-2-Ethylbenzene	ND		mg/kg	10.0	0.850
Decane (C10)	ND		mg/kg	10.0	1.36
tert-Butylbenzene	ND		mg/kg	10.0	1.06
1,2,4-Trimethylbenzene	ND		mg/kg	10.0	1.04
Isobutylbenzene	ND		mg/kg	10.0	1.35
sec-Butylbenzene	ND		mg/kg	10.0	1.30
1-Methyl-3-Isopropylbenzene	ND		mg/kg	10.0	1.29
1-Methyl-4-Isopropylbenzene	ND		mg/kg	10.0	1.06
1,2,3-Trimethylbenzene	ND		mg/kg	10.0	1.12
1-Methyl-2-Isopropylbenzene	ND		mg/kg	10.0	1.08
Indane	ND		mg/kg	10.0	0.615
1,3-Diethylbenzene	ND		mg/kg	10.0	1.24
1-Methyl-3-N-Propylbenzene	ND		mg/kg	10.0	1.01
Indene	ND		mg/kg	10.0	0.580
1-Methyl-4-N-Propylbenzene	ND		mg/kg	10.0	1.25



**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 16:28  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG1739049-5					
n-Butylbenzene	ND		mg/kg	10.0	0.985
1,2-Dimethyl-4-Ethylbenzene	ND		mg/kg	10.0	1.22
1,2-Diethylbenzene	ND		mg/kg	10.0	1.48
1-Methyl-2-N-Propylbenzene	ND		mg/kg	10.0	1.24
1,4-Dimethyl-2-Ethylbenzene	ND		mg/kg	10.0	0.935
Undecane	ND		mg/kg	10.0	1.11
1,3-Dimethyl-4-Ethylbenzene	ND		mg/kg	10.0	0.970
1,3-Dimethyl-5-Ethylbenzene	ND		mg/kg	10.0	1.18
1,3-Dimethyl-2-Ethylbenzene	ND		mg/kg	10.0	0.745
1,2-Dimethyl-3-Ethylbenzene	ND		mg/kg	10.0	0.635
1,2,4,5-Tetramethylbenzene	ND		mg/kg	10.0	0.775
1,2,3,5-Tetramethylbenzene	ND		mg/kg	10.0	0.760
N-Pentylbenzene	ND		mg/kg	10.0	1.24
1,2,3,4-Tetramethylbenzene	ND		mg/kg	10.0	1.07
1,3-Dimethyl-5-tert-Butylbenzene	ND		mg/kg	10.0	1.42
Dodecane (C12)	ND		mg/kg	25.0	3.28
1,3,5-Triethylbenzene	ND		mg/kg	10.0	1.90
Naphthalene	ND		mg/kg	10.0	4.18
Benzothiophene	ND		mg/kg	10.0	5.28
1,2,4-Triethylbenzene	ND		mg/kg	10.0	1.70
Hexylbenzene	ND		mg/kg	10.0	1.92
MMT	ND		mg/kg	25.0	6.43
Tridecane	ND		mg/kg	25.0	6.96
2-Methylnaphthalene	ND		mg/kg	25.0	6.61
1-Methylnaphthalene	ND		mg/kg	25.0	7.34
Tetradecane (C14)	ND		mg/kg	25.0	3.06
Pentadecane	ND		mg/kg	25.0	5.58

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 01/30/23 16:28  
Analyst: RAY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG1739049-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	89		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	99		70-130

**Project Name:** CHEVRON 211556**Project Number:** 30064316**Lab Number:** L2304138**Report Date:** 02/16/23**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8015D  
Analytical Date: 01/31/23 15:47  
Analyst: DP

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Alcohol Analysis by GC/FID - Mansfield Lab for sample(s): 02-04 Batch: WG1739050-1					
Ethyl Alcohol	ND		mg/l	2.00	1.88

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 02-05 Batch: WG1739048-3 WG1739048-4								
1-Pentene	82		82		50-130	0		30
Pentane	88		90		50-130	2		30
Tertiary Butanol	111		111		50-130	0		30
Cyclopentane	88		89		50-130	1		30
2-Methylpentane	94		94		50-130	0		30
Methyl tert butyl ether	90		92		50-130	2		30
3-Methylpentane	95		96		50-130	1		30
1-Hexene	92		98		50-130	6		30
n-Hexane	79		81		50-130	3		30
Isopropyl Ether	90		92		50-130	2		30
Ethyl-Tert-Butyl-Ether	89		91		50-130	2		30
Methylcyclopentane	94		96		50-130	2		30
2,4-Dimethylpentane	98		98		50-130	0		30
Cyclohexane	96		98		50-130	2		30
2-Methylhexane	92		95		50-130	3		30
Benzene	93		95		50-130	2		30
2,3-Dimethylpentane	96		98		50-130	2		30
3-Methylhexane	84		84		50-130	0		30
Tertiary-Amyl Methyl Ether	82		84		50-130	2		30
Isooctane	92		94		50-130	2		30
Heptane	95		95		50-130	0		30
Methylcyclohexane	92		93		50-130	1		30
2-Methylheptane	91		92		50-130	1		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 02-05 Batch: WG1739048-3 WG1739048-4								
3-Methylheptane	94		92		50-130	2		30
Toluene	94		95		50-130	1		30
Octane	92		92		50-130	0		30
Ethylbenzene	89		90		50-130	1		30
p/m-Xylene	91		93		50-130	2		30
Nonane (C9)	82		83		50-130	1		30
o-Xylene	91		92		50-130	1		30
Isopropylbenzene	92		93		50-130	1		30
n-Propylbenzene	90		92		50-130	2		30
1-Methyl-3-Ethylbenzene	90		91		50-130	1		30
1-Methyl-4-Ethylbenzene	94		96		50-130	2		30
1,3,5-Trimethylbenzene	90		92		50-130	2		30
1-Decene	71		74		50-130	4		30
1-Methyl-2-Ethylbenzene	93		94		50-130	1		30
Decane (C10)	88		91		50-130	3		30
1,2,4-Trimethylbenzene	87		88		50-130	1		30
sec-Butylbenzene	94		96		50-130	2		30
1-Methyl-4-N-Propylbenzene	86		88		50-130	2		30
n-Butylbenzene	88		90		50-130	2		30
1,2-Diethylbenzene	86		90		50-130	5		30
Undecane	90		92		50-130	2		30
N-Pentylbenzene	88		90		50-130	2		30
Dodecane (C12)	104		108		50-130	4		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHEVRON 211556

Project Number: 30064316

Lab Number: L2304138

Report Date: 02/16/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 02-05 Batch: WG1739048-3 WG1739048-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Dibromofluoromethane	88		88		70-130
Toluene-d8	93		93		70-130
4-Bromofluorobenzene	103		103		70-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01 Batch: WG1739049-3 WG1739049-4								
1-Pentene	83		82		50-130	1		30
Pentane	88		89		50-130	1		30
Tertiary Butanol	111		111		50-130	0		30
Cyclopentane	88		89		50-130	1		30
2-Methylpentane	94		94		50-130	0		30
Methyl tert butyl ether	90		92		50-130	2		30
3-Methylpentane	95		96		50-130	1		30
1-Hexene	93		98		50-130	5		30
n-Hexane	79		81		50-130	3		30
Isopropyl Ether	90		91		50-130	1		30
Ethyl-Tert-Butyl-Ether	89		91		50-130	2		30
Methylcyclopentane	94		97		50-130	3		30
2,4-Dimethylpentane	97		98		50-130	1		30
Cyclohexane	96		99		50-130	3		30
2-Methylhexane	93		95		50-130	2		30
Benzene	93		95		50-130	2		30
2,3-Dimethylpentane	97		98		50-130	1		30
3-Methylhexane	84		85		50-130	1		30
Tertiary-Amyl Methyl Ether	82		84		50-130	2		30
Isooctane	92		94		50-130	2		30
Heptane	95		95		50-130	0		30
Methylcyclohexane	92		93		50-130	1		30
2-Methylheptane	91		92		50-130	1		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHEVRON 211556

Lab Number: L2304138

Project Number: 30064316

Report Date: 02/16/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01 Batch: WG1739049-3 WG1739049-4								
3-Methylheptane	94		92		50-130	2		30
Toluene	94		95		50-130	1		30
Octane	91		92		50-130	1		30
Ethylbenzene	89		90		50-130	1		30
p/m-Xylene	91		93		50-130	2		30
Nonane (C9)	82		83		50-130	1		30
o-Xylene	91		92		50-130	1		30
Isopropylbenzene	92		93		50-130	1		30
n-Propylbenzene	90		92		50-130	2		30
1-Methyl-3-Ethylbenzene	90		91		50-130	1		30
1-Methyl-4-Ethylbenzene	94		96		50-130	2		30
1,3,5-Trimethylbenzene	91		92		50-130	1		30
1-Decene	71		74		50-130	4		30
1-Methyl-2-Ethylbenzene	93		94		50-130	1		30
Decane (C10)	88		91		50-130	3		30
1,2,4-Trimethylbenzene	87		88		50-130	1		30
sec-Butylbenzene	94		96		50-130	2		30
1-Methyl-4-N-Propylbenzene	86		89		50-130	3		30
n-Butylbenzene	88		90		50-130	2		30
1,2-Diethylbenzene	87		89		50-130	2		30
Undecane	89		92		50-130	3		30
N-Pentylbenzene	88		90		50-130	2		30
Dodecane (C12)	105		108		50-130	3		30



## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHEVRON 211556

Project Number: 30064316

Lab Number: L2304138

Report Date: 02/16/23

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
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PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01 Batch: WG1739049-3 WG1739049-4

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> <i>Criteria</i>
Dibromofluoromethane	88		88		70-130
Toluene-d8	92		93		70-130
4-Bromofluorobenzene	102		102		70-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: CHEVRON 211556

Project Number: 30064316

Lab Number: L2304138

Report Date: 02/16/23

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
Alcohol Analysis by GC/FID - Mansfield Lab Associated sample(s): 02-04 Batch: WG1739050-2 WG1739050-3								
Ethyl Alcohol	113		116		70-130	3		30

## Lab Duplicate Analysis

Batch Quality Control

Project Name: CHEVRON 211556

Project Number: 30064316

Lab Number: L2304138

Report Date: 02/16/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Alcohol Analysis by GC/FID - Mansfield Lab Associated sample(s): 02-04 QC Batch ID: WG1739050-4 QC Sample: L2304138-03 Client ID: MW-112-W-20230120						
Ethyl Alcohol	ND	ND	mg/l	NC		20

# SEMIVOLATILES

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-01  
 Client ID: B-4-IN-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 12:45  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil  
 Analytical Method: 1,8270E-SIM(M)  
 Analytical Date: 02/16/23 08:57  
 Analyst: CNC  
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Ethanol Analysis by GC/MS-SIM - Mansfield Lab						
Ethanol	ND		mg/kg	50.0	8.01	1

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8270E-SIM(M)  
Analytical Date: 02/16/23 06:56  
Analyst: CNC

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Ethanol Analysis by GC/MS-SIM - Mansfield Lab for sample(s): 01 Batch: WG1745213-2					
Ethanol	2.79	J	mg/kg	50.0	8.01

## Lab Control Sample Analysis

Batch Quality Control

Project Name: CHEVRON 211556

Project Number: 30064316

Lab Number: L2304138

Report Date: 02/16/23

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
Ethanol Analysis by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1745213-3 WG1745213-4								
Ethanol	88		101		50-130	14		30

# PETROLEUM HYDROCARBONS



**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

**SAMPLE RESULTS**

Lab ID: L2304138-01  
 Client ID: B-4-IN-20230120  
 Sample Location: TOLEDO, WA

Date Collected: 01/20/23 12:45  
 Date Received: 01/25/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil  
 Analytical Method: 1,8015D(M)  
 Analytical Date: 02/23/09 00:00  
 Analyst: CC  
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: NA

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Whole Oil Analysis - Mansfield Lab						
Refer To Case Narrative/Chromatograms			-	-	1.00	1

**Project Name:** CHEVRON 211556**Lab Number:** L2304138**Project Number:** 30064316**Report Date:** 02/16/23**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
A	Absent
B	Present/Not Intact

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L2304138-01A	Vial unpreserved	B	NA		3.1	Y	Present/Not Intact		A2-ETHANOL(365),A2-WHOLEOIL(365),A2-PIANO8260(365)
L2304138-01X	Vial MeOH preserved split	B	NA		3.1	Y	Present/Not Intact		A2-PIANO8260(365)
L2304138-01Y	Vial MeOH preserved split	B	NA		3.1	Y	Present/Not Intact		A2-PIANO8260(365)
L2304138-02A	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-02B	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-02C	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-02D	Vial unpreserved	A	NA	NA	4.2	Y	Absent		A2-ALCOHOL(14)
L2304138-03A	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-03B	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-03C	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-03D	Vial unpreserved	A	NA	NA	4.2	Y	Absent		A2-ALCOHOL(14)
L2304138-04A	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-04B	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-04C	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-04D	Vial unpreserved	A	NA	NA	4.2	Y	Absent		A2-ALCOHOL(14)
L2304138-05A	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)
L2304138-05B	Vial HCl preserved	A	NA		4.2	Y	Absent		A2-PIANO8260(14)

**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

## GLOSSARY

### Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)  Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Chlordane:** The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

**Difference:** With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Gasoline Range Organics (GRO):** Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**PAH Total:** With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

#### **Data Qualifiers**

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



**Project Name:** CHEVRON 211556  
**Project Number:** 30064316

**Lab Number:** L2304138  
**Report Date:** 02/16/23

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene

**EPA 625/625.1:** alpha-Terpineol

**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

### Mansfield Facility

**SM 2540D:** TSS

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

**EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

**SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

**EPA 624.1:** Volatile Halocarbons & Aromatics,

**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

**EPA 522, EPA 537.1.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.





# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 1/25/23

ALPHA Job #: L2304138

8 Walkup Drive  
Westboro, MA 01581  
Tel: 508-898-9220

320 Forbes Blvd  
Mansfield, MA 02048  
Tel: 508-822-9300

### Project Information

Project Name: CHEVRON 211556  
Project Location: 101 MULFORD RD, Tole  
Project #: 211556  
Project Manager: ADA HAMILTON  
ALPHA Quote #:

### Report Information - Data Deliverables

ADEx  EMAIL

### Billing Information

Same as Client info PO #:

### Client Information

Client: ARCADES  
Address: 1100 OLIVE WAY, STE 800  
SEATTLE, WA 98101  
Phone: (206) 413-6430  
Email: ADA.HAMILTON@ARCADS.COM

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due:

### Regulatory Requirements & Project Information Requirements

Yes  No MA MCP Analytical Methods  Yes  No CT RCP Analytical Methods  
 Yes  No Matrix Spike Required on this SDG? (Required for MCP Inorganics)  
 Yes  No GW1 Standards (Info Required for Metals & EPH with Targets)  
 Yes  No NPDES RGP  
 Other State /Fed Program \_\_\_\_\_ Criteria \_\_\_\_\_

Additional Project Information:

ANALYSIS	VOC: <input type="checkbox"/> 8280 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SAMPLE INFO
	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> MCP 15	EPH: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8 <input type="checkbox"/> PPT3	Filtration
	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	
PIANO	<input type="checkbox"/> PCB <input type="checkbox"/> PEST	Field
	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint	
WHOLE OIL ANALYSIS		Lab to do
		Preservation
		Lab to do
Sample Comments		

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS	SAMPLE INFO	Sample Comments	TOTAL # BOTTLES
		Date	Time						
04138-01	B-4-W-20230120	1/20/23	1245	OIL	CM				1

**Container Type**  
P= Plastic  
A= Amber glass  
V= Vial  
G= Glass  
B= Bacteria cup  
C= Cube  
O= Other  
E= Encore  
D= BOD Bottle

**Preservative**  
A= None  
B= HCl  
C= HNO3  
D= H2SO4  
E= NaOH  
F= MeOH  
G= NaHSO4  
H= Na2S2O3  
I= Ascorbic Acid  
J= NH4Cl  
K= Zn Acetate  
O= Other

Container Type	V	V
Preservative	A	A
Relinquished By:	Date/Time	Received By:
	1/24/23 16:00	SARAH HENNINGWAY
		Date/Time
		1/25/23 10:20

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.  
FORM NO: 01-01 (rev. 12-Mar-2012)







L2304138

**CUSTODY SEAL**

DATE 1/23/25

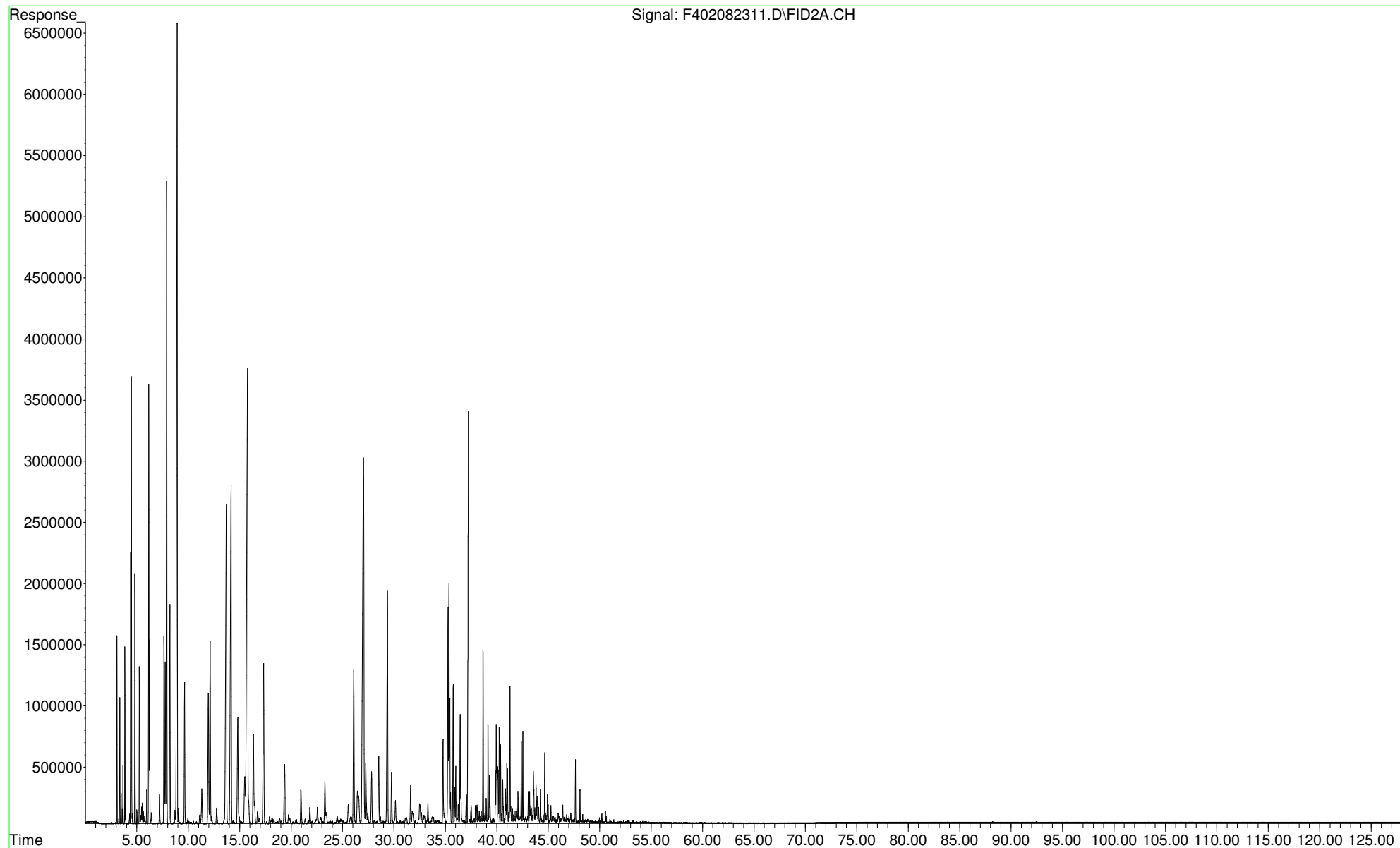
SIGNATURE

**QEC**

Quality Environmental Control  
Tel: 251-3950 • www.qec.com

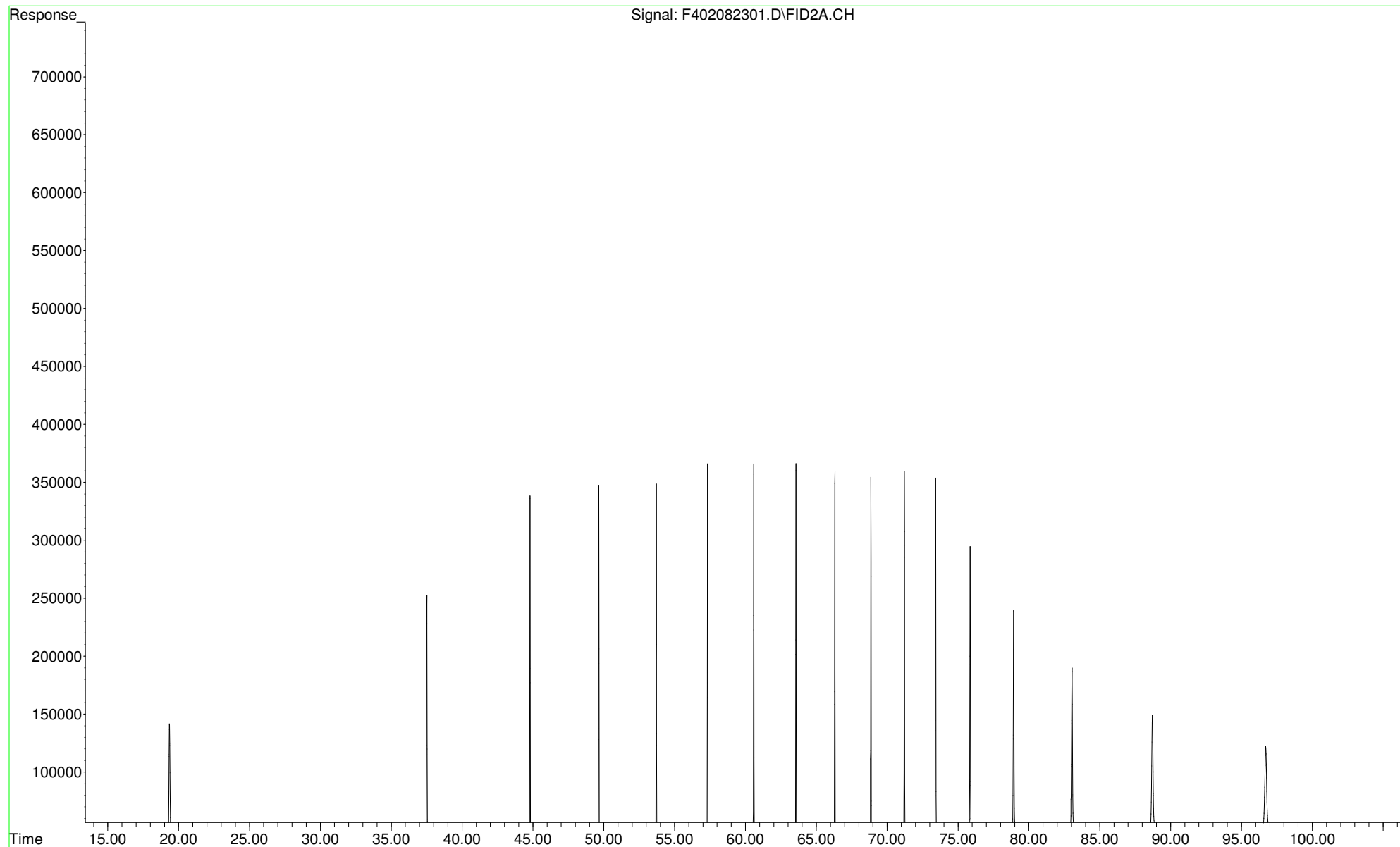
# **Whole Oil by GC-FID Chromatograms**

File :O:\Forensics\Data\PAH4\2023\FEB23\FEB08.SEC\F402082311.D  
Operator : DP  
Acquired : 09 Feb 2023 7:49 am using AcqMethod WHOIL4A.M  
Instrument : PAH 4  
Sample Name: L2304138-01  
Misc Info :  
Vial Number: 56

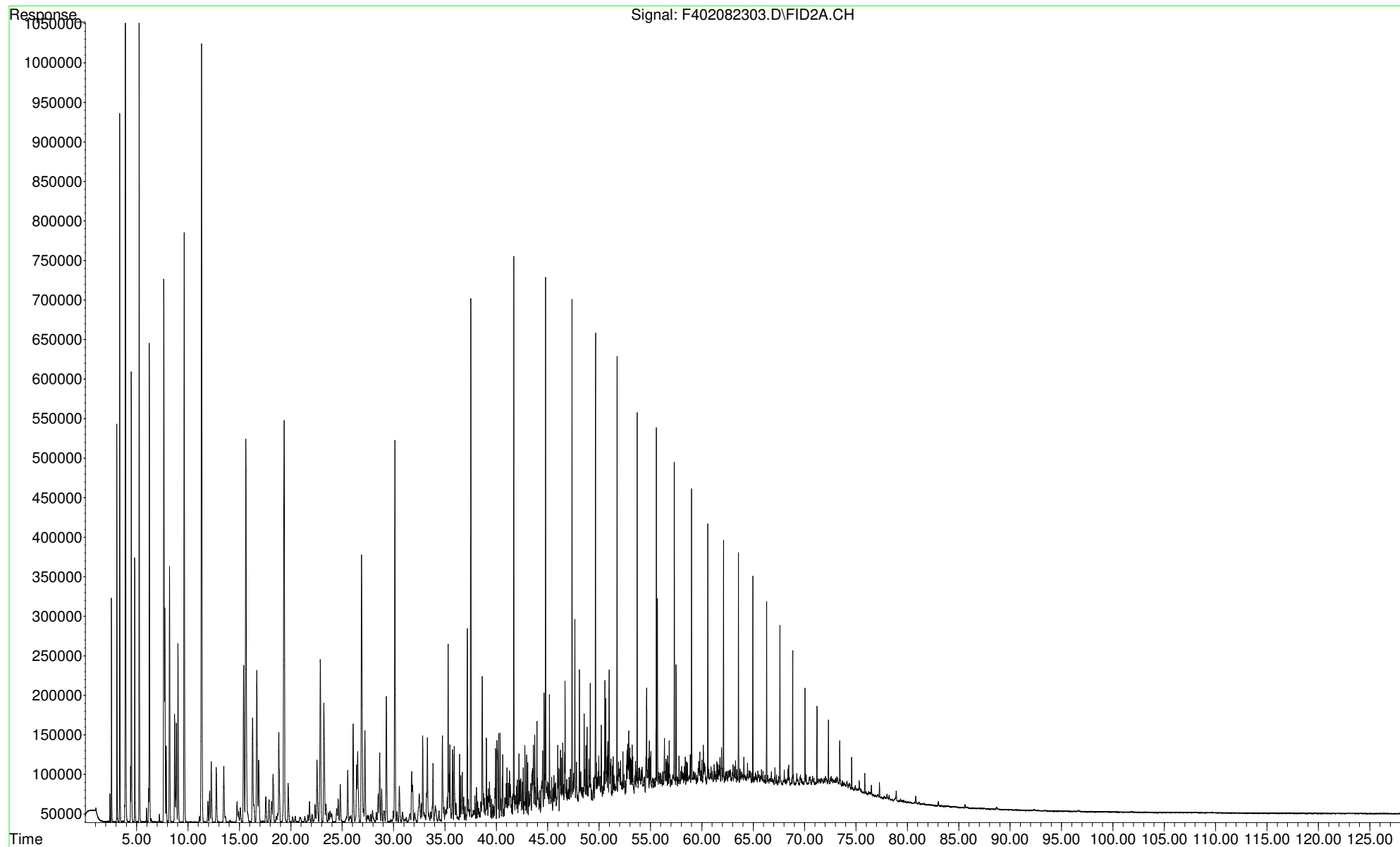


# **Whole Oil Reference Oils**

File :O:\Forensics\Data\PAH4\2023\FEB23\FEB08.SEC\F402082301.D  
Operator : DP  
Acquired : 08 Feb 2023 4:02 pm using AcqMethod WHOIL4A.M  
Instrument : PAH 4  
Sample Name: CCV  
Misc Info : S230104F  
Vial Number: 51



File :O:\Forensics\Data\PAH4\2023\FEB23\FEB08.SEC\F402082303.D  
Operator : DP  
Acquired : 08 Feb 2023 6:35 pm using AcqMethod WHOIL4A.M  
Instrument : PAH 4  
Sample Name: ANS  
Misc Info : S210303G  
Vial Number: 52





File :O:\Forensics\Data\PAH4\2023\FEB23\FEB08.SEC\F402082305.D  
Operator : DP  
Acquired : 08 Feb 2023 9:07 pm using AcqMethod WHOIL4A.M  
Instrument : PAH 4  
Sample Name: LD7  
Misc Info : F012605B  
Vial Number: 53

