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Memorandum

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From: Gabe Cisneros and Manique Talaia-Murray, Floyd|Snider

Date: January 24, 2024

Project No: CL-Ellensburg, Big B (Cleanup Site ID: 4901)

Re: **2023 Data Summary Memorandum**

PURPOSE

Floyd|Snider has prepared this technical memorandum to summarize semiannual groundwater and soil vapor compliance monitoring performed in 2023 at the Big B Mini Mart Site (Site; Facility Site ID [FSID] #386, Cleanup Site ID [CSID] #4901) located at 1611 Canyon Road in Ellensburg, Washington (referred to as the Big B property; Figure 1). All work was completed in accordance with the Cleanup Action Plan (CAP) approved by the Washington State Department of Ecology (Ecology) in November 2020 (Ecology 2020).

In accordance with the CAP and Engineering Design Report (EDR; Appendix B of Ecology 2020), Phase I remedial excavation activities were conducted between May and October 2021, and Phase II remedial excavation activities were conducted in June 2022. During excavation, a total of 625.55 tons of petroleum-impacted soil were removed from the Site, including from areas on the south-adjacent Toad's (Astro) Station (herein referred to as Toad's) property and the west-adjacent BNSF Railway Company property. Impacted soil was excavated to Site-specific remediation levels (RELs) based on residual saturation levels for diesel-range organics (DRO) and gasoline-range organics (GRO) defined in the CAP, which are greater than the Site cleanup levels (CULs). Therefore, soil impacted with contaminants of concern (COCs) at concentrations greater than the CULs and less than the RELs was left in place. The remaining petroleum-impacted soil in the vadose zone is being treated using a bioventing system beneath the properties to prevent leaching of contamination to groundwater. A temporary subslab soil vapor monitoring point was installed on July 6, 2022, within the former station building, and three monitoring wells were replaced in areas that had been excavated in 2021 and 2022 (MW-2A, MW-4B, and MW-9A). Excavation activities are summarized in the Remedial Action Completion Report (RACR; Floyd|Snider 2022). The extent of excavation activities, key Site features, and monitoring locations are displayed on Figure 2.

Bioventing was selected as part of the remedy to remediate impacted soil remaining in the vadose/capillary fringe after excavation activities are complete to ensure protection of groundwater. The bioventing system was installed on May 16, 2023, and has been operational continuously since that date, except between August 27 and September 6, 2023, during which the power to the Site was turned off.

This memorandum summarizes the results for the first two semiannual groundwater and soil vapor sampling events that were conducted in accordance with the CAP and EDR. The first monitoring event occurred on May 1, 2023, and the second event occurred on September 6 and 7, 2023. Data associated with these events were submitted to Ecology's Environmental Information Management (EIM) database on July 18 and November 15, 2023, respectively.

SOIL VAPOR SAMPLE COLLECTION AND DATA SUMMARY

Soil vapor samples were collected on May 1, 2023, and September 6, 2023, from vapor point location SVP-1, within the former convenience store building (Figure 2). Barometric pressure and temperature plots for Ellensburg on the day of each sampling event are included in Attachment 1. Precipitation plots for the week of each sampling event are also included in Attachment 1. No significant rain events occurred 48 hours prior to or during sampling for both events.

The vapor point was sampled using laboratory-certified 1-liter SUMMA® canisters equipped with a flow control device, laboratory-provided manifolds, and polytetrafluoroethylene tubing. Prior to sample collection, a closed-valve test was performed to assess the sampling train for air leaks. The closed-valve test was conducted for approximately 5 minutes. All canisters maintained their vacuum for the duration of the test.

Isopropyl alcohol was used as a tracer gas during the sampling events to test for leaks in the vapor point seal and in the connections of the manifold during filling of the SUMMA® canisters. Samples were collected after purging the tubing and vapor screen of at least three volumes of vapor within the sampling train. A 6-liter SUMMA® canister was used to purge the tubing. After the sampling train was purged, primary and duplicate soil gas samples were collected over approximately 10 minutes at a flow rate of 167 milliliters per minute.

The soil gas samples were submitted to Friedman & Bruya, Inc. in Seattle, Washington, and were analyzed for the following: benzene, toluene, ethylene, xylene, and naphthalene (BTEX-N) by EPA Method TO-15 and the three air-phase petroleum hydrocarbons (APH) by Method MA-APH.

For both field events, isopropyl alcohol (2-*propanol*) concentrations in soil vapor samples were less than the acceptable range of 10% of the total sample concentration specified in the Floyd|Snider standard operating guidelines for soil vapor sampling, which is included in Appendix B of the EDR. The expected concentration of 2-*propanol* with a conservative leak rate of 0.1% is equivalent to a concentration of 100,000 micrograms per cubic meter (µg/m^3;ITRC 2007), assuming standard temperature and pressure and a molecular weight of 60.09 for 2-*propanol* to convert from the concentration of a liquid tracer in units of micrograms per liter (µg/L) to that of

a gas in µg/m^3. The maximum concentration of 2-*propanol* measured in a soil vapor sample was 13,000 µg/m^3, which is an order of magnitude less than the concentration of a 0.1% leak.

Analytical results for the subslab soil vapor samples are provided in Table 1. Analyte concentrations were compared to applicable Model Toxics Control Act (MTCA) screening criteria. For both field events, concentrations of BTEX-N were either nondetect or detected at concentrations below residential and commercial MTCA Method B screening levels.

GROUNDWATER SAMPLE COLLECTION AND SUMMARY

Semiannual groundwater monitoring was conducted on May 1 and September 7, 2023. The first sampling event was conducted prior to the installation of the bioventing system, which occurred on May 16, 2023.

Static water levels were collected from Site wells prior to groundwater sample collection. Potentiometric surface maps and approximate groundwater flow directions for each event are shown on Figures 3 and 4 and groundwater elevations are summarized in Table 2. Groundwater flow direction was generally toward the southwest in the spring and toward the southeast in the fall. The hydraulic gradient for both field events was approximately 0.001 feet per foot (ft/ft).

Groundwater sampling was performed on the Big B property performance wells MW-2A, MW-4B, and MW-9A and Toad's property wells MW-1 and MW-2. At each monitoring well, disposable polyethylene tubing was inserted so that the intake was at the approximate midpoint of the well screened interval. The tubing was attached to a peristaltic pump, and groundwater was purged at a low-flow rate of less than 0.5 liters per minute. During purging, water quality parameters (i.e., temperature, pH, specific conductivity, and turbidity) were recorded at approximately 3- to 5-minute intervals using a YSI Pro DDS multiparameter water quality meter (YSI) until parameters were approximately stable (within 10%), or until a maximum of 30 minutes of purging had elapsed.

After the well had been purged, the groundwater samples were collected by directly filling the laboratory-provided bottles from the pump discharge at the same flow rate that was used for purging.

All groundwater samples were stored on ice for transport and submitted to Friedman & Bruya, Inc. for analysis of the following constituents:

- GRO by NWTPH-Gx
- DRO and oil-range organics (ORO) by NWTPH-Dx, with and without silica gel cleanup (SGC)
- BTEX and naphthalene by USEPA Method 8260

A subset of wells, MW-2A (Big B), MW-4B (Big B), and MW-1 (Toad's), were analyzed for total organic carbon (TOC) by USEPA Method 9060A and monitored natural attenuation (MNA) parameters. The following geochemical parameters were recorded in the field for MNA monitoring:

- Dissolved oxygen (DO; YSI)
- Oxidation-reduction potential (ORP; YSI)
- pH (YSI)
- Conductivity (YSI)
- Temperature (YSI)
- Ferrous iron (Hach field kits)

Samples from these wells were also analyzed for additional geochemical MNA indicators:

- Nitrate by USEPA Method 300.0
- Manganese (soluble) by USEPA Method 200.8 (field filtered)
- Sulfate by USEPA Method 300.0
- Methane by RSK-175

Groundwater analytical results are provided in Table 3. Concentrations of GRO from all samples were either not detected or were detected at concentrations less than the Site CUL of 800 µg/L.

DRO Results without SGC: Concentrations of DRO without SGC exceeded the Site CUL of 500 µg/L in all samples from both events, except for samples collected from MW-9A, which is in the southeast corner of the Big B property. During the May field event, the concentration of DRO of the sampled wells was greatest at MW-2 (5,400 µg/L) on Toad's. During the September monitoring event, the concentration of DRO was greatest at MW-4B (2,200 µg/L), a monitoring well located in the southwestern corner of the Site. Concentrations of DRO significantly decreased at four of the five sample locations between field events. The exception was at MW-1 on Toad's, at which the DRO concentration more than doubled.

DRO Results with SGC: Silica gel absorbs polar compounds such as acids (and esters), alcohols, ketones, phenols, aldehydes, and naturally occurring organic matter in the groundwater sample, leaving the nonpolar DRO to be quantified more accurately in the analytical sample. DRO concentrations analyzed with SGC in groundwater were either nondetect or less than the Site CUL at all locations in May and September. TOC concentrations and DRO chromatograms can be used to evaluate the presence of naturally occurring organic carbon and the inert constituents of weathered diesel. The average concentration of TOC in Big B groundwater samples is 6.6 milligrams per liter (mg/L), which is greater than concentrations typically found in groundwater (approximately $1x10^{-1}$ mg/L; Thurman 2012). These values could indicate that there is a significant amount of naturally occurring polar organic material in Site groundwater, potentially

due to the surface infiltration from agricultural fields or groundwater–surface water interaction with nearby surface water features.

Chromatogram patterns indicate weathered diesel and biodegradation metabolites, which are present in the chromatograms for sample analyzed without SGC but are absent in chromatograms for samples analyzed with SGC (Attachment 2). The chromatograms are one line of evidence that biodegradation is occurring at the Site. Degradation of organic contaminants is largely based upon microbial respiration. Contaminant biodegradation is largely based upon microbial respiration. In respiration, microbes gain energy from the consumption or oxidation of electron donors coupled to the utilization or reduction of electron acceptors. Contaminants will either serve as electron donors or electron acceptors. For example, during the aerobic metabolism of petroleum hydrocarbons in the biodegradation process, oxygen is the electron acceptor, while hydrocarbons are the electron donors and may eventually be oxidized completely to CO2. Under anaerobic conditions, alternative electron acceptors, such as nitrate and sulfate, may be utilized in contaminant oxidation in the absence of oxygen. In general, biodegradation processes follow an order of favorable electron acceptor availability: O2 → Mn4+ → NO3- → Fe3+ → SO4 2- → CH4 → CO2. The microbes will utilize the next available electron acceptor in the above order when one acceptor is scarce or absent. Depletion of DO, nitrate, and sulfate as well as increased ferrous iron and methane over time or distance from the source are evidence of MNA. There is no clear evidence of MNA occurring at this time at Big B; however, additional monitoring data are required from an upgradient monitoring well and over time to add additional data points.

While concentrations generally appear to be decreasing at the Site in the aftermath of the June 2022 excavation activities, more groundwater monitoring is required before this trend can be attributed to MNA. We also propose adding MW-1A and MW-3 on the Big B property to the compliance monitoring network for both DRO and MNA because it is upgradient of major Site impacts. Both of these wells are upgradient from source areas, and results can be used to determine the concentration of naturally occurring organics that may be quantified as DRO at the Site, as recommended in Ecology's *Guidance for Silica Gel Cleanup in Washington State* (2023a).

BIOVENTING SYSTEM STATUS

The results of the bioventing system pilot test indicated that an air flow rate of 30 cubic feet per minute (cfm) would be sufficient to attain a radius of influence of at least 30 feet. The perforated bioventing system screens were spaced 40 to 50 feet apart along the bioventing line to accommodate slightly lower flow rates if needed. During system startup, field personnel determined that the main check valve setting of 30 cfm was insufficient to supply air to each manifold leg, but fully opening the check valve was sufficient to allow air to flow to each line. For future monitoring events, Floyd|Snider may target specific bioventing lines for two reasons: 1) allowing the blower to flow without constriction from the main check valve is not sustainable for the blower mechanism, and 2) to target areas of potentially remaining capillary fringe impacts.

As specified in the bioventing system Operations and Maintenance (O&M) Manual (Attachment 3 of Appendix D, Floyd|Snider 2022), blower operation, injection pressure, and temperature were monitored for 24 hours following system installation and have been regularly monitored monthly. Except for the time frame between August 7 and September 6, the blower has been running continuously, and these parameters are within expected limits.

The O&M manual also specifies that readings of the bioventing lines flow rate will also be periodically collected using a handheld anemometer. Readings were collected at each semiannual monitoring event using a TSI Model 9565 VelociCalc® Multi-Function Ventilation Meter. Readings to each line have varied slightly but are within acceptable ranges.

The bioventing system layout is presented on Figure 2.

CONCLUSIONS

Semiannual monitoring of subslab soil vapor and groundwater was completed at the Big B Site in May and September 2023.

The soil gas concentrations of all analyzed constituents were less than selected MTCA screening criteria in subslab soil vapor samples from both events; therefore, there is no vapor intrusion risk to future occupants of the current building.

DRO concentrations analyzed without SGC show exceedances in all groundwater samples, except for samples from MW-9A. DRO results analyzed with SGC indicate that dissolved DRO are detected at concentrations less than the MTCA Method A CUL for all Site wells. These results indicate that the DRO concentrations quantified without SGC mainly consist of polar metabolites or biodegradation byproducts with relatively little dissolved hydrocarbons. Additional groundwater monitoring is required to evaluate further, but TOC concentrations in groundwater indicate there is significant naturally occurring carbon in the aquifer, which could be biasing DRO and ORO results high. We propose adding upgradient wells MW-1A and MW-3 (Big B) to the semiannual groundwater monitoring plan for 2024, for analysis by NWTPH-Dx and MNA parameters.

The bioventing system is operating normally but will be monitored monthly for general operations, outflow temperature, and outflow pressure. Flow rates from individual bioventing lines will be analyzed semiannually, coincident with future monitoring events. Future groundwater monitoring results will be used to determine whether the system is assisting with natural attenuation processes.

REFERENCES

Floyd|Snider. 2022. *Remedial Action Completion Report: Big B Mini Mart Site*. Prepared for Big B LLC. November.

Interstate Technology and Regulatory Council (ITRC). 2007. *Vapor Intrusion Pathway: A Practical Guideline*. Prepared by the Interstate Technology & Regulatory Council Vapor Intrusion Team. January.

Thurman, E.M. 2012. *Organic Geochemistry of Natural Waters*. Springer.

Washington State Department of Ecology (Ecology). 2020. *Cleanup Action Plan: Big B Mini Mart Site, Ellensburg, WA*. Prepared by Floyd|Snider. November.

_____. 2022. *Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action*. Originally published January 2009. Revised March 2022.

_____. 2023a. *Guidance for Silica Gel Cleanup in Washington State*. Publication No. 22-09-059. November.

_____. 2023b. "CLARC Data Tables and Other Technical Information." Last accessed November 27, 2023. https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/contamination-clean-up-tools/clarc/data-tables

LIST OF ATTACHMENTS

Table 1	2023 Soil Vapor Analytical Results
Table 2	Groundwater Elevation Summary
Table 3	2023 Groundwater Analytical Results
Figure 1	Vicinity Map
Figure 2	Site Map
Figure 3	Groundwater Elevation and Contour Map, May 1, 2023
Figure 4	Groundwater Elevation and Contour Map, September 7, 2023
Attachment 1	Barometric Pressure, Temperature, and Precipitation Plots
Attachment 2	Lab Reports

Tables

Table 1
2023 Soil Vapor Analytical Results

						Location Name	SVP-1			
						Sample Name	SVP-1-050123	SVP-101-050123	SVP-1-090623	SVP-101-090623
						Sample Date	5/1/2023	5/1/2023	9/6/2023	9/6/2023
Analyte	CAS No.	Soil Gas Screening Level Residential Method B Noncancer [1]	Soil Gas Screening Level Residential Method B Cancer [1]	Soil Gas Screening Level Commercial Worker Noncancer [1]	Soil Gas Screening Level Commercial Worker Cancer [1]	Unit				
Conventionals by EPA Method TO-15										
Isopropyl alcohol	67-63-0	--	--	--	--	µg/m³	600 J	580 J	11,000 J	13,000 J
TPH										
Total TPH (U=0) [2]	T_TPH (U=0)	1,500	--	13,000	--	µg/m³	600 U	600 U	300	260
Air Phase Hydrocarbons by Method MA-APH										
APH aliphatic C5-8	APH_C5-C8_ALIP	--	--	--	--	µg/m³	600 U	600 U	610 U	640 U
APH aliphatic C9-12	APH_C9-C12_ALIP	--	--	--	--	µg/m³	600 U	600 U	290	260
APH aromatic C9-10	APH_C9-C10_AROM	--	--	--	--	µg/m³	130 U	140 U	200 U	210 U
VOCs by EPA Method TO-15										
Benzene	71-43-2	460	11	3,900	50	µg/m³	1.7 U	1.8 U	2.6 U	2.7 U
Toluene	108-88-3	76,000	--	650,000	--	µg/m³	54 U	54 U	62 U	64 U
Ethylbenzene	100-41-4	15,000	--	130,000	--	µg/m³	23 U	24 U	3.6 U	3.7 U
Xylene (meta & para)	108-38-3/106-42-3	--	--	--	--	µg/m³	47 U	49 U	7.2	7.4 U
Xylene (ortho)	95-47-6	--	--	--	--	µg/m³	23 U	24 U	3.6 U	3.7 U
Xylene (total)	1330-20-7	1,500	--	13,000	--	µg/m³	47 U	49 U	7.2	7.4 U
Naphthalene	91-20-3	46	2.5	390	11	µg/m³	1.4 U	1.5 U	2.1 U	2.2 U

Notes:

All blank cells are intentional.

All chemistry results are rounded to two significant figures.

-- Not available.

1 Screening criteria obtained from the CLARC master data table (Ecology 2023b).

2 The Total TPH concentration is the sum of detected APH analytes and detected non-carcinogenic petroleum VOCs, as specified in Ecology's *Guidance for Evaluating Vapor Intrusion in Washington State* (2022).

Abbreviations:

APH Air-phase petroleum hydrocarbon
CAS Chemical Abstracts Service
CLARC Cleanup levels and risk calculation
Ecology Washington State Department of Ecology
EPA U.S. Environmental Protection Agency
MTCA Model Toxics Control Act
TPH Total petroleum hydrocarbons
µg/m³ Micrograms per cubic meter
VOC Volatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.

Table 2
Groundwater Elevation Summary

Well ID	Screened Interval (feet bgs)	TOC Elevation (feet NAVD 88)	Date	Depth to Water (feet bTOC)	Groundwater Elevation (feet NAVD 88)
Big B Property					
MW-1A	4–14	1490.76	5/1/2023	4.64	1486.12
			9/7/2023	5.61	1485.15
MW-2A	3–13	1490.91	5/1/2023	4.85	1486.06
			9/7/2023	5.89	1485.02
MW-3	1–11	1490.88	5/1/2023	4.82	1486.06
			9/7/2023	5.78	1485.10
MW-4B	3–13	1489.79	5/1/2023	3.85	1485.94
			9/7/2023	4.82	1484.97
MW-8	3–13	1490.85	5/1/2023	4.72	1486.13
			9/7/2023	5.76	1485.09
MW-9A	3–13	1489.97	5/1/2023	3.96	1486.01
			9/7/2023	4.95	1485.02
MW-10	4–14	1490.83	5/1/2023	4.78	1486.05
			9/7/2023	5.81	1485.02
Toad's Property					
MW-1	4–14	1490.31	5/1/2023	4.36	1485.95
			9/7/2023	5.39	1484.92
MW-2	4–14	1490.24	5/1/2023	4.35	1485.89
			9/7/2023	5.22	1485.02

Abbreviations:

bgs Below ground surface
bTOC Below top of casing
NAVD 88 North American Vertical Datum of 1988
TOC Top of casing

Table 3
2023 Groundwater Analytical Results

				Location Name	MW-2A		MW-4B			MW-9A		MW-1 (Toad's)			MW-2 (Toad's)	
				Sample Name	MW-2A-050123	MW-2A-090723	MW-4B-050123	MW-104B-090723	MW-4B-090723	MW-9A-050123	MW-9A-090723	MW-1-050123	MW-101-050123	MW-1-090723	MW-2-050123	MW-2-090723
				Sample Date	5/1/2023	9/7/2023	5/1/2023	9/7/2023	9/7/2023	5/1/2023	9/7/2023	5/1/2023	5/1/2023	9/7/2023	5/1/2023	9/7/2023
Analyte	**CAS No.**	**CUL [1]**	**Unit**													
TPH by NWTPH-Gx, -Dx																
Gasoline-range organics	GRO	800	µg/L	390	330	440	490	490	100 U	100 U	100 U	100 U	100 U	160	100 U
Diesel-range organics	DRO	500	µg/L	**2,700 [2]**	**540 [2]**	**5,000 [2]**	**2,200 [2]**	**2,200 [2]**	120 [2]	50 U	**640 [2]**	**680 [2]**	**1,700 [2]**	**5,400 [2]**	**1,300 [2]**
Oil-range organics	ORO	--	µg/L	340 [2]	250 U	470 [2]	350 [2]	370 [2]	250 U	250 U	250 U	250 U	250 U	780 [2]	370 [2]
Total DRO & ORO	T_DRO&ORO (U=0)	--	µg/L	3,000	540	5,500	2,600	2,600	120	250 U	640	680	1,700	6,200	1,700
TPH by NWTPH-Dx w/ Silica Gel Cleanup																
Diesel-range organics	DRO	500	µg/L	110	50 U	360	430	390	50 U	50 U	99	82	210	300	150
Oil-range organics	ORO	--	µg/L	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Total DRO & ORO	T_DRO&ORO (U=0)	--	µg/L	110	250 U	360	430	390	250 U	250 U	99	82	210	300	150
BTEX-N by EPA 8260D																
Benzene	71-43-2	5	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Toluene	108-88-3	--	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	--	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (meta & para)	108-38-3/106-42-3	--	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Xylene (ortho)	95-47-6	--	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (total)	1330-20-7	--	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Naphthalene	91-20-3	--	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dissolved Gases by RSK 175																
Methane	74-82-8	--	mg/L	0.27	0.22	0.65	0.62	0.62			0.11	0.10	0.20		
Dissolved Metals by EPA 6020B																
Manganese	7439-96-5	--	µg/L	760	760	1,400	910	960			780	770	860		
Conventionals																
Ferrous iron	15438-31-0	--	mg/L	1.5 J	3.0 J	2.0 J		3.0 J			3.5 J		3.5 J		
Nitrate (as Nitrogen)	--	--	mg/L	0.20 UJ	0.20 UJ	0.20 UJ	0.20 UJ	0.20 UJ			0.20 UJ	0.20	0.20 UJ		
Sulfate	14808-79-8	--	mg/L	13	16	7.9	2.6	2.7			14	14	2.9		
Total Organic Carbon	TOC	--	mg/L	7.8	4.2	12	6.6	6.3			4.5	4.5	7.2		
Field Parameters																
Depth to Water	WDepth	--	ft	4.85	5.87	3.85		4.84	3.96	5.00	4.36		5.39	4.35	5.22
Dissolved Oxygen	--	--	mg/L	0.21	0.29	0.20		0.13	0.30	0.17	0.05		0.23	0.08	0.28
ORP	--	--	mV	23.5	-91.0	6.0		-86.2	60.8	60.5	-50.2		-106.2	-68.9	-122.5
pH	pH	--	pH	6.96	6.72	7.00		6.70	7.04	6.67	6.86		6.74	6.81	6.71
Specific Conductance	--	--	µS/cm	521	770	491.6		716	344	716	470.1		828	551	764
Temperature	--	--	°C	10.7	20.0	10.4		20.8	11.1	19.5	10.8		20.3	11.0	21.7
Turbidity	--	--	ntu	3.98	0.67	1.61		0.57	1.42	0.65	3.67		0.41	2.20	0.82

Notes:

All blank cells are intentional.
All chemistry results are rounded to two significant figures.
Field parameters are reported as displayed by the sampling equipment.
-- Not available.
RED/BOLD Analyte was detected at a concentration greater than the CUL.
1 CULs are based on MTCA Method A values.
2 The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Abbreviations:

BTEX-N Benzene, toluene, ethylene, xylene, and naphthalene
°C Degrees Celsius
CAS Chemical Abstracts Service
CUL Cleanup level
ft Feet
mg/L Milligrams per kilogram
MTCA Model Toxics Control Act
mV Millivolts
ntu Nephelometric turbidity unit
ORP Oxidation¬reduction potential
TPH Total petroleum hydrocarbons
µg/L Micrograms per liter
µS/cm Microsiemens per centimeter
VOC Volatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Figures

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2023 Data Summary Memorandum
Big B Mini Mart Site
Ellensburg, Washington

Figure 1
Vicinity Map

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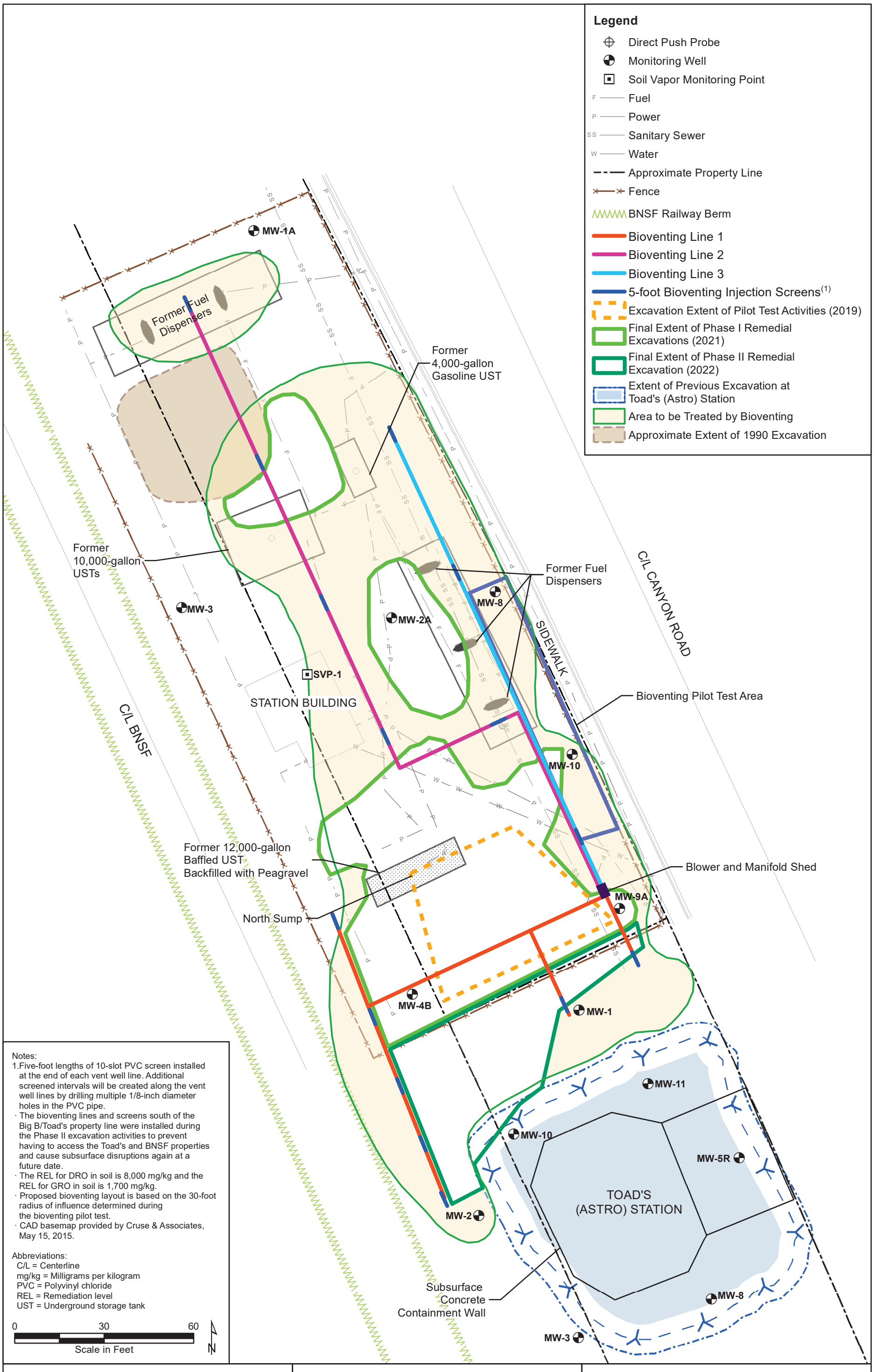
11/22/2023



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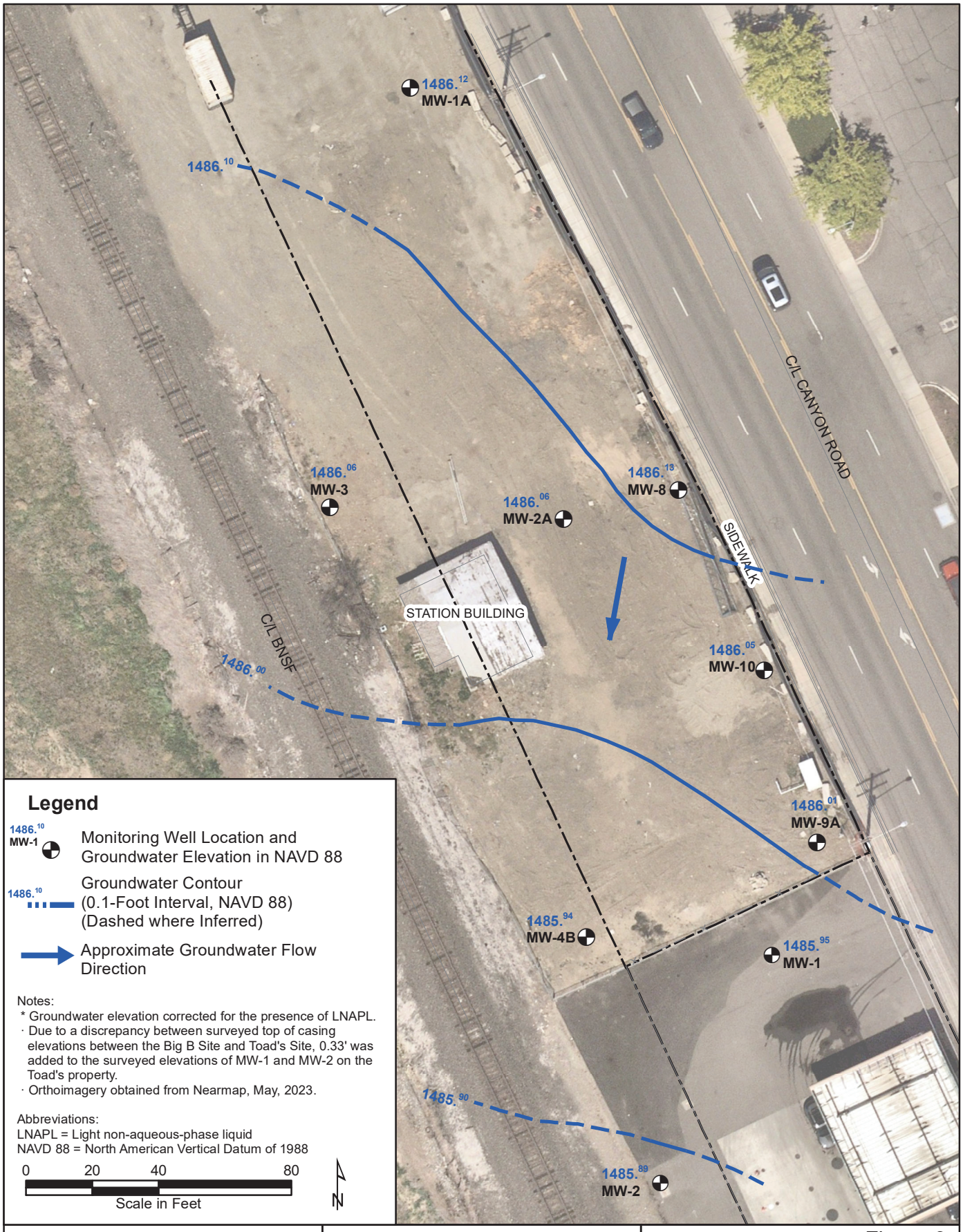
2023 Data Summary Memorandum
Big B Mini Mart Site
Ellensburg, Washington

Figure 2
Site Map

I:\GIS\Projects\CL-Ellensburg\MXD\2023 Data Summary Memo\Figure 2 Site Map.mxd
11/22/2023



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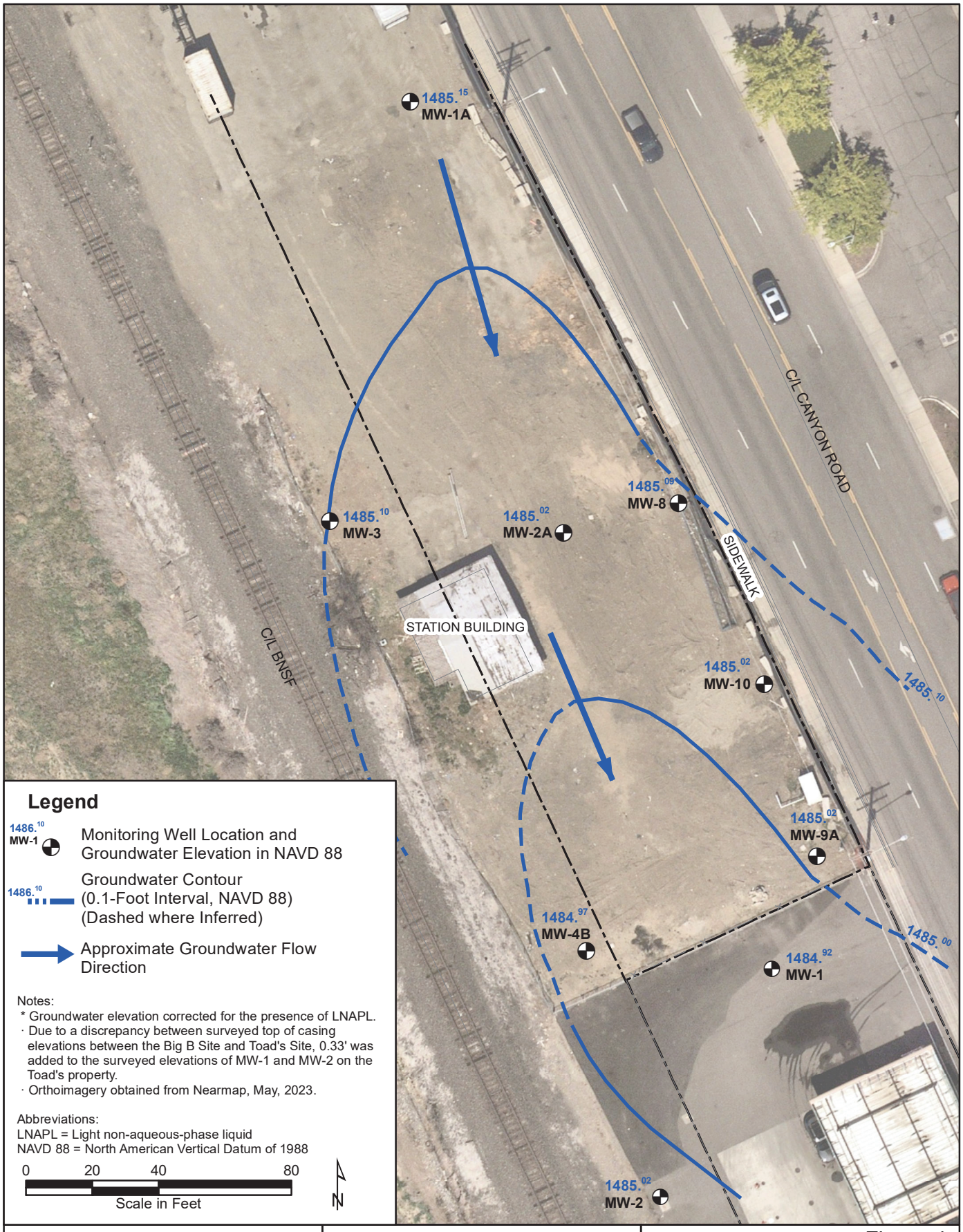
2023 Data Summary Memorandum
Big B Mini Mart Site
Ellensburg, Washington

Figure 3
Groundwater Elevation and Contour Map
May 1, 2023

I:\GIS\Projects\CL-Ellensburg\MXD\2023 Data Summary Memo\Figure 3 Groundwater Elevation and Contour Map May 1, 2023.mxd
11/22/2023



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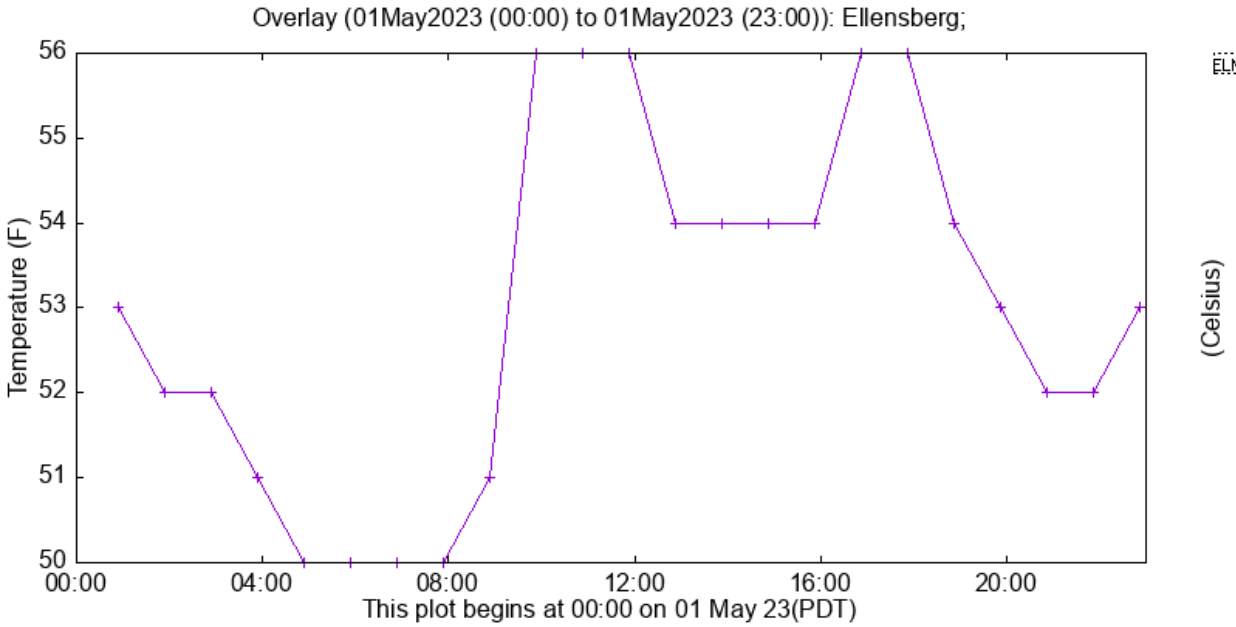
2023 Data Summary Memorandum
Big B Mini Mart Site
Ellensburg, Washington

Figure 4
Groundwater Elevation and Contour Map
September 7, 2023

I:\GIS\Projects\CL-Ellensburg\MXD\2023 Data Summary Memo\Figure 4 Groundwater Elevation and Contour Map September 7, 2023.mxd
11/22/2023

Attachment 1
Barometric Pressure, Temperature, and Precipitation Plots

Air Temperature (Fahrenheit)



Created by:

Rich Edgerton

Harry Edmon

Neal Johnson

Jim Tillman

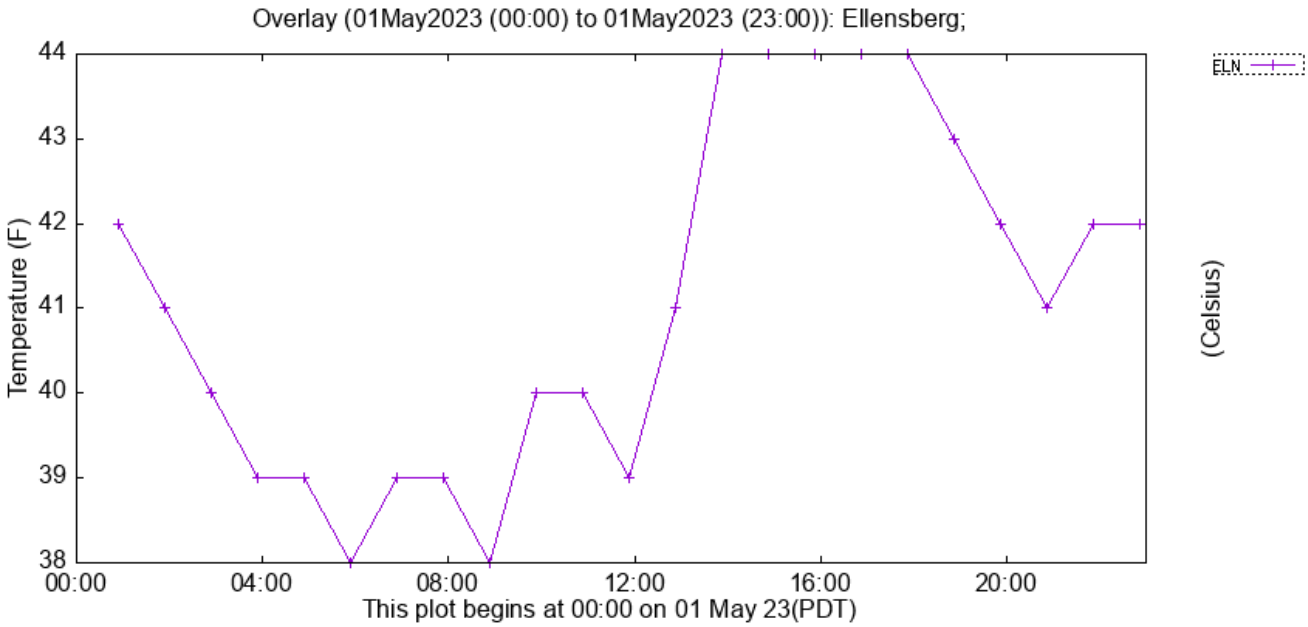
David Warren

Fred Weller

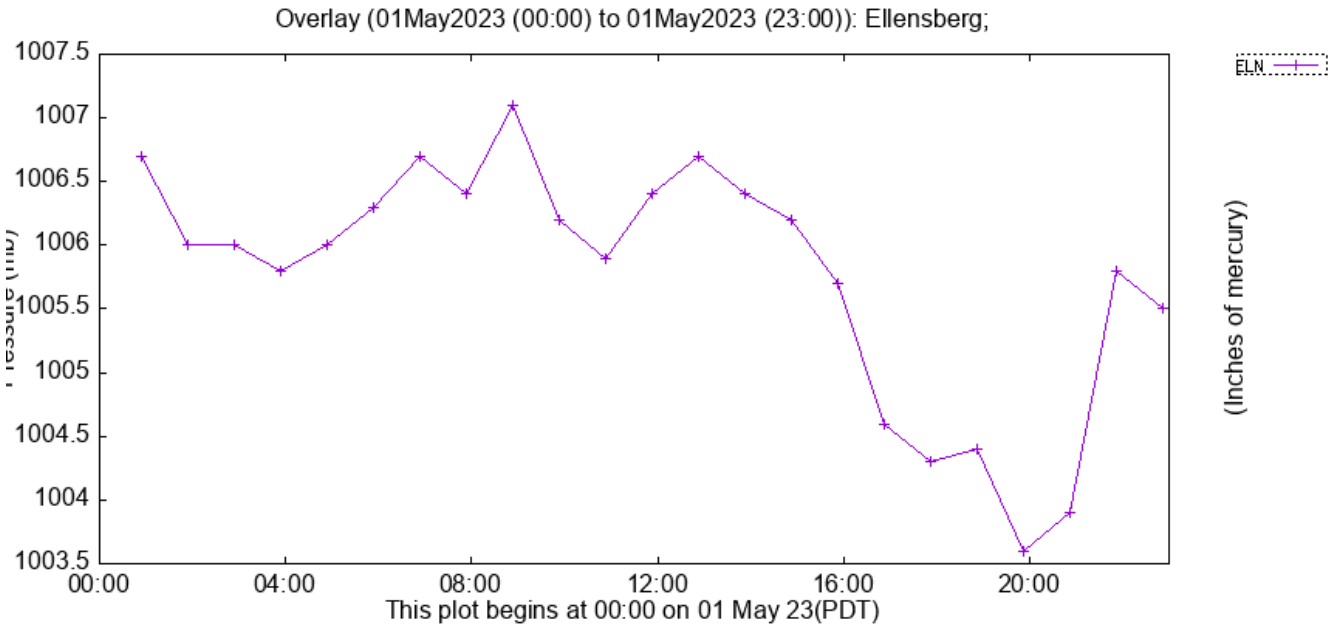
University of Washington

Seattle, Washington USA

Dewpoint Temperature (Fahrenheit)



Pressure (millibars)



Clicking on a plot brings up the data file that was used to create that plot and available station information.

Current time GMT/UTC Fri Nov 17 21:28:19 2023
Local (Pacific Standard Time) Fri Nov 17 13:28:19 2023

Search Locations

Log in (/log…

Popular Cities

San Francisco, CA
57 °F Partly Cloudy(/weather/us/ca/san-francisco/37.78,-122.42)

Manhattan, NY
51 °F Partly Cloudy(/weather/us/ny/manhattan/40.

46.6 °N, **120.54** °W

Yakima, WA Weather History

35° YAKIMA AIR TERMINAL MCALLISTER FIELD STATION (/DASHBOARD/PWS/KWAYAKIM73?CM_VEN=LOCALWX_PWSDASH) | CHANGE

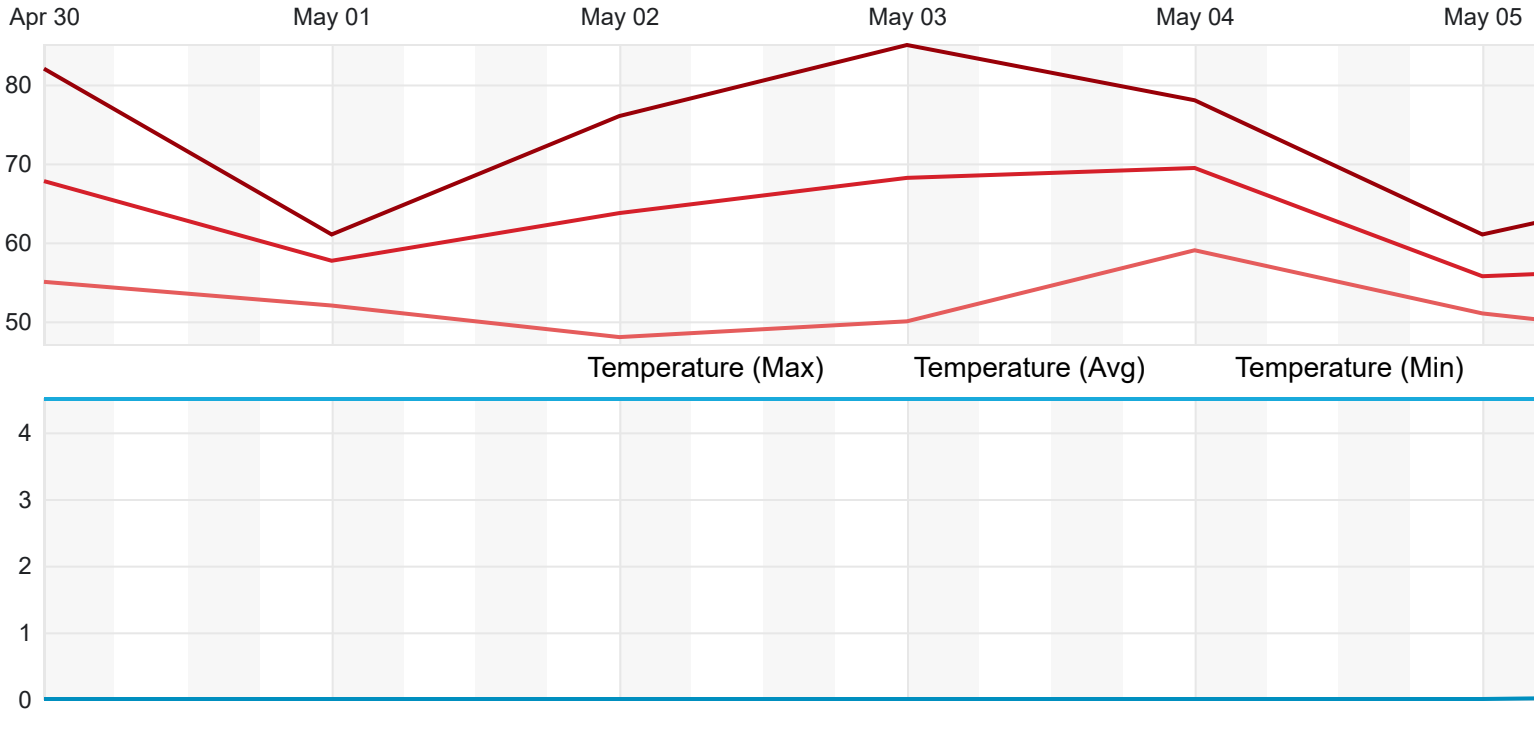
HISTORY (/HISTORY/DAILY/US/WA/YAKIMA/KYKM)

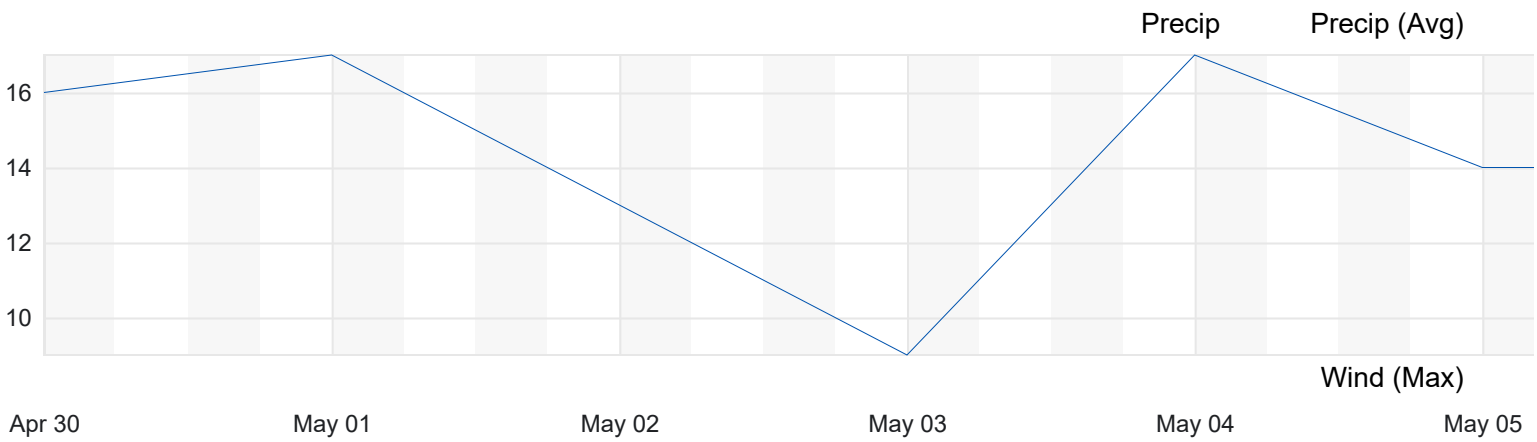
- TODAY (/WEATHER/US/WA/ELLENSBURG/KYKM)
- HOURLY (/HOURLY/US/WA/ELLENSBURG/KYKM)
- 10-DAY (/FORECAST/US/WA/ELLENSBURG/KYKM)
- CALENDAR (/CALENDAR/US/WA/YAKIMA/KYKM)
- HISTORY (/HISTORY/DAILY/US/WA/YAKIMA/KYKM)
- WUNDERMAP (/WUNDERMAP?LAT=46.597&LON=-120.537)

Daily | **Weekly** | Monthly

(/history/daily/us/wa/ellensburg/KYKM/date/2023-5-1) (/history/weekly/us/wa/ellensburg/KYKM/date/2023-**5-1)** (/history/monthly/us/wa/ellensburg/KYKM/date/2023-5)

May | 1 | 2023 | View





Summary

Temperature (°F)	Max	Average	Min
Max Temperature	85	73.14	61
Avg Temperature	69.42	62.8	55.71
Min Temperature	59	51.71	47

Dew Point (°F)	Max	Average	Min
Dew Point	54	43.86	36

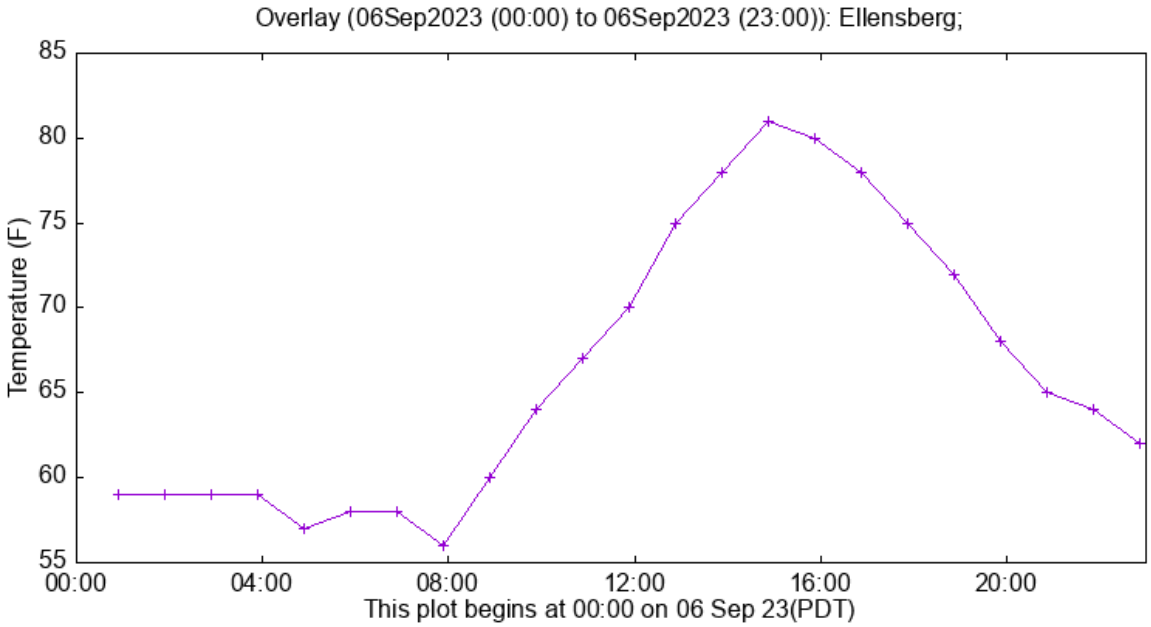
Precipitation (in)	Max	Average	Min	Sum
Precipitation	0.05	0.01	0.00	0.05
Snowdepth	0.00	0.00	0.00	0.00

Wind (mph)	Max	Average	Min
Wind	17	7.15	0
Gust Wind	28	1.94	0

Sea Level Pressure (in)	Max	Average	Min
Sea Level Pressure	28.78	28.58	28.38

Daily Observations

Air Temperature (Fahrenheit)

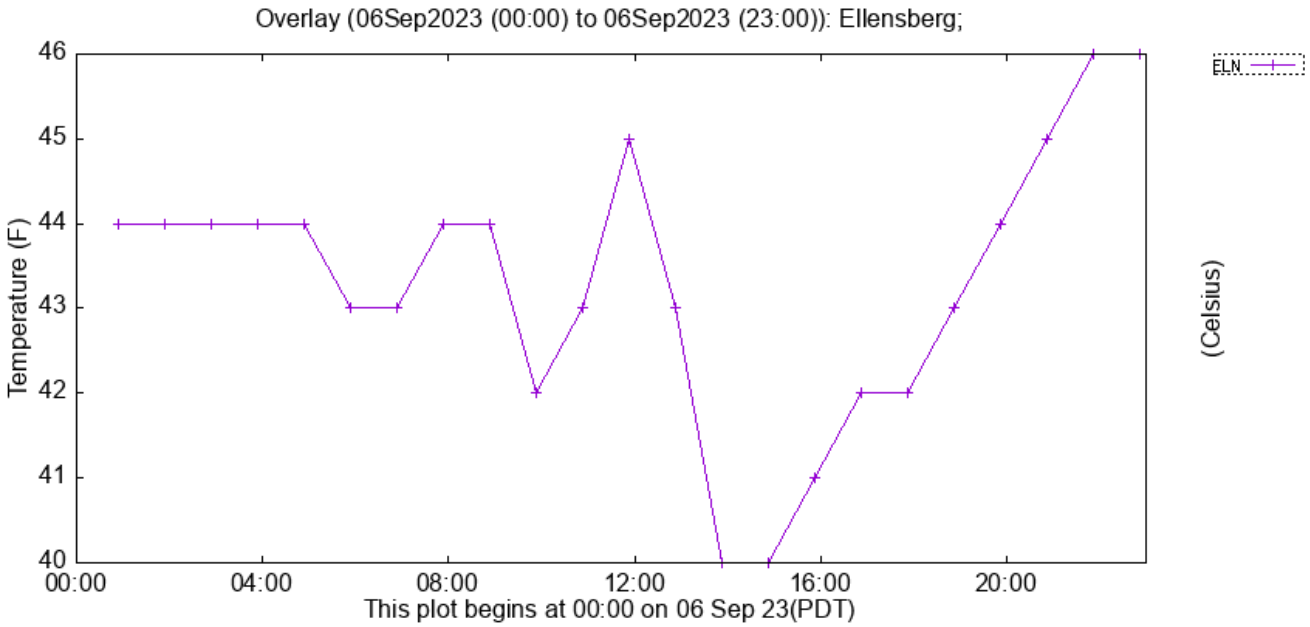


Created by:

Rich Edgerton
Harry Edmon
Neal Johnson
Jim Tillman
David Warren
Fred Weller

University of Washington
Seattle, Washington USA

Dewpoint Temperature (Fahrenheit)



Pressure (millibars)

Search Locations

Log in (/log…

Popular Cities

San Francisco, CA
57 °F Partly Cloudy(/weather/us/ca/san-francisco/37.78,-122.42)

Manhattan, NY
51 °F Partly Cloudy(/weather/us/ny/manhattan/40.

46.6 °N, **120.54** °W

Yakima, WA Weather History

35° YAKIMA AIR TERMINAL MCALLISTER FIELD STATION (/DASHBOARD/PWS/KWAYAKIM73?CM_VEN=LOCALWX_PWSDASH) | CHANGE

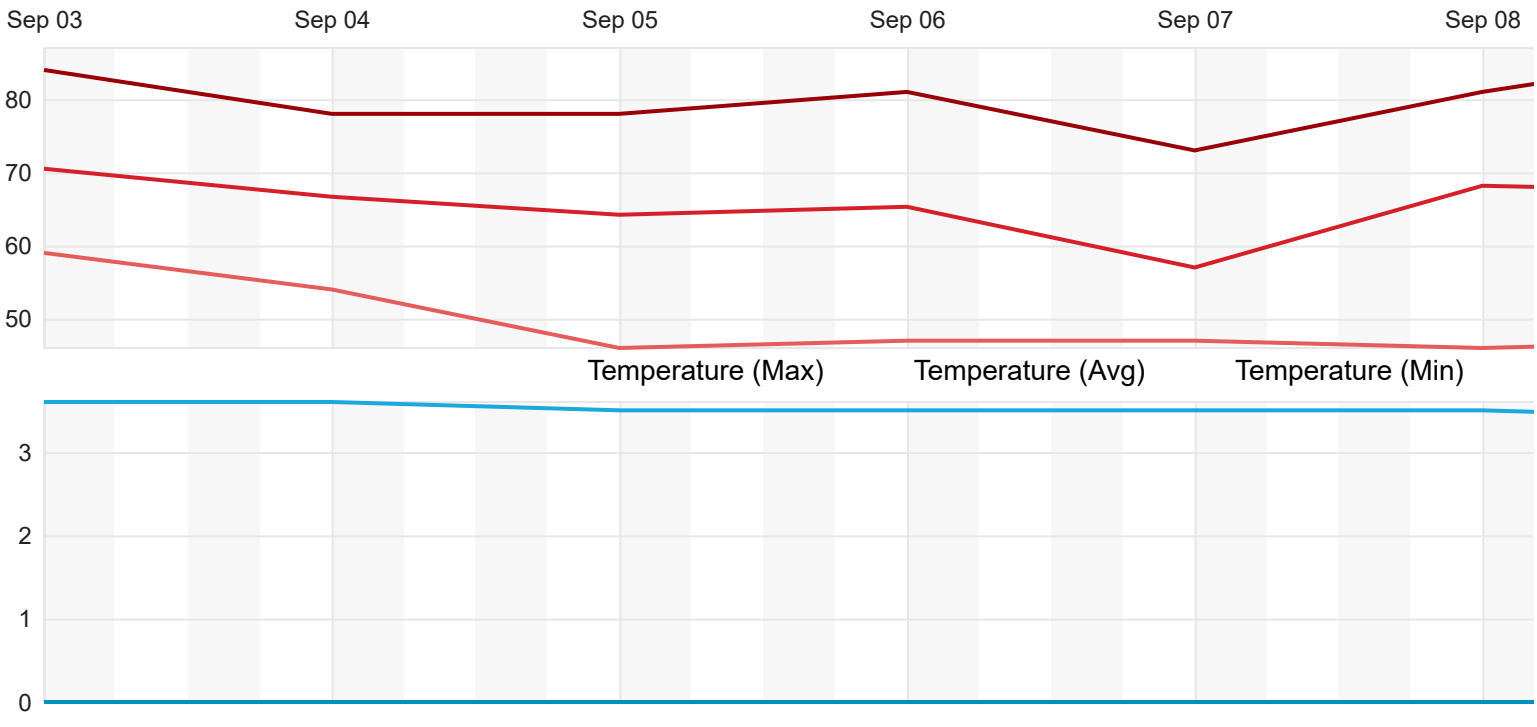
HISTORY (/HISTORY/DAILY/US/WA/YAKIMA/KYKM)

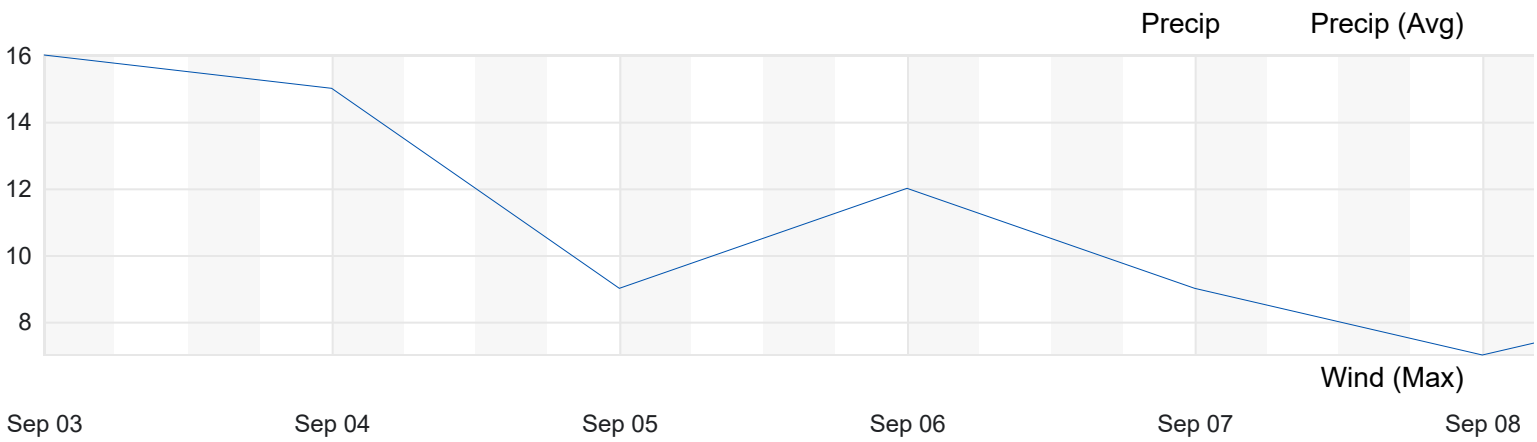
- TODAY (/WEATHER/US/WA/YAKIMA/KYKM)
- HOURLY (/HOURLY/US/WA/YAKIMA/KYKM)
- 10-DAY (/FORECAST/US/WA/YAKIMA/KYKM)
- CALENDAR (/CALENDAR/US/WA/YAKIMA/KYKM)
- HISTORY (/HISTORY/DAILY/US/WA/YAKIMA/KYKM)
- WUNDERMAP (/WUNDERMAP?LAT=46.597&LON=-120.537)

Daily | **Weekly** | Monthly

(/history/daily/us/wa/yakima/KYKM/date/2023-9-6) **(/history/weekly/us/wa/yakima/KYKM/date/2023-9-6)** (/history/monthly/us/wa/yakima/KYKM/date/2023-9)

September | 6 | 2023 | View





Summary

Temperature (°F)	Max	Average	Min
Max Temperature	87	80.29	73
Avg Temperature	70.5	65.6	57
Min Temperature	59	49.43	46

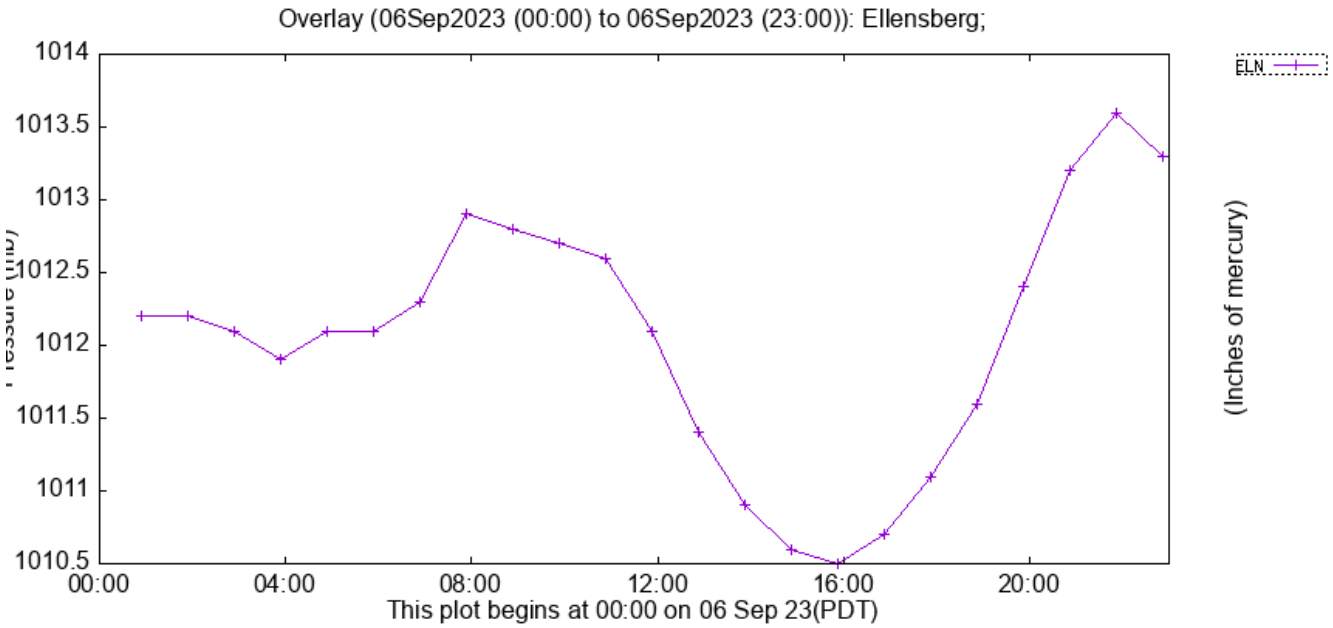
Dew Point (°F)	Max	Average	Min
Dew Point	56	44.27	35

Precipitation (in)	Max	Average	Min	Sum
Precipitation	0.00	0.00	0.00	0.00
Snowdepth	0.00	0.00	0.00	0.00

Wind (mph)	Max	Average	Min
Wind	16	5.48	0
Gust Wind	28	1.2	0

Sea Level Pressure (in)	Max	Average	Min
Sea Level Pressure	29.01	28.81	28.64

Daily Observations



Clicking on a plot brings up the data file that was used to create that plot and available station information.

Current time GMT/UTC Fri Nov 17 21:29:13 2023
Local (Pacific Standard Time) Fri Nov 17 13:29:13 2023

Attachment 2
Lab Reports

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

May 12, 2023

Gabriel Cisneros, Project Manager
Floyd-Snider
Two Union Square
601 Union St, Suite 600
Seattle, WA 98101

Dear Mr Cisneros:

Included are the results from the testing of material submitted on May 2, 2023 from the Big B Ellensburg, F&BI 305019 project. There are 24 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Floyd Snider Lab Data, Manique Talaia-Murray
FDS0512R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

May 15, 2023

Gabriel Cisneros, Project Manager
Floyd-Snider
Two Union Square
601 Union St, Suite 600
Seattle, WA 98101

Dear Mr Cisneros:

Included are the results from the testing of material submitted on May 2, 2023 from the Big B Ellensburg, F&BI 305020 project. There are 10 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Floyd Snider Lab Data, Manique Talaia-Murray
FDS0515R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 2, 2023 by Friedman & Bruya, Inc. from the Floyd-Snider Big B Ellensburg, F&BI 305020 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
305020 -01	SVP-1-050123
305020 -02	SVP-101-050123

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

The MA-APH EC5-8 aliphatics and EC9-12 alipatics method blank detections were qualified as due laboratory contamination.

The 2-propanol concentration in the samples exceeded the calibration range of the instrument. The data were flagged accordingly.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVP-1-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305020
Date Collected:	05/01/23	Lab ID:	305020-01 1/5.4
Date Analyzed:	05/10/23	Data File:	050925.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	85	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<600
APH EC9-12 aliphatics	<600
APH EC9-10 aromatics	<130

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVP-101-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305020
Date Collected:	05/01/23	Lab ID:	305020-02 1/5.6
Date Analyzed:	05/10/23	Data File:	050926.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<600
APH EC9-12 aliphatics	<600
APH EC9-10 aromatics	<140

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Big B Ellensburg, F&BI 305020
Date Collected:	Not Applicable	Lab ID:	03-1079 MB
Date Analyzed:	05/09/23	Data File:	050914.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	87	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	88 lc
APH EC9-12 aliphatics	32 lc
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SVP-1-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305020
Date Collected:	05/01/23	Lab ID:	305020-01 1/5.4
Date Analyzed:	05/10/23	Data File:	050925.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	85	70	130

Compounds:	Concentration ug/m3	ppbv
2-Propanol	600 ve	240 ve
Benzene	<1.7	<0.54
Toluene	<54	<14
Ethylbenzene	<23	<5.4
m,p-Xylene	<47	<11
o-Xylene	<23	<5.4
Naphthalene	<1.4	<0.27

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SVP-101-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305020
Date Collected:	05/01/23	Lab ID:	305020-02 1/5.6
Date Analyzed:	05/10/23	Data File:	050926.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3	ppbv
2-Propanol	580 ve	240 ve
Benzene	<1.8	<0.56
Toluene	<54	<14
Ethylbenzene	<24	<5.6
m,p-Xylene	<49	<11
o-Xylene	<24	<5.6
Naphthalene	<1.5	<0.28

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Big B Ellensburg, F&BI 305020
Date Collected:	Not Applicable	Lab ID:	03-1079 MB
Date Analyzed:	05/09/23	Data File:	050914.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration ug/m3	ppbv
2-Propanol	<8.6	<3.5
Benzene	<0.32	<0.1
Toluene	<9.5	<2.5
Ethylbenzene	<4.3	<1
m,p-Xylene	<8.7	<2
o-Xylene	<4.3	<1
Naphthalene	<0.26	<0.05

Date of Report: 05/15/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305020

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD MA-APH

Laboratory Code: 304366-01 1/5.2 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	430	440	2
APH EC9-12 aliphatics	ug/m3	410	470	14
APH EC9-10 aromatics	ug/m3	<130	<130	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	97	70-130
APH EC9-12 aliphatics	ug/m3	67	108	70-130
APH EC9-10 aromatics	ug/m3	67	108	70-130

Date of Report: 05/15/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305020

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 304366-01 1/5.2 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Benzene	ug/m3	<1.7	<1.7	nm
Toluene	ug/m3	<98	<98	nm
Ethylbenzene	ug/m3	<2.3	<2.3	nm
m,p-Xylene	ug/m3	<4.5	<4.5	nm
o-Xylene	ug/m3	<2.3	<2.3	nm
Naphthalene	ug/m3	<1.4	<1.4	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/m3	43	94	70-130
Toluene	ug/m3	51	110	70-130
Ethylbenzene	ug/m3	59	94	70-130
m,p-Xylene	ug/m3	120	91	70-130
o-Xylene	ug/m3	59	97	70-130
Naphthalene	ug/m3	71	93	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

305020

SAMPLE CHAIN OF CUSTODY

05/02/23

Report To G. Cisneros
Company Floyd|Snider
Address 601 Union St
City, State, ZIP Seattle WA 98125
Phone 292-2078 Email gabe.cisneros@floydsnider.com

SAMPLERS (signature)

PROJECT NAME & ADDRESS: 838 Ellensburg

PO #

NOTES:

INVOICE TO

Page # ___ of ___

TURNAROUND TIME
Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Default: Clean following final report delivery
Hold (Fee may apply):

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
SVP-1-050123	01	2433	17	IA / (SG)	5/1	30	1343	4.5	1350		✓		✓			
SVP-101-050123	02	3259	31	IA / SG	5/1	29	1343	4.5	1349		✓		✓			
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Maigne Taleisalu	F/S	5/2/23	0942
Received by:	Nhan Phan	FCBT	5/2/23	0942
Relinquished by:				
Received by:		Samples received at 19 °C		

FORMS\COC\COCTO-15.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 2, 2023 by Friedman & Bruya, Inc. from the Floyd-Snider Big B Ellensburg, F&BI 305019 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
305019 -01	MW-1-050123
305019 -02	MW-101-050123
305019 -03	MW-4B-050123
305019 -04	MW-9A-050123
305019 -05	MW-2-050123
305019 -06	MW-2A-050123
305019 -07	Trip Blank-050123

Samples MW-1-050123, MW-101-050123, MW-4B-050123, and MW-2A-050123 were sent to Fremont Analytical for nitrate, sulfate, TOC and methane analyses. The report is enclosed.

The 8260D 2-butanone calibration standard exceeded the acceptance criteria for the method blank. The compound was not detected, therefore this does not represent an out of control condition.

All quality control requirements were acceptable.

Date of Report: 05/12/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305019
Date Extracted: 05/04/23
Date Analyzed: 05/04/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW-1-050123 305019-01	<100	107
MW-101-050123 305019-02	<100	110
MW-4B-050123 305019-03	440	114
MW-9A-050123 305019-04	<100	108
MW-2-050123 305019-05	160	115
MW-2A-050123 305019-06	390	114
Trip Blank-050123 305019-07	<100	107
Method Blank 03-941 MB	<100	101

Date of Report: 05/12/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305019
Date Extracted: 05/03/23
Date Analyzed: 05/05/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW-1-050123 305019-01	99	<250	95
MW-101-050123 305019-02	82	<250	96
MW-4B-050123 305019-03	360	<250	95
MW-9A-050123 305019-04	<50	<250	94
MW-2-050123 305019-05	300	<250	99
MW-2A-050123 305019-06	110	<250	102
Method Blank 03-1141 MB	<50	<250	108

Date of Report: 05/12/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305019
Date Extracted: 05/08/23
Date Analyzed: 05/09/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW-1-050123 305019-01	640 x	<250	116
MW-101-050123 305019-02	680 x	<250	125
MW-4B-050123 305019-03	5,000 x	470 x	118
MW-9A-050123 305019-04	120 x	<250	115
MW-2-050123 305019-05	5,400 x	780 x	145
MW-2A-050123 305019-06	2,700 x	340 x	133
Method Blank 03-1141 MB	<50	<250	130

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-1-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/02/23	Lab ID:	305019-01
Date Analyzed:	05/02/23	Data File:	305019-01.163
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	778

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-101-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/02/23	Lab ID:	305019-02
Date Analyzed:	05/02/23	Data File:	305019-02.164
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	765

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-4B-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/02/23	Lab ID:	305019-03 x50
Date Analyzed:	05/03/23	Data File:	305019-03 x50.109
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,390

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-2A-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/02/23	Lab ID:	305019-06
Date Analyzed:	05/02/23	Data File:	305019-06.166
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	755

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/02/23	Lab ID:	I3-342 mb
Date Analyzed:	05/02/23	Data File:	I3-342 mb.125
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-1-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/04/23	Lab ID:	305019-01
Date Analyzed:	05/04/23	Data File:	050419.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-101-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/04/23	Lab ID:	305019-02
Date Analyzed:	05/04/23	Data File:	050420.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	91	68	139
4-Bromofluorobenzene	104	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-4B-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/04/23	Lab ID:	305019-03
Date Analyzed:	05/04/23	Data File:	050412.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	109	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	3.8
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	6.0
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	2.6
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-9A-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/04/23	Lab ID:	305019-04
Date Analyzed:	05/04/23	Data File:	050421.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	71	132
Toluene-d8	93	68	139
4-Bromofluorobenzene	104	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-2-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/04/23	Lab ID:	305019-05
Date Analyzed:	05/04/23	Data File:	050422.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	71	132
Toluene-d8	92	68	139
4-Bromofluorobenzene	105	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	1.3
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-2A-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/04/23	Lab ID:	305019-06
Date Analyzed:	05/04/23	Data File:	050423.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	105	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank-050123	Client:	Floyd-Snider
Date Received:	05/02/23	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/04/23	Lab ID:	305019-07
Date Analyzed:	05/04/23	Data File:	050424.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Big B Ellensburg, F&BI 305019
Date Extracted:	05/04/23	Lab ID:	03-01006 mb
Date Analyzed:	05/04/23	Data File:	050407.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	71	132
Toluene-d8	91	68	139
4-Bromofluorobenzene	106	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Date of Report: 05/12/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305019

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 305009-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	100	70-130

Date of Report: 05/12/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305019

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	84	92	72-139	9

Date of Report: 05/12/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305019

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	100	65-151	0

Date of Report: 05/12/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305019

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 304402-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Manganese	ug/L (ppb)	20	3.22	91	93	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Manganese	ug/L (ppb)	20	91	80-120

Date of Report: 05/12/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305019

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 305019-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	107	27-164
Chloromethane	ug/L (ppb)	10	<10	89	34-141
Vinyl chloride	ug/L (ppb)	10	<0.02	108	16-176
Bromomethane	ug/L (ppb)	10	<5	112	10-193
Chloroethane	ug/L (ppb)	10	<1	121	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	102	50-150
Acetone	ug/L (ppb)	50	<50	66	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	105	50-150
Hexane	ug/L (ppb)	10	<5	113	49-161
Methylene chloride	ug/L (ppb)	10	<5	99	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	98	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	102	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	103	62-152
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	50-150
Chloroform	ug/L (ppb)	10	<1	98	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	84	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	101	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	101	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	100	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	99	50-150
Benzene	ug/L (ppb)	10	<0.35	101	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	95	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	102	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	90	50-150
Dibromomethane	ug/L (ppb)	10	<1	102	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	101	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	95	48-145
Toluene	ug/L (ppb)	10	<1	98	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	92	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	102	50-150
2-Hexanone	ug/L (ppb)	50	<10	97	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	97	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	99	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	91	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	93	50-150
Chlorobenzene	ug/L (ppb)	10	<1	97	50-150
Ethylbenzene	ug/L (ppb)	10	<1	100	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	97	50-150
m,p-Xylene	ug/L (ppb)	20	<2	100	50-150
o-Xylene	ug/L (ppb)	10	<1	104	50-150
Styrene	ug/L (ppb)	10	<1	98	50-150
Isopropylbenzene	ug/L (ppb)	10	3.8	121 b	50-150
Bromoform	ug/L (ppb)	10	<5	92	23-161
n-Propylbenzene	ug/L (ppb)	10	6.0	142 b	50-150
Bromobenzene	ug/L (ppb)	10	<1	99	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	102	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	109	57-162
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	99	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	103	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	103	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	101	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	103	50-150
sec-Butylbenzene	ug/L (ppb)	10	2.6	120 b	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	105	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	100	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	100	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	100	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	99	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	107	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	103	42-150
Naphthalene	ug/L (ppb)	10	<1	112	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	107	44-155

Date of Report: 05/12/23
Date Received: 05/02/23
Project: Big B Ellensburg, F&BI 305019

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	116	103	49-149	12
Chloromethane	ug/L (ppb)	10	93	89	34-143	4
Vinyl chloride	ug/L (ppb)	10	109	106	43-149	3
Bromomethane	ug/L (ppb)	10	109	111	28-182	2
Chloroethane	ug/L (ppb)	10	120	117	59-157	3
Trichlorofluoromethane	ug/L (ppb)	10	101	95	59-141	6
Acetone	ug/L (ppb)	50	76	71	20-139	7
1,1-Dichloroethene	ug/L (ppb)	10	102	97	67-138	5
Hexane	ug/L (ppb)	10	107	104	50-161	3
Methylene chloride	ug/L (ppb)	10	99	94	29-192	5
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	98	96	70-130	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	102	98	70-130	4
1,1-Dichloroethane	ug/L (ppb)	10	102	98	70-130	4
2,2-Dichloropropane	ug/L (ppb)	10	117	101	71-148	15
cis-1,2-Dichloroethene	ug/L (ppb)	10	99	97	70-130	2
Chloroform	ug/L (ppb)	10	97	95	70-130	2
2-Butanone (MEK)	ug/L (ppb)	50	104	99	50-157	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	102	98	70-130	4
1,1,1-Trichloroethane	ug/L (ppb)	10	100	97	70-130	3
1,1-Dichloropropene	ug/L (ppb)	10	101	95	70-130	6
Carbon tetrachloride	ug/L (ppb)	10	99	95	70-130	4
Benzene	ug/L (ppb)	10	100	98	70-130	2
Trichloroethene	ug/L (ppb)	10	93	92	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	107	102	70-130	5
Bromodichloromethane	ug/L (ppb)	10	90	89	70-130	1
Dibromomethane	ug/L (ppb)	10	98	100	70-130	2
4-Methyl-2-pentanone	ug/L (ppb)	50	102	98	70-130	4
cis-1,3-Dichloropropene	ug/L (ppb)	10	95	93	70-130	2
Toluene	ug/L (ppb)	10	100	99	70-130	1
trans-1,3-Dichloropropene	ug/L (ppb)	10	99	97	70-130	2
1,1,2-Trichloroethane	ug/L (ppb)	10	99	99	70-130	0
2-Hexanone	ug/L (ppb)	50	98	96	66-132	2
1,3-Dichloropropane	ug/L (ppb)	10	101	103	70-130	2
Tetrachloroethene	ug/L (ppb)	10	100	100	70-130	0
Dibromochloromethane	ug/L (ppb)	10	93	94	63-142	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	97	98	70-130	1
Chlorobenzene	ug/L (ppb)	10	98	99	70-130	1
Ethylbenzene	ug/L (ppb)	10	101	101	70-130	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	101	96	70-130	5
m,p-Xylene	ug/L (ppb)	20	101	101	70-130	0
o-Xylene	ug/L (ppb)	10	106	105	70-130	1
Styrene	ug/L (ppb)	10	98	100	70-130	2
Isopropylbenzene	ug/L (ppb)	10	100	97	70-130	3
Bromoform	ug/L (ppb)	10	93	96	50-157	3
n-Propylbenzene	ug/L (ppb)	10	103	103	70-130	0
Bromobenzene	ug/L (ppb)	10	95	97	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	100	100	52-150	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	107	101	75-140	6
1,2,3-Trichloropropane	ug/L (ppb)	10	103	99	40-153	4
2-Chlorotoluene	ug/L (ppb)	10	102	102	70-130	0
4-Chlorotoluene	ug/L (ppb)	10	101	101	70-130	0
tert-Butylbenzene	ug/L (ppb)	10	100	98	70-130	2
1,2,4-Trimethylbenzene	ug/L (ppb)	10	100	98	70-130	2
sec-Butylbenzene	ug/L (ppb)	10	102	98	70-130	4
p-Isopropyltoluene	ug/L (ppb)	10	102	100	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	97	96	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	101	98	70-130	3
1,2-Dichlorobenzene	ug/L (ppb)	10	97	94	70-130	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	94	97	70-130	3
1,2,4-Trichlorobenzene	ug/L (ppb)	10	98	97	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	101	96	70-130	5
Naphthalene	ug/L (ppb)	10	97	97	61-133	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	97	95	69-143	2

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

Gabe Cisneros 305019 — 05/02/23 VW4/K2/C2

Report To Manique Talaia-Murray
Company Floyd Snider
Address 601 Union St, Ste 600
City, State, ZIP Seattle, WA 98101
Phone 206-292-2078 Email manique.talaia-murray@ gabe.cisneros@floydsnider.com

SAMPLERS (signature)

PROJECT NAME: Big B Ellensburg

PO #

REMARKS

INVOICE TO

Project specific RLs? - Yes / No

Page # 1 of 1

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
Rush charges authorized by:

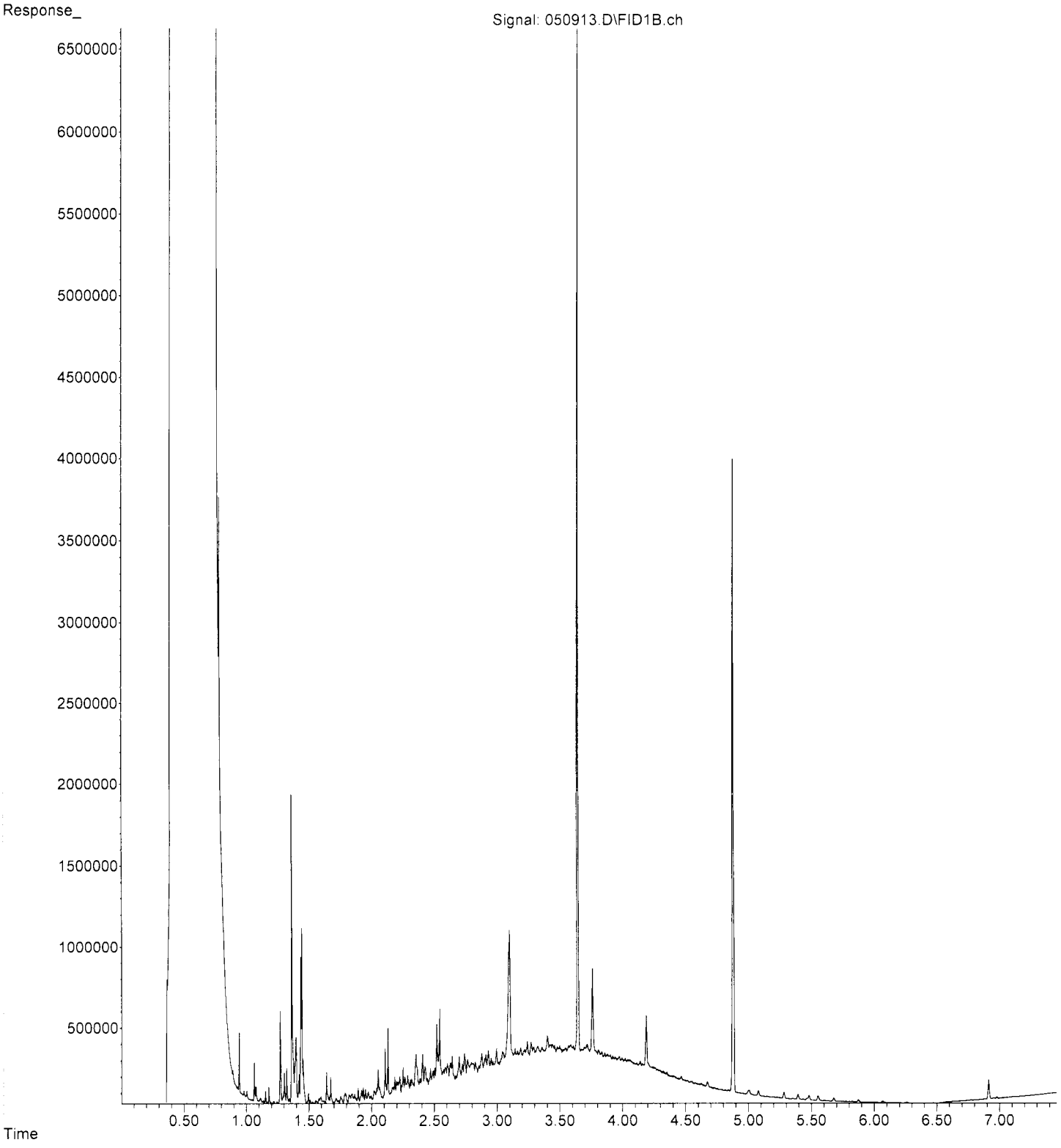
SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED (1) NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	TOC	Nitrate, Nitrite	Manganese, Diss.	Methane	Notes
MW-1-050123	01 A-M	5/1/23	1040	GW	13	X	X			X			X	X	X	X	(1) Dx with and w/o SG
MW-10-050123	02 A-M	5/1/23	1045	GW	13	X	X			X			X	X	X	X	(2) Field filtered
MW-4B-050123	03 A-M	5/1/23	1040	GW	13	X	X			X			X	X	X	X	
MW-9A-050123	04 A-G	5/1/23	1137	GW	7	X	X			X							
MW-2-050123	05 A-G	5/1/23	1200	GW	7	X	X			X							
MW-2A-050123	06 A-M	5/1/23	1223	GW	13	X	X			X			X	X	X	X	
Trip Blank-050123	07-AB	5/1/23	1000	GW	2		X			X							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Manique Talaia-Murray	F/S	5/2/23	0942
Received by:	Nhan Phan	FEBT	5/2/23	0942
Relinquished by:				
Received by:		Samples received at 4 °C		

Friedman & Bruya, Inc.
Ph. (206) 285-8282

File :D:\GC14\GC14_Data\05-09-23\050913.D
Operator : TL
Acquired : 09 May 2023 12:04 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 305019-01
Misc Info : ERR
Vial Number: 11



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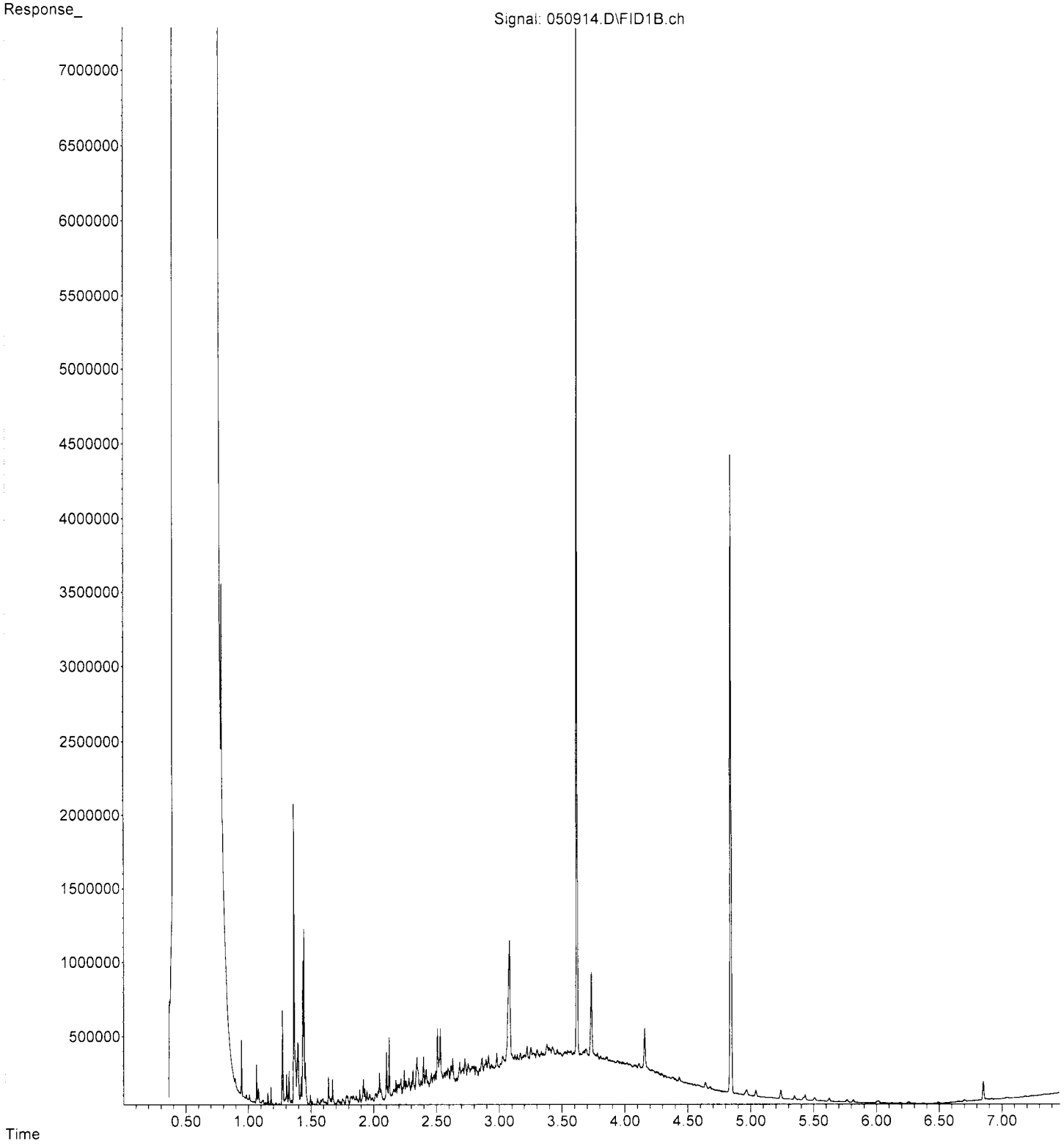
Operator : TL
Acquired : 09 May 2023 12:15 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 305019-02
Misc Info : ERR
Vial Number: 12



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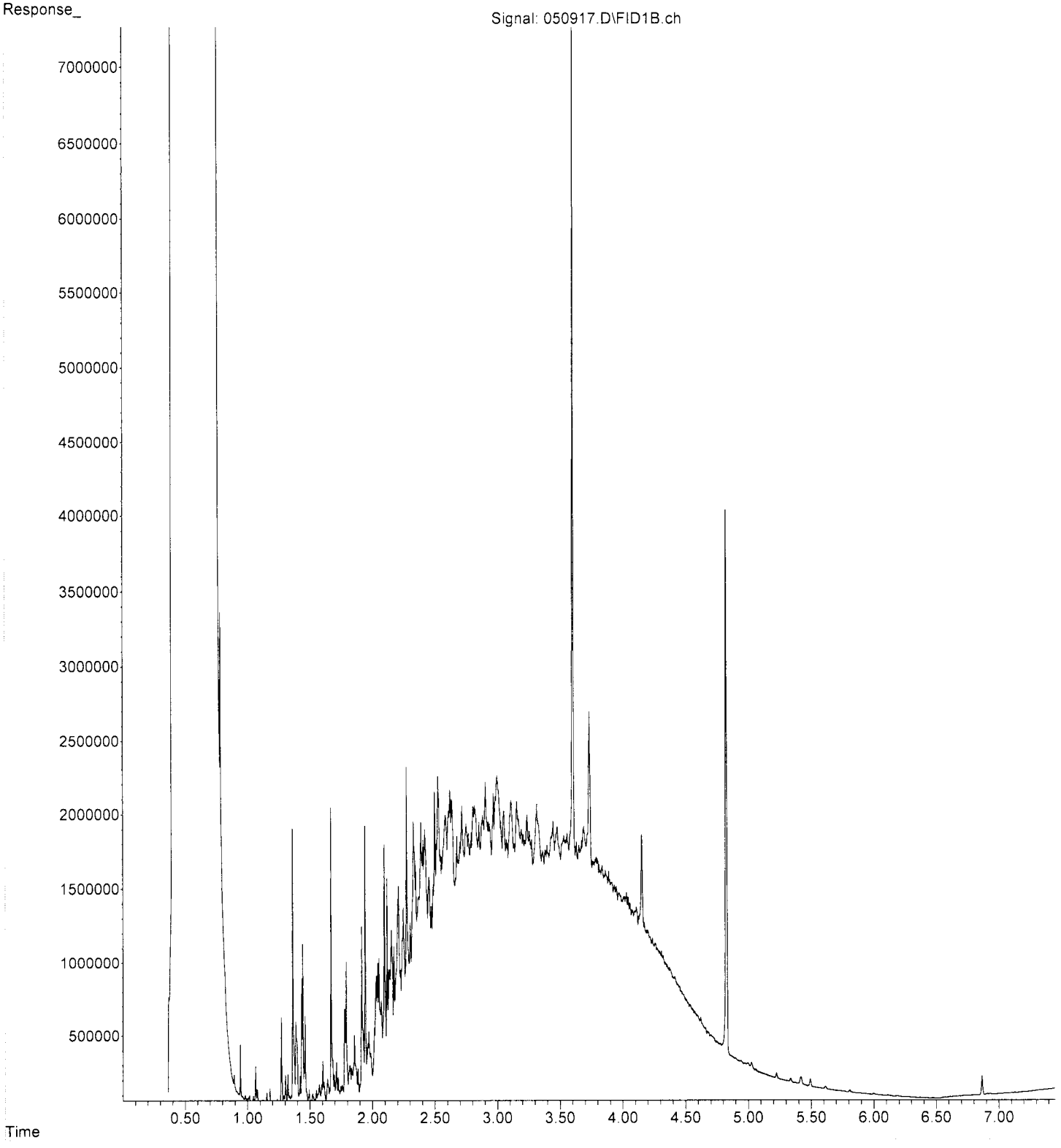
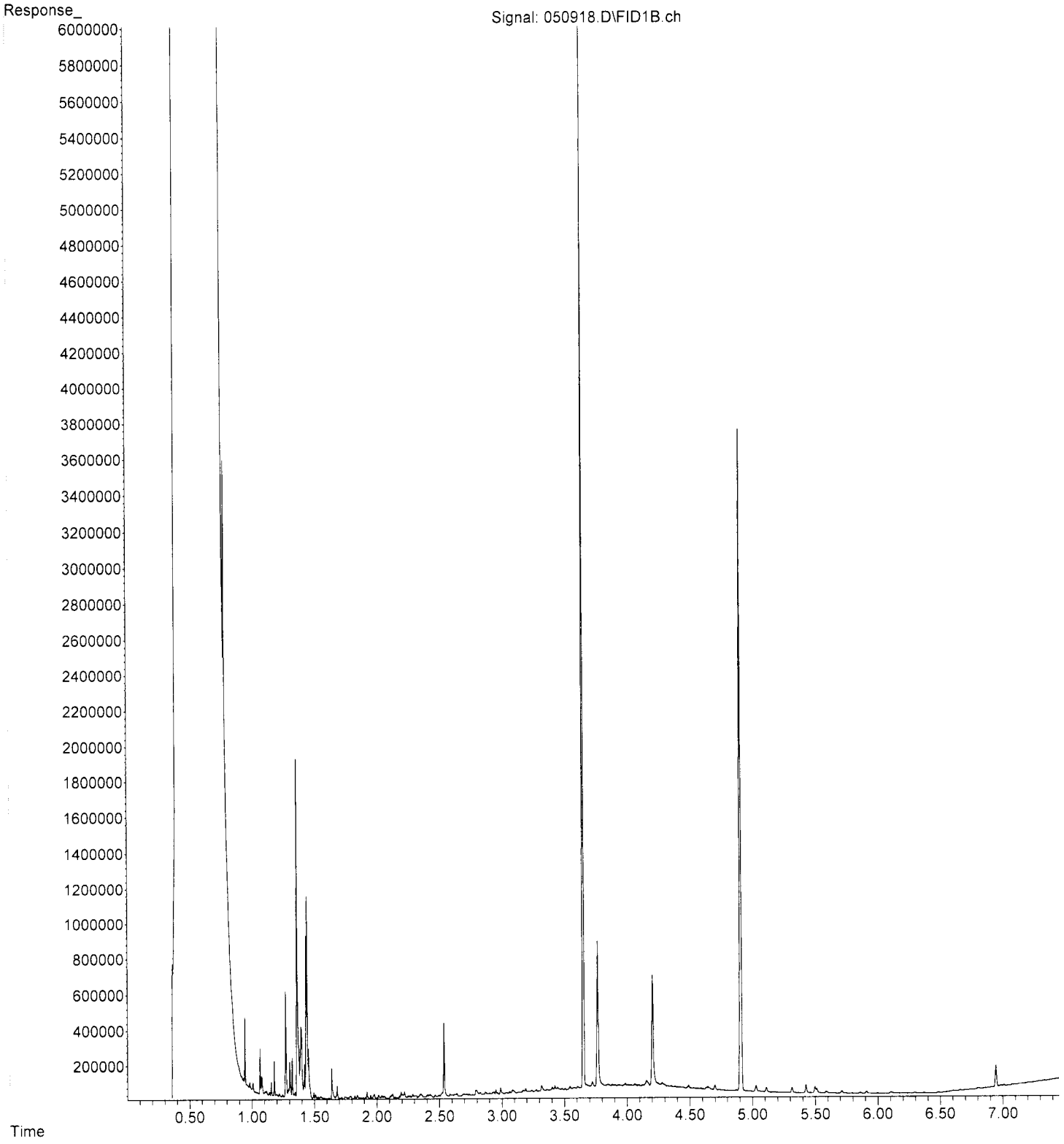
Operator : TL
Acquired : 09 May 2023 12:51 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 305019-03
Misc Info : ERR
Vial Number: 13

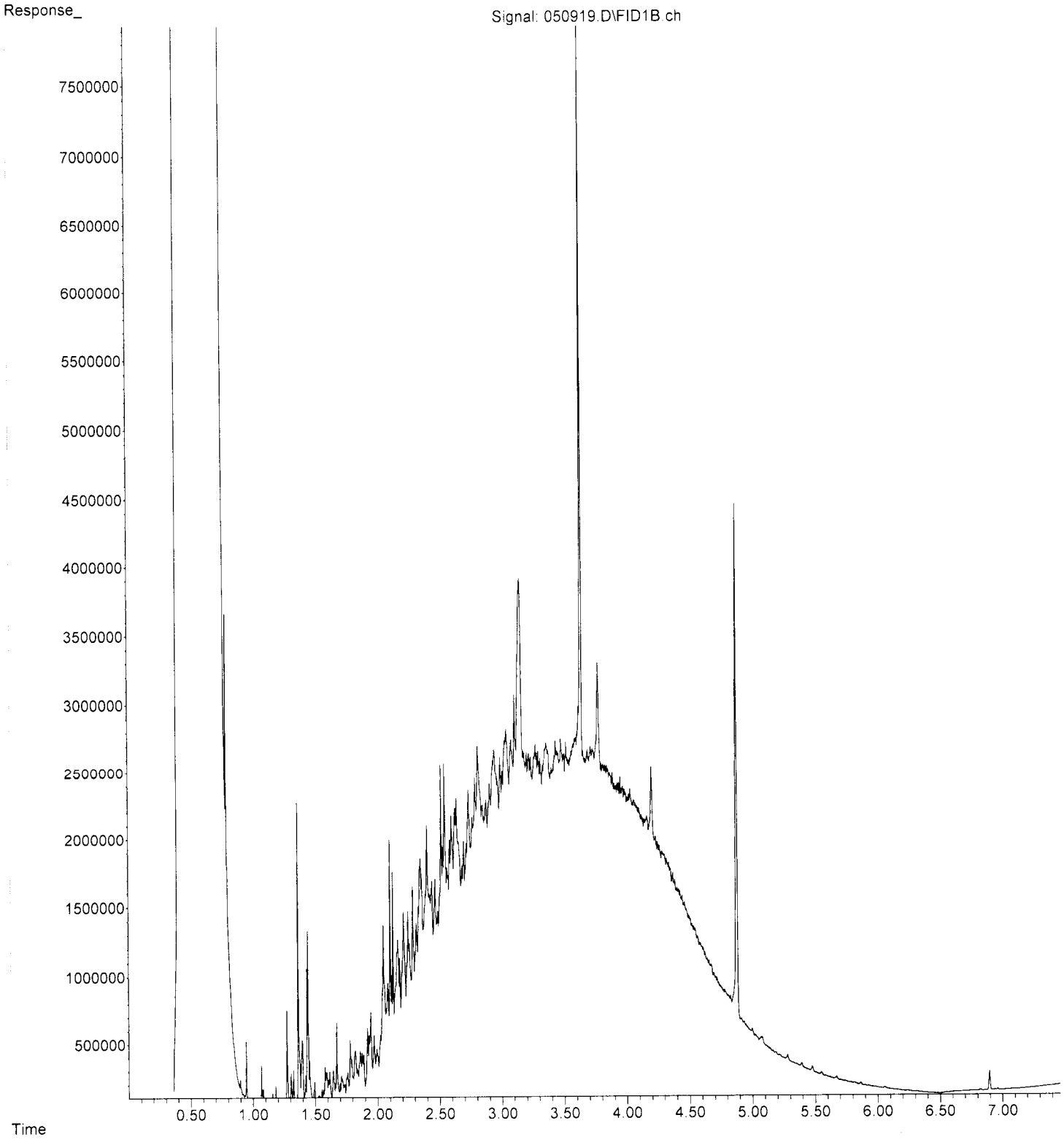


File :D:\GC14\GC14_Data\05-09-23\050918.D
Operator : TL
Acquired : 09 May 2023 01:03 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 305019-04
Misc Info : ERR
Vial Number: 14

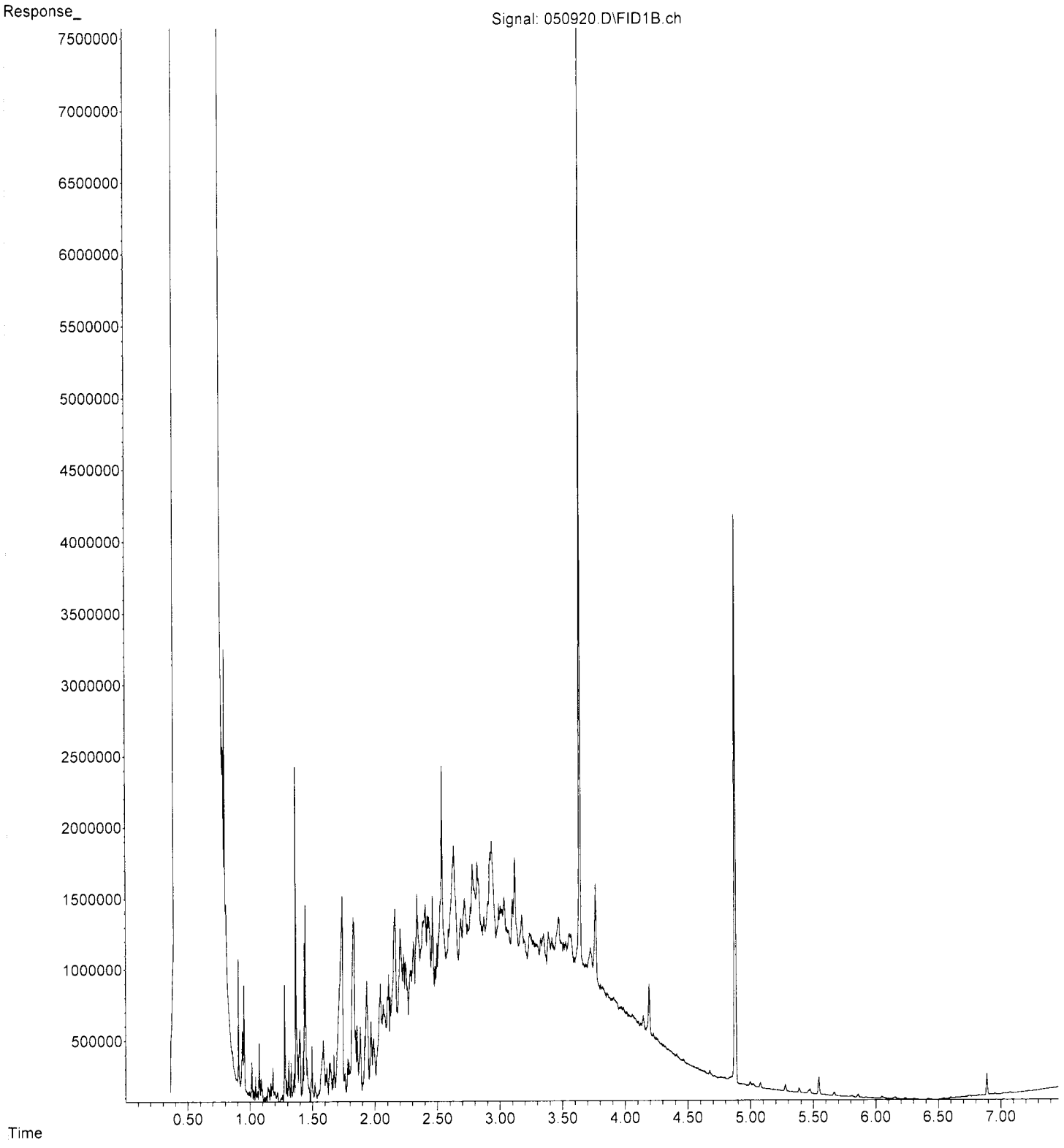


File :D:\GC14\GC14_Data\05-09-23\050919.D
Operator : TL
Acquired : 09 May 2023 01:14 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 305019-05
Misc Info :
Vial Number: 15

ERR

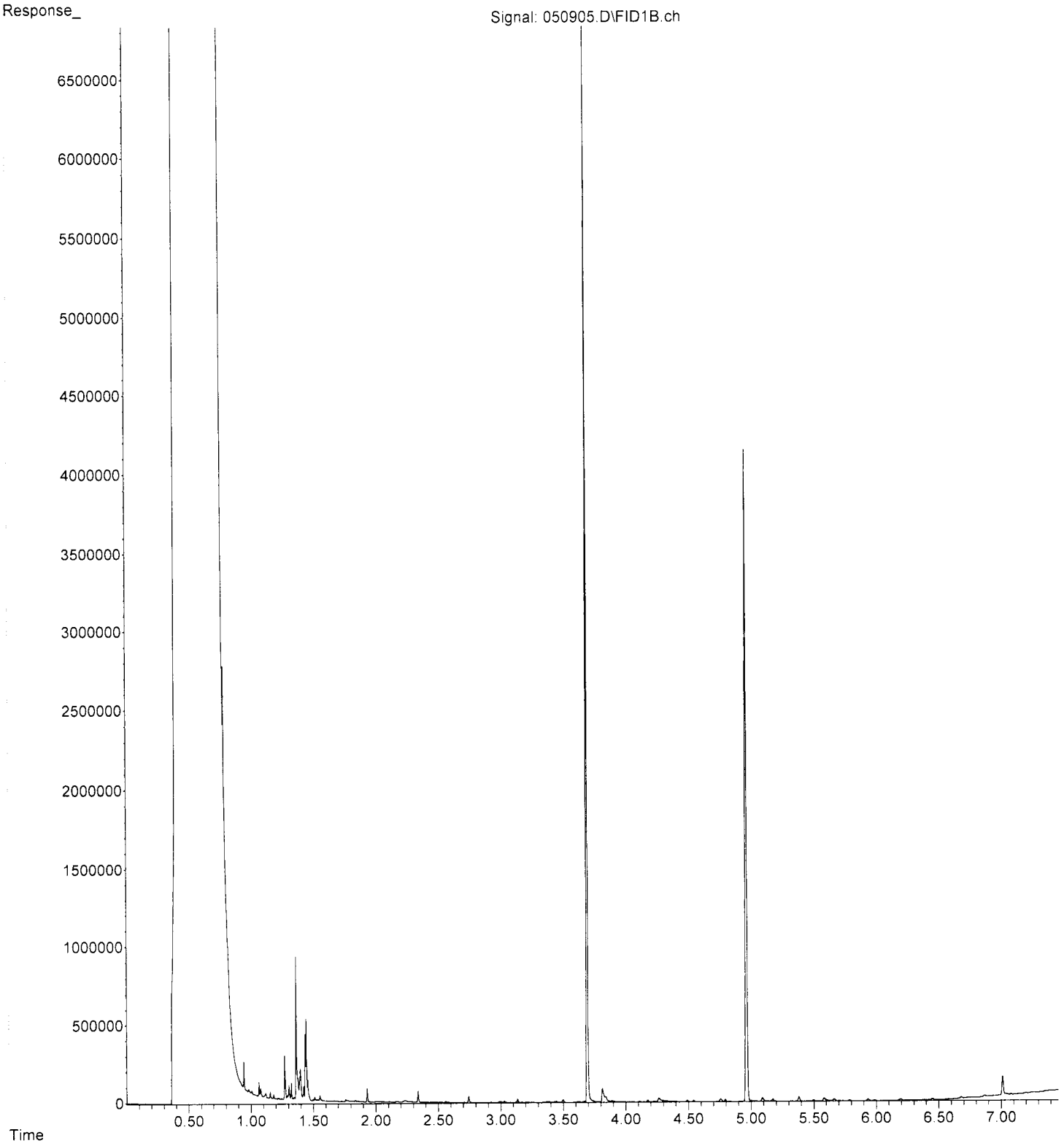


File :D:\GC14\GC14_Data\05-09-23\050920.D
Operator : TL
Acquired : 09 May 2023 01:26 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 305019-06
Misc Info : ERR
Vial Number: 16

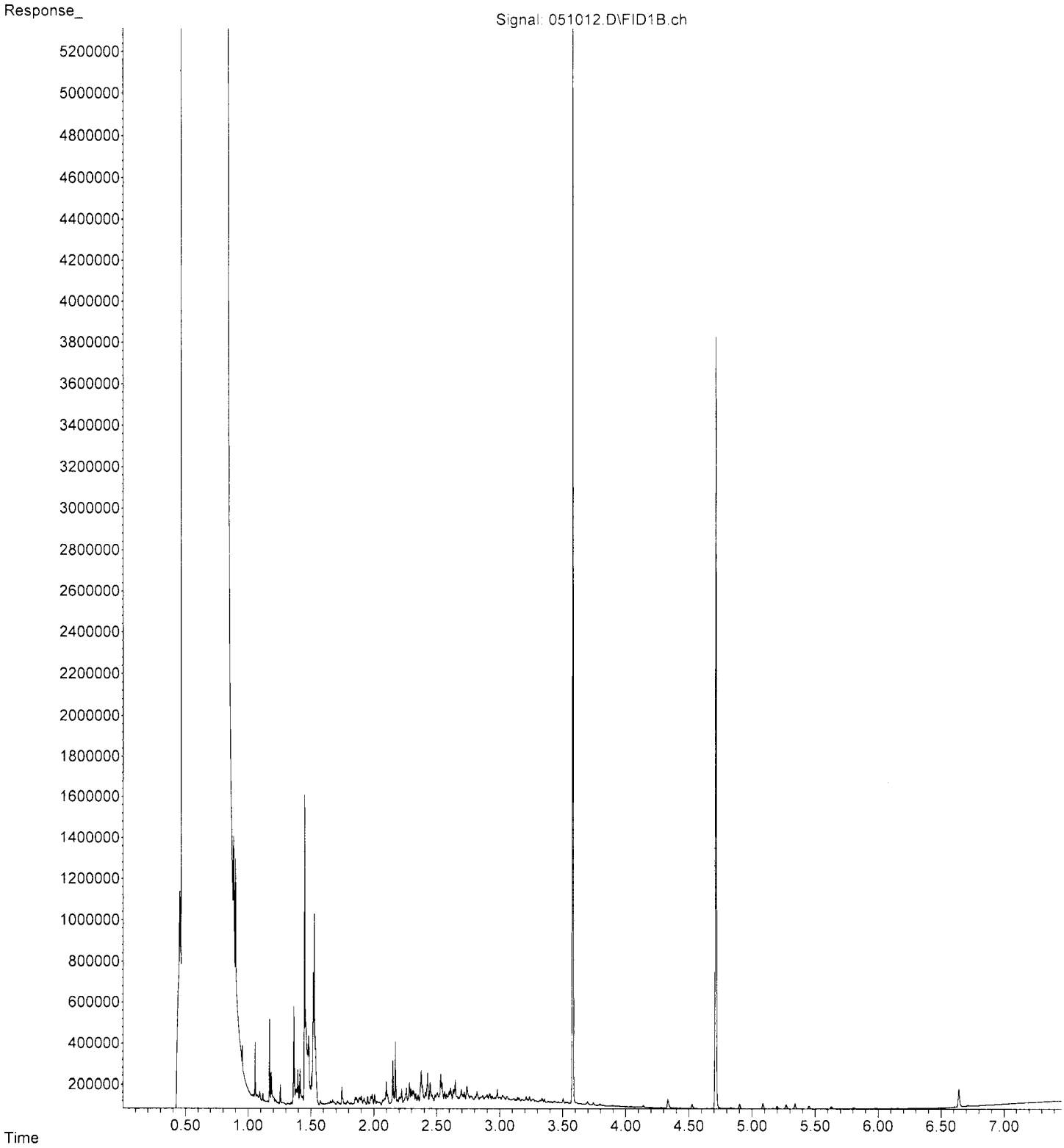


File :D:\GC14\GC14_Data\05-09-23\050905.D
Operator : TL
Acquired : 09 May 2023 10:30 am using AcqMethod DX.M
Instrument : GC14
Sample Name: 03-1141 mb
Misc Info :
Vial Number: 7

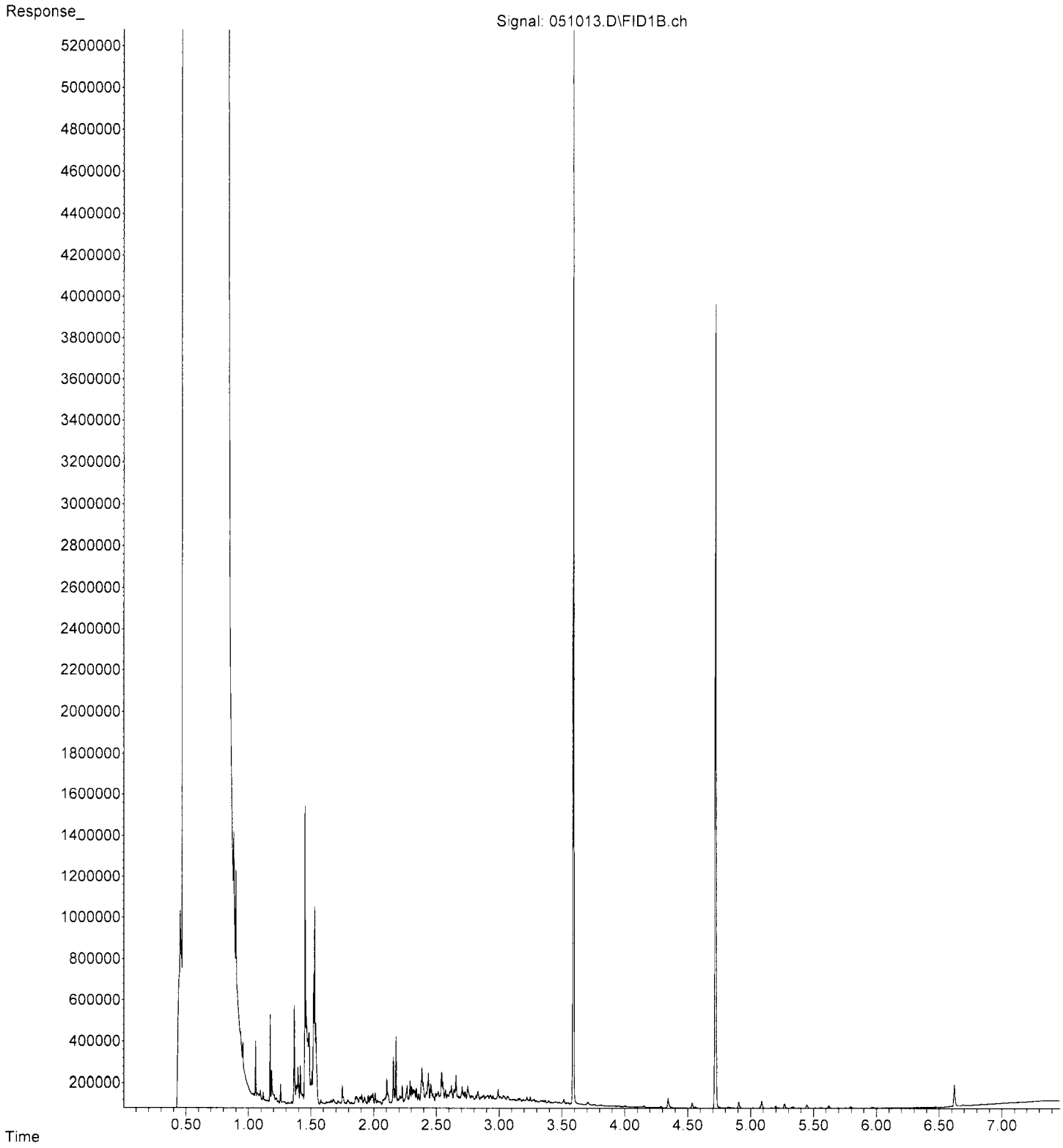
ERR



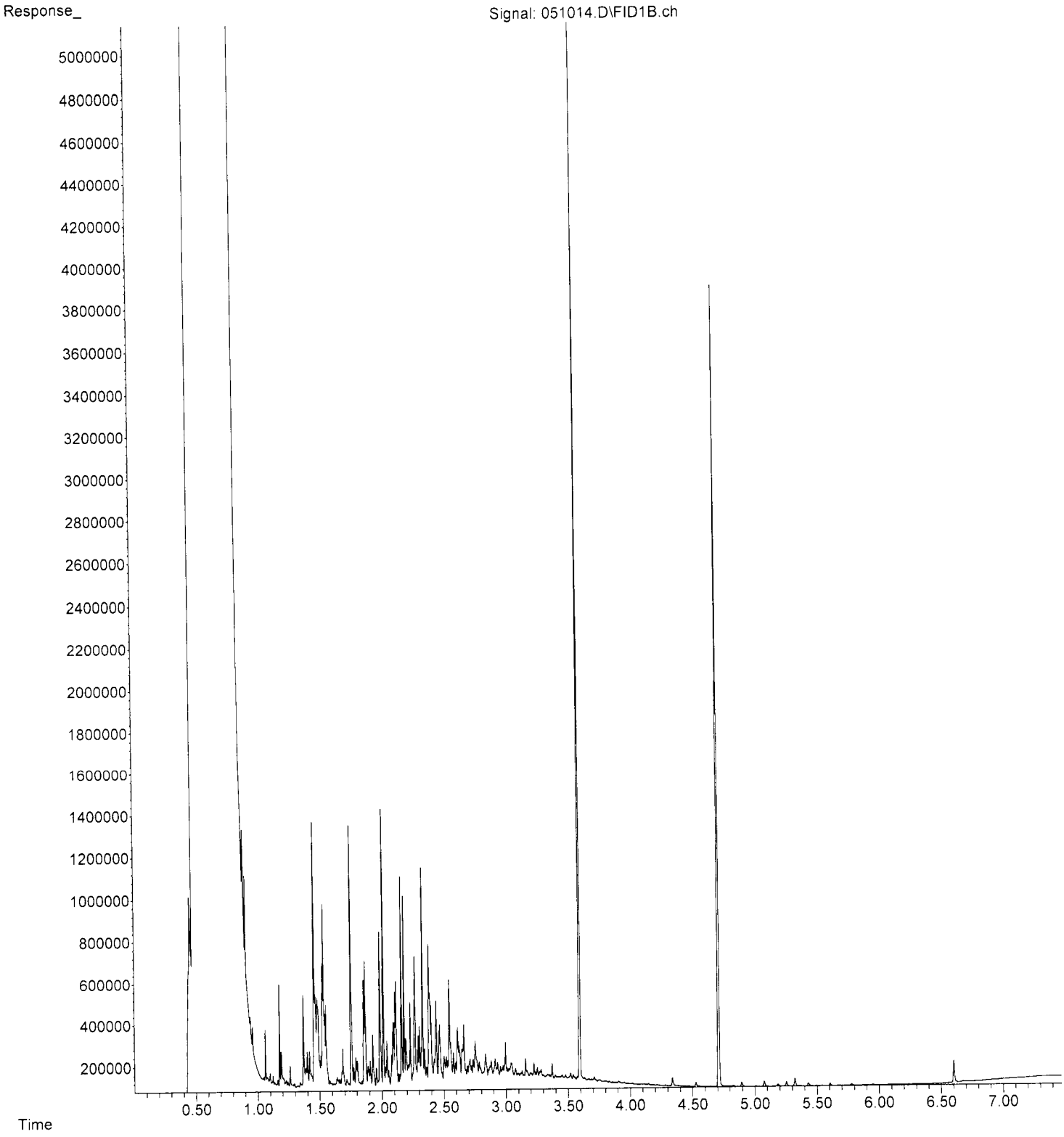
File :D:\GC10\GC10_Data\05-10-23\051012.D
Operator : TL
Acquired : 10 May 2023 11:25 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 305019-01 sg
Misc Info :
Vial Number: 14



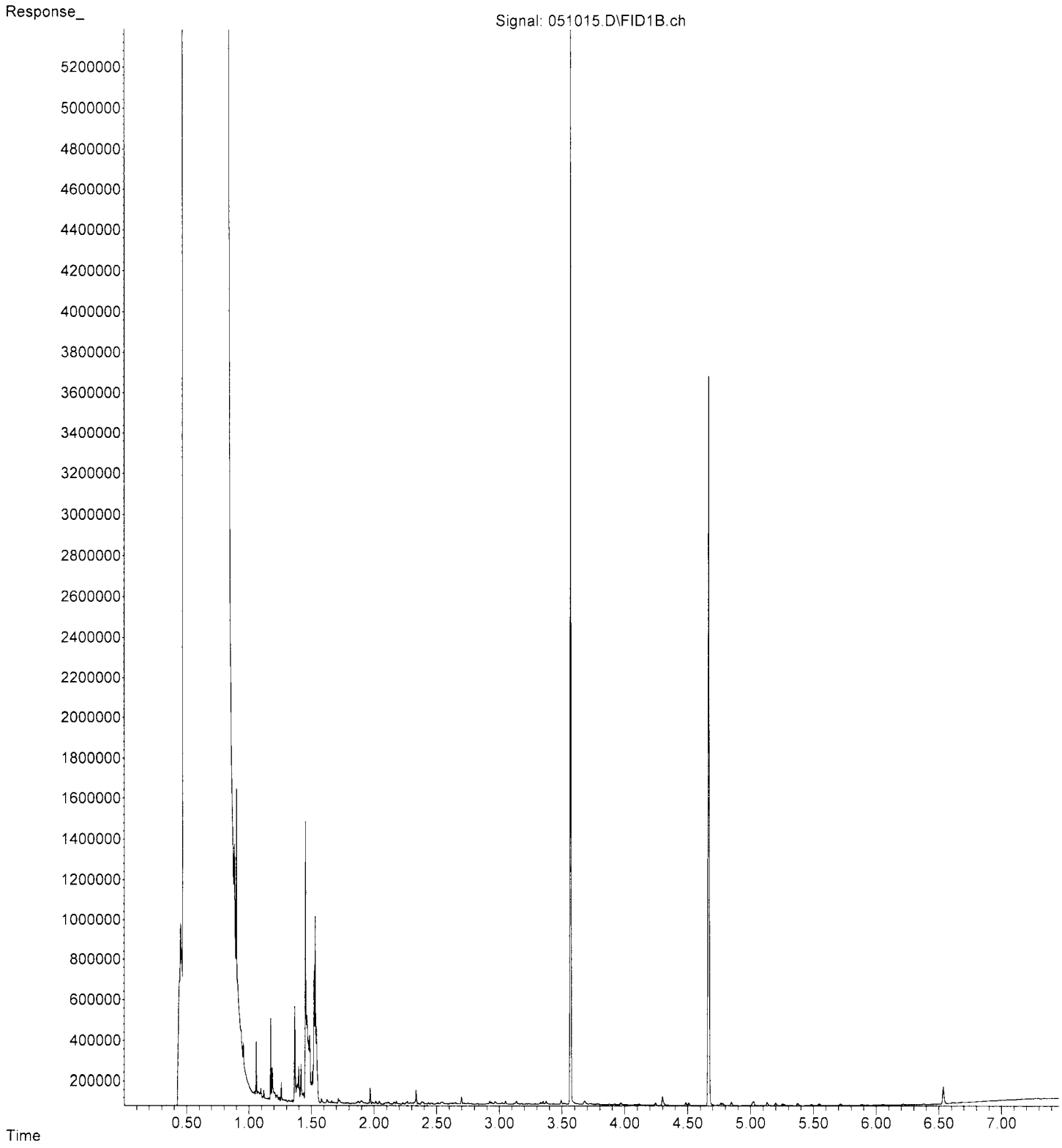
File :D:\GC10\GC10_Data\05-10-23\051013.D
Operator : TL
Acquired : 10 May 2023 11:36 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 305019-02 sg
Misc Info :
Vial Number: 15



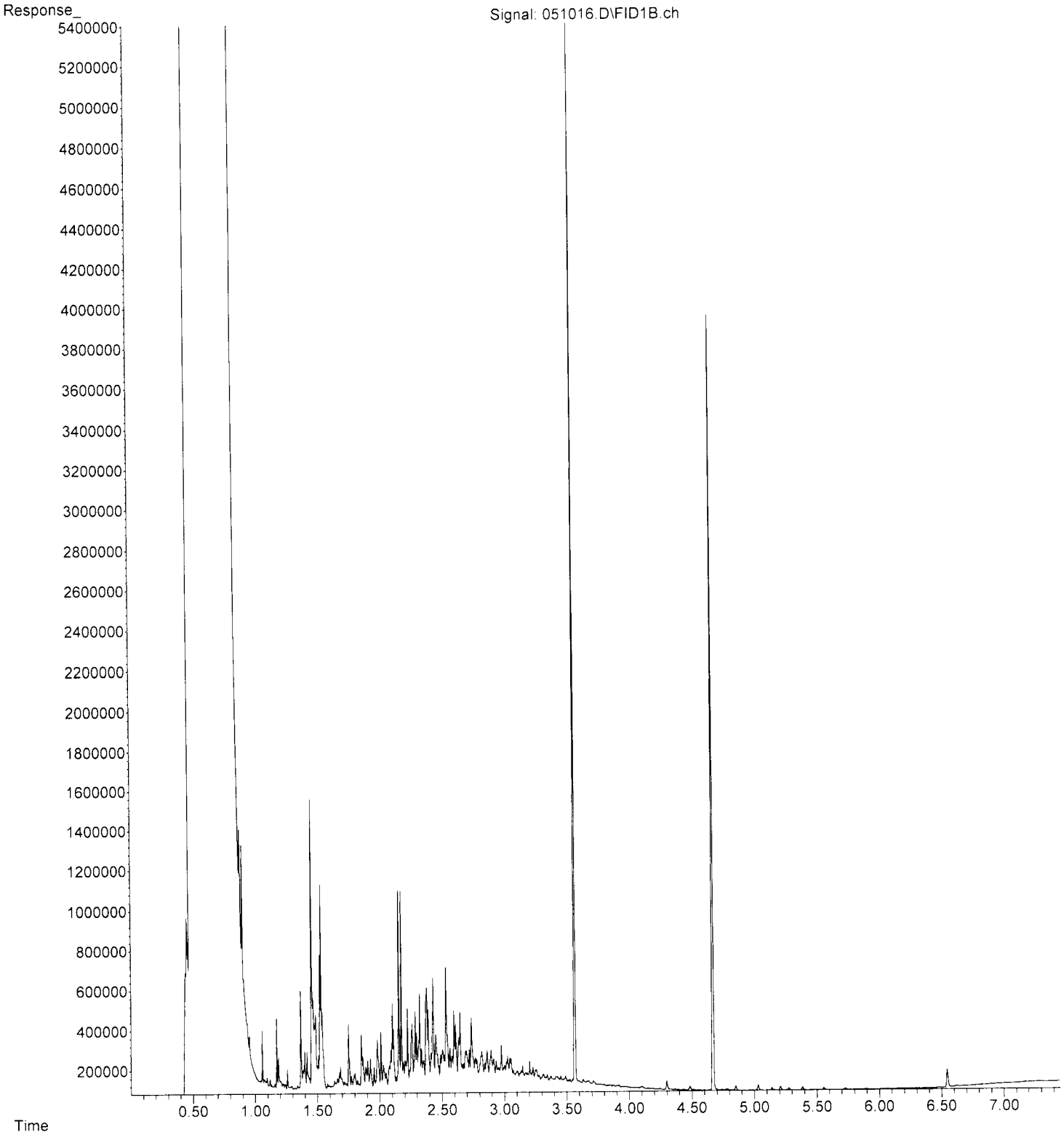
File :D:\GC10\GC10_Data\05-10-23\051014.D
Operator : TL
Acquired : 10 May 2023 11:47 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 305019-03 sg
Misc Info :
Vial Number: 16



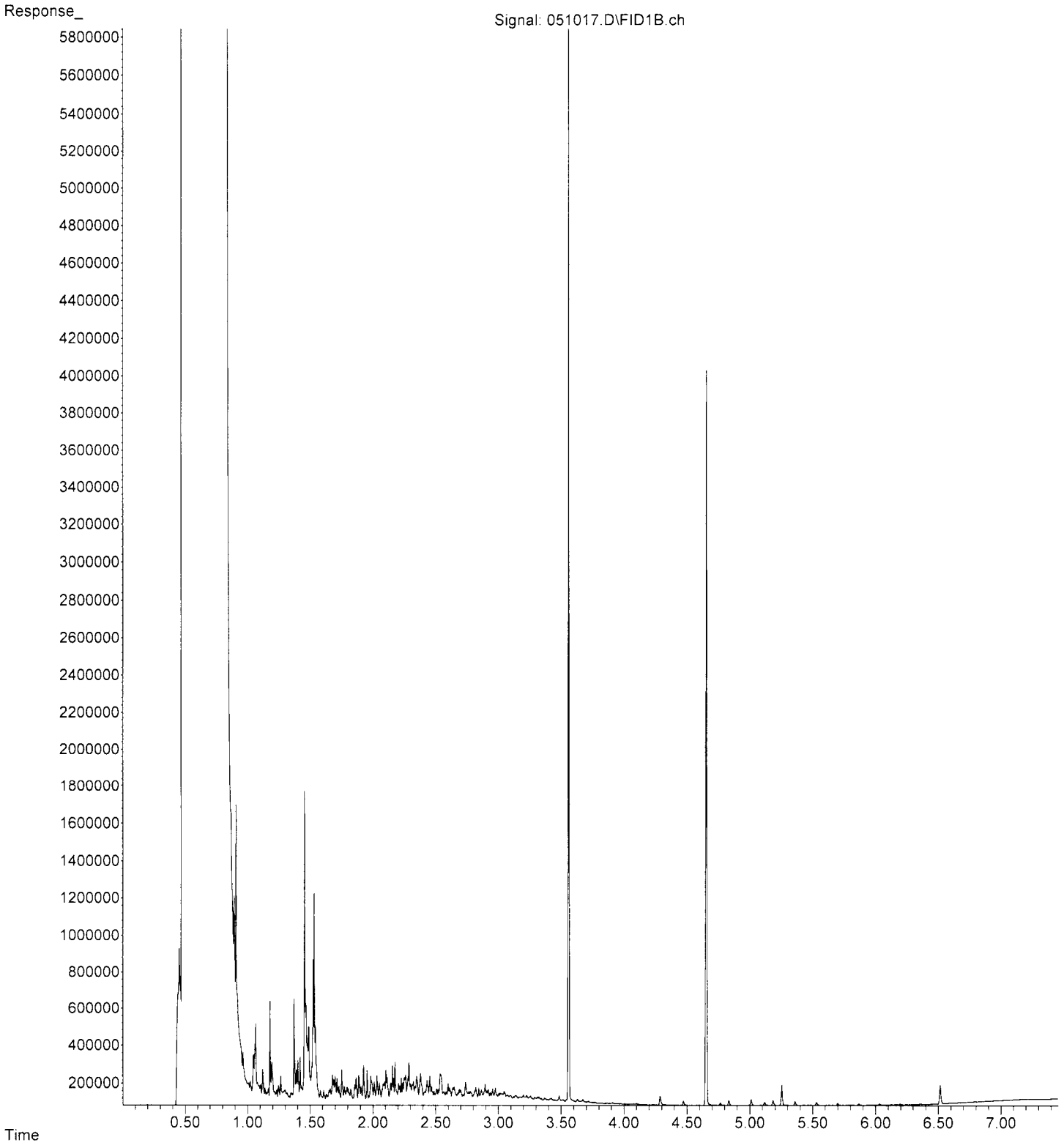
File :D:\GC10\GC10_Data\05-10-23\051015.D
Operator : TL
Acquired : 10 May 2023 11:59 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 305019-04 sg
Misc Info :
Vial Number: 17



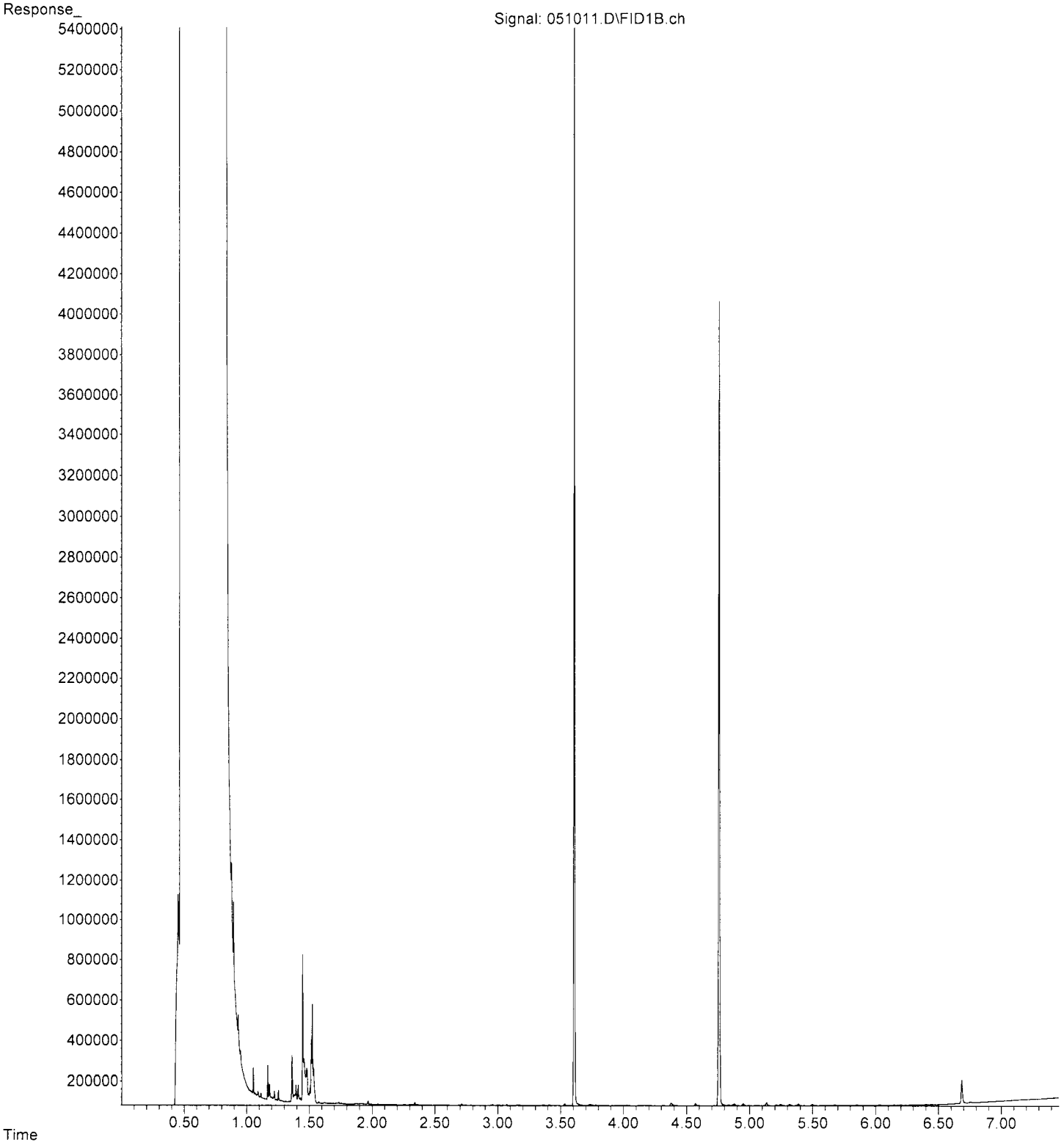
File :D:\GC10\GC10_Data\05-10-23\051016.D
Operator : TL
Acquired : 10 May 2023 12:10 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 305019-05 sg
Misc Info :
Vial Number: 18



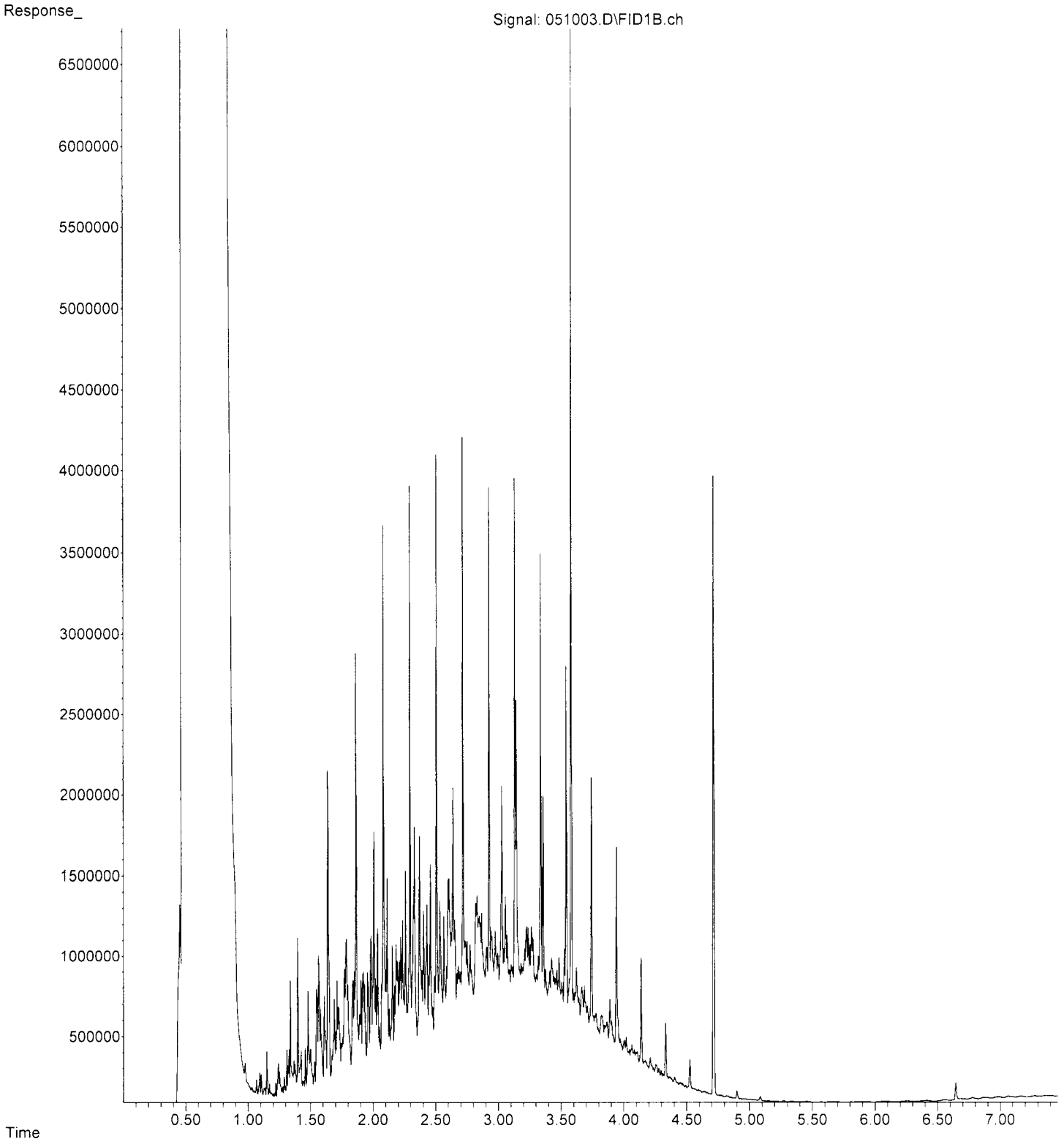
File :D:\GC10\GC10_Data\05-10-23\051017.D
Operator : TL
Acquired : 10 May 2023 12:22 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 305019-06 sg
Misc Info :
Vial Number: 19



File :D:\GC10\GC10_Data\05-10-23\051011.D
Operator : TL
Acquired : 10 May 2023 11:13 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 03-1141 mb sg
Misc Info :
Vial Number: 13



File :D:\GC10\GC10_Data\05-10-23\051003.D
Operator : TL
Acquired : 10 May 2023 08:23 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 500 DX 68-66F
Misc Info :
Vial Number: 3



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 305019
Work Order Number: 2305030

May 09, 2023

Attention Michael Erdahl:

Fremont Analytical, Inc. received 4 sample(s) on 5/2/2023 for the analyses presented in the following report.

Dissolved Gases by RSK-175
Ion Chromatography by EPA Method 300.0
Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *05/09/2023*

CLIENT: Friedman & Bruya
Project: 305019
Work Order: 2305030

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2305030-001	MW-1-050123	05/01/2023 10:40 AM	05/02/2023 10:56 AM
2305030-002	MW-101-050123	05/01/2023 10:45 AM	05/02/2023 10:56 AM
2305030-003	MW-4B-050123	05/01/2023 10:40 AM	05/02/2023 10:56 AM
2305030-004	MW-2A-050123	05/01/2023 12:23 PM	05/02/2023 10:56 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2305030**
Date: **5/9/2023**

CLIENT: Friedman & Bruya
Project: 305019

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2305030**
Date Reported: **5/9/2023**

CLIENT: Friedman & Bruya
Project: 305019

Lab ID: 2305030-001 **Collection Date:** 5/1/2023 10:40:00 AM
Client Sample ID: **MW-1-050123** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R83805		Analyst: MS
Methane	0.110	0.00675		mg/L	1	5/5/2023 2:38:00 AM
Ion Chromatography by EPA Method 300.0				Batch ID: 40262		Analyst: AT
Nitrate (as N)	ND	0.200	DH	mg/L	2	5/6/2023 1:28:00 AM
Nitrate (as N)	ND	1.00	D	mg/L	10	5/2/2023 10:57:00 PM
Sulfate	13.8	6.00	D	mg/L	10	5/2/2023 10:57:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R83751		Analyst: AT
Total Organic Carbon	4.47	0.700		mg/L	1	5/4/2023 10:59:00 PM

Lab ID: 2305030-002 **Collection Date:** 5/1/2023 10:45:00 AM
Client Sample ID: **MW-101-050123** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R83805		Analyst: MS
Methane	0.104	0.00675		mg/L	1	5/5/2023 2:41:00 AM
Ion Chromatography by EPA Method 300.0				Batch ID: 40262		Analyst: AT
Nitrate (as N)	ND	0.200	DH	mg/L	2	5/6/2023 1:51:00 AM
Nitrate (as N)	ND	1.00	D	mg/L	10	5/2/2023 11:20:00 PM
Sulfate	13.7	6.00	D	mg/L	10	5/2/2023 11:20:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R83751		Analyst: AT
Total Organic Carbon	4.48	0.700		mg/L	1	5/4/2023 11:21:00 PM

CLIENT: Friedman & Bruya
Project: 305019

Lab ID: 2305030-003 **Collection Date:** 5/1/2023 10:40:00 AM
Client Sample ID: **MW-4B-050123** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R83805		Analyst: MS
Methane	0.651	0.0270	D	ppmv	4	5/5/2023 3:55:00 AM
Ion Chromatography by EPA Method 300.0				Batch ID: 40262		Analyst: AT
Nitrate (as N)	ND	0.200	DH	mg/L	2	5/6/2023 2:14:00 AM
Nitrate (as N)	ND	1.00	D	mg/L	10	5/2/2023 11:43:00 PM
Sulfate	7.90	6.00	D	mg/L	10	5/2/2023 11:43:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R83751		Analyst: AT
Total Organic Carbon	11.5	0.700		mg/L	1	5/4/2023 11:45:00 PM

Lab ID: 2305030-004 **Collection Date:** 5/1/2023 12:23:00 PM
Client Sample ID: **MW-2A-050123** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R83805		Analyst: MS
Methane	0.268	0.00675		mg/L	1	5/5/2023 2:46:00 AM
Ion Chromatography by EPA Method 300.0				Batch ID: 40262		Analyst: AT
Nitrate (as N)	ND	0.200	DH	mg/L	2	5/6/2023 2:37:00 AM
Nitrate (as N)	ND	1.00	D	mg/L	10	5/3/2023 12:06:00 AM
Sulfate	12.7	6.00	D	mg/L	10	5/3/2023 12:06:00 AM
Total Organic Carbon by SM 5310C				Batch ID: R83751		Analyst: AT
Total Organic Carbon	7.75	0.700		mg/L	1	5/5/2023 12:08:00 AM

Work Order: 2305030
CLIENT: Friedman & Bruya
Project: 305019

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **MB-40212**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **5/2/2023**	RunNo: **83759**
Client ID: **MBLKW**	Batch ID: **40212**		Analysis Date: **5/2/2023**	SeqNo: **1746448**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.600									

Sample ID: **LCS-40212**	SampType: **LCS**	Units: **mg/L**	Prep Date: **5/2/2023**	RunNo: **83759**
Client ID: **LCSW**	Batch ID: **40212**		Analysis Date: **5/2/2023**	SeqNo: **1746449**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.708	0.100	0.7500	0	94.4	90	110				
Sulfate	3.46	0.600	3.750	0	92.2	90	110				

Sample ID: **2305023-001BDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **5/2/2023**	RunNo: **83759**
Client ID: **BATCH**	Batch ID: **40212**		Analysis Date: **5/2/2023**	SeqNo: **1746451**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100						0		20	
Sulfate	4.35	0.600						4.356	0.161	20	

Sample ID: **2305023-001BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **5/2/2023**	RunNo: **83759**
Client ID: **BATCH**	Batch ID: **40212**		Analysis Date: **5/2/2023**	SeqNo: **1746452**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.687	0.100	0.7500	0	91.6	80	120				
Sulfate	7.91	0.600	3.750	4.356	94.8	80	120				

Sample ID: **2305023-001BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **5/2/2023**	RunNo: **83759**
Client ID: **BATCH**	Batch ID: **40212**		Analysis Date: **5/2/2023**	SeqNo: **1746453**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.694	0.100	0.7500	0	92.5	80	120	0.6870	1.01	20	
Sulfate	7.98	0.600	3.750	4.356	96.7	80	120	7.910	0.931	20	

Work Order: 2305030
CLIENT: Friedman & Bruya
Project: 305019

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **2305023-001BMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **5/2/2023**			RunNo: **83759**	
Client ID: **BATCH**	Batch ID: **40212**					Analysis Date: **5/2/2023**			SeqNo: **1746453**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **LCS-40262**	SampType: **LCS**			Units: **mg/L**		Prep Date: **5/5/2023**			RunNo: **83794**	
Client ID: **LCSW**	Batch ID: **40262**					Analysis Date: **5/5/2023**			SeqNo: **1747606**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.729	0.100	0.7500	0	97.2	90	110				

Sample ID: **MB-40262**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **5/5/2023**			RunNo: **83794**	
Client ID: **MBLKW**	Batch ID: **40262**					Analysis Date: **5/5/2023**			SeqNo: **1747608**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									

Work Order: 2305030
CLIENT: Friedman & Bruya
Project: 305019

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB-83751**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **5/4/2023**		RunNo: **83751**		
Client ID: **MBLKW**	Batch ID: **R83751**					Analysis Date: **5/4/2023**		SeqNo: **1746032**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **LCS-83751**	SampType: **LCS**			Units: **mg/L**		Prep Date: **5/4/2023**		RunNo: **83751**		
Client ID: **LCSW**	Batch ID: **R83751**					Analysis Date: **5/4/2023**		SeqNo: **1746033**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	5.40	0.700	5.000	0	108	88.1	112				

Sample ID: **2305038-001DDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **5/5/2023**		RunNo: **83751**		
Client ID: **BATCH**	Batch ID: **R83751**					Analysis Date: **5/5/2023**		SeqNo: **1746040**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	18.4	0.700						18.53	0.688	20	

Sample ID: **2305038-001DMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **5/5/2023**		RunNo: **83751**		
Client ID: **BATCH**	Batch ID: **R83751**					Analysis Date: **5/5/2023**		SeqNo: **1746041**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	23.0	0.700	5.000	18.53	88.7	75.2	115				

Sample ID: **2305038-001DMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **5/5/2023**		RunNo: **83751**		
Client ID: **BATCH**	Batch ID: **R83751**					Analysis Date: **5/5/2023**		SeqNo: **1746042**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	23.1	0.700	5.000	18.53	91.6	75.2	115	22.97	0.629	30	

Work Order: 2305030
CLIENT: Friedman & Bruya
Project: 305019

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R83805** SampType: **LCS** Units: **ppmv** Prep Date: **5/5/2023** RunNo: **83805**
Client ID: **LCSW** Batch ID: **R83805** Analysis Date: **5/5/2023** SeqNo: **1747838**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	975	0.00675	1,000	0	97.5	73.6	124				

Sample ID: **MB-R83805** SampType: **MBLK** Units: **mg/L** Prep Date: **5/5/2023** RunNo: **83805**
Client ID: **MBLKW** Batch ID: **R83805** Analysis Date: **5/5/2023** SeqNo: **1747835**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00675									

Sample ID: **2304640-001EREP** SampType: **REP** Units: **mg/L** Prep Date: **5/5/2023** RunNo: **83805**
Client ID: **BATCH** Batch ID: **R83805** Analysis Date: **5/5/2023** SeqNo: **1747826**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00675						0		30	

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2305030
Logged by:	Morgan Wilson	Date Received:	5/2/2023 11:00:00 AM

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present ☐
2.	How was the sample delivered?	Client				

Log In

3.	Coolers are present?	Yes	☑	No	☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes	☑	No	☐	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	☐	No	☐	Not Present ☑
6.	Was an attempt made to cool the samples?	Yes	☑	No	☐	NA ☐
7.	Were all items received at a temperature of >2°C to 6°C *	Yes	☑	No	☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes	☑	No	☐	
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐	
10.	Are samples properly preserved?	Yes	☑	No	☐	
11.	Was preservative added to bottles?	Yes	☐	No	☑	NA ☐
12.	Is there headspace in the VOA vials?	Yes	☐	No	☑	NA ☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No	☐	
14.	Does paperwork match bottle labels?	Yes	☑	No	☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐	
16.	Is it clear what analyses were requested?	Yes	☑	No	☐	
17.	Were all holding times able to be met?	Yes	☑	No	☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	2.6

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2305036

Send Report To Michael Erdahl
Company Friedman and Bruya, Inc.
Address 3012 16th Ave W
City, State, ZIP Seattle, WA 98119
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.	PO #
305019	D-287

REMARKS
Floyd Snider EDD

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Total Organic Carbon	Nitrate	Sulfate	Methane RSK							Notes
MW-1-050123		5/1/2023	1040	water		x	x	x	x							
MW-101-050123		5/1/2023	1045	water		x	x	x	x							
MW-4B-050123		5/1/2023	1040	water		x	x	x	x							
MW-2A-050123		5/1/2023	1223	water		x	x	x	x							

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	Michael Erdahl	Friedman & Bruya	5/2/23	1015 AM
Received by:	[signature]	Emma Tiek	Fremont Analytical	5/2/23	18:56
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

October 17, 2023

Gabriel Cisneros, Project Manager
Floyd-Snider
Two Union Square
601 Union St, Suite 600
Seattle, WA 98101

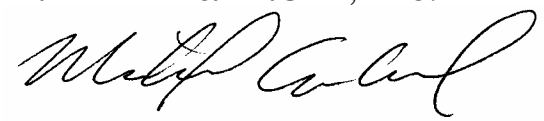
Dear Mr Cisneros:

Included is the amended report from the testing of material submitted on September 7, 2023 from the Big B CL Ellensburg, F&BI 309058 project. 2-Propanol has been added to the report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Floyd Snider Lab Data, Manique Talaia-Murray
FDS0914R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

September 19, 2023

Gabriel Cisneros, Project Manager
Floyd-Snider
Two Union Square
601 Union St, Suite 600
Seattle, WA 98101

Dear Mr Cisneros:

Included are the results from the testing of material submitted on September 8, 2023 from the Big B Ellensburg, F&BI 309096 project. There are 23 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Floyd Snider Lab Data, Manique Talaia-Murray
FDS0919R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 8, 2023 by Friedman & Bruya, Inc. from the Floyd-Snider Big B Ellensburg, F&BI 309096 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
309096 -01	MW-1-090723
309096 -02	MW-2-090723
309096 -03	MW-2A-090723
309096 -04	MW-4B-090723
309096 -05	MW-9A-090723
309096 -06	MW-104B-090723
309096 -07	Trip Blank-090723

Samples MW-1-090723, MW-2A-090723, MW-4B-090723, and MW-104B-090723 were sent to Fremont Analytical for nitrate, sulfate, TOC, and dissolved methane analyses. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 09/19/23
Date Received: 09/08/23
Project: Big B Ellensburg, F&BI 309096
Date Extracted: 09/11/23
Date Analyzed: 09/12/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW-1-090723 309096-01	<100	99
MW-2-090723 309096-02	<100	100
MW-2A-090723 309096-03	330	102
MW-4B-090723 309096-04	490	114
MW-9A-090723 309096-05	<100	98
MW-104B-090723 309096-06	490	113
Trip Blank-090723 309096-07	<100	100
Method Blank 03-2081 MB	<100	95

Date of Report: 09/19/23
Date Received: 09/08/23
Project: Big B Ellensburg, F&BI 309096
Date Extracted: 09/11/23
Date Analyzed: 09/11/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW-1-090723 309096-01	210	<250	95
MW-2-090723 309096-02	150	<250	103
MW-2A-090723 309096-03	<50	<250	103
MW-4B-090723 309096-04	390	<250	105
MW-9A-090723 309096-05	<50	<250	103
MW-104B-090723 309096-06	430	<250	105
Method Blank 03-2125 MB	<50	<250	107

Date of Report: 09/19/23
Date Received: 09/08/23
Project: Big B Ellensburg, F&BI 309096
Date Extracted: 09/11/23
Date Analyzed: 09/12/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW-1-090723 309096-01	1,700 x	<250	120
MW-2-090723 309096-02	1,300 x	370 x	123
MW-2A-090723 309096-03	540 x	<250	127
MW-4B-090723 309096-04	2,200 x	370 x	132
MW-9A-090723 309096-05	<50	<250	123
MW-104B-090723 309096-06	2,200 x	350 x	128
Method Blank 03-2125 MB	<50	<250	107

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-1-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/11/23 11:25	Lab ID:	309096-01
Date Analyzed:	09/11/23 18:14:00	Data File:	309096-01.118
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	855

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-2A-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/11/23 11:25	Lab ID:	309096-03
Date Analyzed:	09/11/23 18:18:34	Data File:	309096-03.119
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	760

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-4B-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/11/23 11:25	Lab ID:	309096-04
Date Analyzed:	09/11/23 18:23:08	Data File:	309096-04.120
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	960

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-104B-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/11/23 11:25	Lab ID:	309096-06
Date Analyzed:	09/11/23 18:27:42	Data File:	309096-06.121
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	911

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/11/23 11:25	Lab ID:	I3-699 mb
Date Analyzed:	09/11/23 16:19:56	Data File:	I3-699 mb.093
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-1-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/12/23	Lab ID:	309096-01
Date Analyzed:	09/12/23	Data File:	091212.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	99	72	130

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-2-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/12/23	Lab ID:	309096-02
Date Analyzed:	09/12/23	Data File:	091213.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	101	72	130

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-2A-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/12/23	Lab ID:	309096-03
Date Analyzed:	09/12/23	Data File:	091214.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	99	72	130

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-4B-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/12/23	Lab ID:	309096-04
Date Analyzed:	09/12/23	Data File:	091215.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	108	72	130

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-9A-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/12/23	Lab ID:	309096-05
Date Analyzed:	09/12/23	Data File:	091216.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-104B-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/12/23	Lab ID:	309096-06
Date Analyzed:	09/12/23	Data File:	091217.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	108	72	130

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank-090723	Client:	Floyd-Snider
Date Received:	09/08/23	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/12/23	Lab ID:	309096-07
Date Analyzed:	09/12/23	Data File:	091218.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Big B Ellensburg, F&BI 309096
Date Extracted:	09/12/23	Lab ID:	03-2108 mb
Date Analyzed:	09/12/23	Data File:	091210.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	104	72	130

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Date of Report: 09/19/23
Date Received: 09/08/23
Project: Big B Ellensburg, F&BI 309096

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 309101-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	100	70-130

Date of Report: 09/19/23
Date Received: 09/08/23
Project: Big B Ellensburg, F&BI 309096

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	104	72-139	8

Date of Report: 09/19/23
Date Received: 09/08/23
Project: Big B Ellensburg, F&BI 309096

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	92	96	65-151	4

Date of Report: 09/19/23
Date Received: 09/08/23
Project: Big B Ellensburg, F&BI 309096

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 309055-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Manganese	ug/L (ppb)	20	900	221 b	266 b	75-125	18 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Manganese	ug/L (ppb)	20	92	80-120

Date of Report: 09/19/23
Date Received: 09/08/23
Project: Big B Ellensburg, F&BI 309096

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 309096-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Benzene	ug/L (ppb)	10	<0.35	115	50-150
Toluene	ug/L (ppb)	10	<1	109	50-150
Ethylbenzene	ug/L (ppb)	10	<1	111	50-150
m,p-Xylene	ug/L (ppb)	20	<2	107	50-150
o-Xylene	ug/L (ppb)	10	<1	108	50-150
Naphthalene	ug/L (ppb)	10	<1	113	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	ug/L (ppb)	10	116	114	70-130	2
Toluene	ug/L (ppb)	10	112	110	70-130	2
Ethylbenzene	ug/L (ppb)	10	114	111	70-130	3
m,p-Xylene	ug/L (ppb)	20	111	108	70-130	3
o-Xylene	ug/L (ppb)	10	110	106	70-130	4
Naphthalene	ug/L (ppb)	10	109	91	70-130	18

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

309096

SAMPLE CHAIN OF CUSTODY

09/08/23

I2/VW3/42

Page # 1 of 1

Report To Gabe Cisneros + Manique Talaia-Murray

Company Floyd Snider

Address 601 Union Street, Suite 600

City, State, ZIP Seattle, WA 98101

Phone 206 292-2078 Email

SAMPLERS (signature)

PROJECT NAME: Big B Ellensburg

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	BTEX + Naphthalene VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	NWTPH-Dx w/ SGC	Nitrate + Sulfate	Diss. Manganese (Field Filtered)	Methane	TOC	Notes
MW-1-090723	01 A-N	9/7/23	15:35	GW	13	✓	✓			✓			✓	✓	✓	✓	✓	
MW-2-090723	02 A-G		14:02		7	✓	✓			✓			✓					
MW-2A-090723	03 A-N		17:00		13	✓	✓			✓			✓	✓	✓	✓	✓	
MW-4B-090723	04 ↓		15:01		13	✓	✓			✓			✓	✓	✓	✓	✓	
MW-9A-090723	05 A-G		15:51		7	✓	✓			✓			✓					
MW-104B-090723	06 A-N		15:09		13	✓	✓			✓			✓	✓	✓	✓	✓	
TripBlank-090723	07 A-B			QC	2		✓			✓								
																		P.O.

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Pamela Osterhout	F/S	9/8/23	12:14
Received by:	Nhan Phan	FeBT	9/8/23	1214
Relinquished by:		Samples received at 2 °C		
Received by:				

Friedman & Bruya, Inc.
Ph. (206) 285-8282

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 309096
Work Order Number: 2309079

September 15, 2023

Attention Michael Erdahl:

Fremont Analytical, Inc. received 4 sample(s) on 9/8/2023 for the analyses presented in the following report.

Dissolved Gases by RSK-175
Ion Chromatography by EPA Method 300.0
Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *09/15/2023*

CLIENT: Friedman & Bruya
Project: 309096
Work Order: 2309079

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2309079-001	MW-1-090723	09/07/2023 3:35 PM	09/08/2023 2:12 PM
2309079-002	MW-2A-090723	09/07/2023 5:00 PM	09/08/2023 2:12 PM
2309079-003	MW-4B-090723	09/07/2023 3:01 PM	09/08/2023 2:12 PM
2309079-004	MW-104B-090723	09/07/2023 3:09 PM	09/08/2023 2:12 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2309079**
Date: **9/15/2023**

CLIENT: Friedman & Bruya
Project: 309096

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

CLIENT: Friedman & Bruya
Project: 309096

Lab ID: 2309079-001 **Collection Date:** 9/7/2023 3:35:00 PM
Client Sample ID: **MW-1-090723** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R86499		Analyst: AM
Methane	0.201	0.00675		mg/L	1	9/12/2023 1:43:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 41438		Analyst: SS
Nitrate (as N)	ND	1.00	D	mg/L	10	9/8/2023 5:13:00 PM
Nitrate (as N)	ND	0.200	DH	mg/L	2	9/11/2023 7:37:00 PM
Sulfate	2.90	1.20	D	mg/L	2	9/11/2023 7:37:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R86542		Analyst: SS
Total Organic Carbon	7.19	0.700		mg/L	1	9/14/2023 8:18:00 PM

Lab ID: 2309079-002 **Collection Date:** 9/7/2023 5:00:00 PM
Client Sample ID: **MW-2A-090723** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R86499		Analyst: AM
Methane	0.223	0.00675		mg/L	1	9/12/2023 1:47:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 41438		Analyst: SS
Nitrate (as N)	ND	1.00	D	mg/L	10	9/8/2023 6:45:00 PM
Nitrate (as N)	ND	0.200	DH	mg/L	2	9/11/2023 8:01:00 PM
Sulfate	16.1	1.20	D	mg/L	2	9/11/2023 8:01:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R86542		Analyst: SS
Total Organic Carbon	4.20	0.700		mg/L	1	9/14/2023 8:40:00 PM

CLIENT: Friedman & Bruya
Project: 309096

Lab ID: 2309079-003 **Collection Date:** 9/7/2023 3:01:00 PM
Client Sample ID: **MW-4B-090723** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R86499		Analyst: AM
Methane	0.619	0.0270	D	mg/L	4	9/12/2023 1:58:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 41438		Analyst: SS
Nitrate (as N)	ND	1.00	D	mg/L	10	9/8/2023 7:09:00 PM
Nitrate (as N)	ND	0.200	DH	mg/L	2	9/11/2023 8:24:00 PM
Sulfate	2.68	1.20	D	mg/L	2	9/11/2023 8:24:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R86542		Analyst: SS
Total Organic Carbon	6.32	0.700		mg/L	1	9/14/2023 9:02:00 PM

Lab ID: 2309079-004 **Collection Date:** 9/7/2023 3:09:00 PM
Client Sample ID: **MW-104B-090723** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R86499		Analyst: AM
Methane	0.619	0.0270	D	mg/L	4	9/12/2023 2:00:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 41438		Analyst: SS
Nitrate (as N)	ND	1.00	D	mg/L	10	9/8/2023 7:32:00 PM
Nitrate (as N)	ND	0.200	DH	mg/L	2	9/11/2023 9:33:00 PM
Sulfate	2.63	1.20	D	mg/L	2	9/11/2023 9:33:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R86542		Analyst: SS
Total Organic Carbon	6.57	0.700		mg/L	1	9/14/2023 9:35:00 PM

Work Order: 2309079
CLIENT: Friedman & Bruya
Project: 309096

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **MB-41438**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/8/2023**	RunNo: **86465**
Client ID: **MBLKW**	Batch ID: **41438**		Analysis Date: **9/8/2023**	SeqNo: **1804477**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									

Sample ID: **LCS-41438**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/8/2023**	RunNo: **86465**
Client ID: **LCSW**	Batch ID: **41438**		Analysis Date: **9/8/2023**	SeqNo: **1804478**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.788	0.100	0.7500	0	105	90	110				

Sample ID: **2309079-001ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/8/2023**	RunNo: **86465**
Client ID: **MW-1-090723**	Batch ID: **41438**		Analysis Date: **9/8/2023**	SeqNo: **1804480**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	1.00						0		20	D

Sample ID: **2309079-001AMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/8/2023**	RunNo: **86465**
Client ID: **MW-1-090723**	Batch ID: **41438**		Analysis Date: **9/8/2023**	SeqNo: **1804481**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	7.79	1.00	7.500	0	104	80	120				D

Sample ID: **2309079-001AMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/8/2023**	RunNo: **86465**
Client ID: **MW-1-090723**	Batch ID: **41438**		Analysis Date: **9/8/2023**	SeqNo: **1804482**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	7.69	1.00	7.500	0	103	80	120	7.790	1.29	20	D

Work Order: 2309079
CLIENT: Friedman & Bruya
Project: 309096

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **LCS-41444**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/11/2023**	RunNo: **86452**
Client ID: **LCSW**	Batch ID: **41444**		Analysis Date: **9/11/2023**	SeqNo: **1804250**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.739	0.100	0.7500	0	98.5	90	110				
Sulfate	3.43	0.600	3.750	0	91.4	90	110				

Sample ID: **MB-41444**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/11/2023**	RunNo: **86452**
Client ID: **MBLKW**	Batch ID: **41444**		Analysis Date: **9/11/2023**	SeqNo: **1804252**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.600									

Sample ID: **2309028-001ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/11/2023**	RunNo: **86452**
Client ID: **BATCH**	Batch ID: **41444**		Analysis Date: **9/11/2023**	SeqNo: **1804254**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	1.00						0		20	DH
Sulfate	34.6	6.00						35.11	1.55	20	D

Sample ID: **2309028-001AMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/11/2023**	RunNo: **86452**
Client ID: **BATCH**	Batch ID: **41444**		Analysis Date: **9/11/2023**	SeqNo: **1804255**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	7.16	1.00	7.500	0	95.5	80	120				DH
Sulfate	73.1	6.00	37.50	35.11	101	80	120				D

Sample ID: **2309028-001AMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/11/2023**	RunNo: **86452**
Client ID: **BATCH**	Batch ID: **41444**		Analysis Date: **9/11/2023**	SeqNo: **1804256**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	7.04	1.00	7.500	0	93.9	80	120	7.160	1.69	20	DH
Sulfate	71.7	6.00	37.50	35.11	97.7	80	120	73.10	1.89	20	D

Work Order: 2309079
CLIENT: Friedman & Bruya
Project: 309096

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **2309028-001AMSD** SampType: **MSD** Units: **mg/L** Prep Date: **9/11/2023** RunNo: **86452**
Client ID: **BATCH** Batch ID: **41444** Analysis Date: **9/11/2023** SeqNo: **1804256**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Work Order: 2309079
CLIENT: Friedman & Bruya
Project: 309096

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB-86542**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/14/2023**	RunNo: **86542**
Client ID: **MBLKW**	Batch ID: **R86542**		Analysis Date: **9/14/2023**	SeqNo: **1805718**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **LCS-86542**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/14/2023**	RunNo: **86542**
Client ID: **LCSW**	Batch ID: **R86542**		Analysis Date: **9/14/2023**	SeqNo: **1805719**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	4.83	0.700	5.000	0	96.5	96	116				

Sample ID: **2309079-004BDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/14/2023**	RunNo: **86542**
Client ID: **MW-104B-090723**	Batch ID: **R86542**		Analysis Date: **9/14/2023**	SeqNo: **1805725**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	6.56	0.700						6.569	0.198	20	

Sample ID: **2309079-004BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/14/2023**	RunNo: **86542**
Client ID: **MW-104B-090723**	Batch ID: **R86542**		Analysis Date: **9/14/2023**	SeqNo: **1805726**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	10.9	0.700	5.000	6.569	86.4	62.4	130				

Sample ID: **2309079-004BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/14/2023**	RunNo: **86542**
Client ID: **MW-104B-090723**	Batch ID: **R86542**		Analysis Date: **9/14/2023**	SeqNo: **1805727**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	11.2	0.700	5.000	6.569	91.8	62.4	130	10.89	2.42	30	

Work Order: 2309079
CLIENT: Friedman & Bruya
Project: 309096

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R86499**	SampType: **LCS**	Units: **ppmv**	Prep Date: **9/12/2023**	RunNo: **86499**
Client ID: **LCSW**	Batch ID: **R86499**		Analysis Date: **9/12/2023**	SeqNo: **1805096**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,010	0.00675	1,000	0	101	73.6	124				

Sample ID: **MB-R86499**	SampType: **MBLK**	Units: **ppmv**	Prep Date: **9/12/2023**	RunNo: **86499**
Client ID: **MBLKW**	Batch ID: **R86499**		Analysis Date: **9/12/2023**	SeqNo: **1805095**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00675									

Sample ID: **2309079-001CREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **9/12/2023**	RunNo: **86499**
Client ID: **MW-1-090723**	Batch ID: **R86499**		Analysis Date: **9/12/2023**	SeqNo: **1805088**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.204	0.00675						0.2014	1.10	30	

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2309079
Logged by:	Morgan Wilson	Date Received:	9/8/2023 2:12:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	3.2

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2309079

Page 13 of 13

Page # _____ of _____

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER: Fremont

PROJECT NAME/NO.: 309096

PO #: D-437

REMARKS: Please Email Results

TURNAROUND TIME
- Standard TAT
- RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- Dispose after 30 days
- Return samples
- Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Dioxins/Furans	EPH	VPH	NITRATE	SULFATE	METHANE	TOC				Notes
MW-1-090723		9/7/23	15:35	W					✓	✓	✓	✓				
MW-2A-090723			17:00	W					✓	✓	✓	✓				
MW-4B-090723			15:01	W					✓	✓	✓	✓				
MW-104B-090723		↓	15:09	W					✓	✓	✓	✓				

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl, Eric Glover	Friedman & Bruya	9/8/23	13:30
Received by:		Alli Miller	FAI	9/8/23	14:12
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

September 14, 2023

Gabriel Cisneros, Project Manager
Floyd-Snider
Two Union Square
601 Union St, Suite 600
Seattle, WA 98101

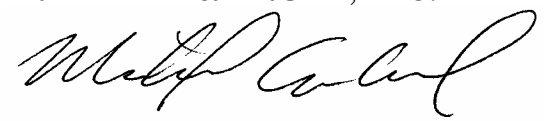
Dear Mr Cisneros:

Included are the results from the testing of material submitted on September 7, 2023 from the Big B CL Ellensburg, F&BI 309058 project. There are 10 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Floyd Snider Lab Data, Manique Talaia-Murray
FDS0914R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 7, 2023 by Friedman & Bruya, Inc. from the Floyd-Snider Big B CL Ellensburg, F&BI 309058 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
309058 -01	SVP-1-090623
309058 -02	SVP-101-090623

The 2-propanol concentration in the samples exceeded the calibration range of the instrument. The data were flagged accordingly.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVP-1-090623	Client:	Floyd-Snider
Date Received:	09/07/23	Project:	Big B CL Ellensburg
Date Collected:	09/06/23	Lab ID:	309058-01 1/8.2
Date Analyzed:	09/08/23	Data File:	090722.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<610
APH EC9-12 aliphatics	290
APH EC9-10 aromatics	<200

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVP-101-090623	Client:	Floyd-Snider
Date Received:	09/07/23	Project:	Big B CL Ellensburg
Date Collected:	09/06/23	Lab ID:	309058-02 1/8.5
Date Analyzed:	09/08/23	Data File:	090723.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<640
APH EC9-12 aliphatics	260
APH EC9-10 aromatics	<210

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Big B CL Ellensburg
Date Collected:	Not Applicable	Lab ID:	03-2097 mb
Date Analyzed:	09/07/23	Data File:	090714.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SVP-1-090623	Client:	Floyd-Snider
Date Received:	09/07/23	Project:	Big B CL Ellensburg
Date Collected:	09/06/23	Lab ID:	309058-01 1/8.2
Date Analyzed:	09/08/23	Data File:	090722.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	ppbv
2-Propanol	11,000 ve	4,400 ve
Benzene	<2.6	<0.82
Toluene	<62	<16
Ethylbenzene	<3.6	<0.82
m,p-Xylene	7.2	1.7
o-Xylene	<3.6	<0.82
Naphthalene	<2.1	<0.41

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SVP-101-090623	Client:	Floyd-Snider
Date Received:	09/07/23	Project:	Big B CL Ellensburg
Date Collected:	09/06/23	Lab ID:	309058-02 1/8.5
Date Analyzed:	09/08/23	Data File:	090723.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	ppbv
2-Propanol	13,000 ve	5,200 ve
Benzene	<2.7	<0.85
Toluene	<64	<17
Ethylbenzene	<3.7	<0.85
m,p-Xylene	<7.4	<1.7
o-Xylene	<3.7	<0.85
Naphthalene	<2.2	<0.42

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Big B CL Ellensburg
Date Collected:	Not Applicable	Lab ID:	03-2097 mb
Date Analyzed:	09/07/23	Data File:	090714.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3	ppbv
2-Propanol	<8.6	<3.5
Benzene	<0.32	<0.1
Toluene	<7.5	<2
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

Date of Report: 09/14/23
Date Received: 09/07/23
Project: Big B CL Ellensburg, F&BI 309058

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD MA-APH

Laboratory Code: 309029-01 1/5.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	430	460	7
APH EC9-12 aliphatics	ug/m3	390	400	3
APH EC9-10 aromatics	ug/m3	<140	<140	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	96	70-130
APH EC9-12 aliphatics	ug/m3	67	113	70-130
APH EC9-10 aromatics	ug/m3	67	96	70-130

Date of Report: 09/14/23
Date Received: 09/07/23
Project: Big B CL Ellensburg, F&BI 309058

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 309029-01 1/5.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
2-Propanol	ug/m3	<47	<47	nm
Benzene	ug/m3	6.1	6.1	0
Toluene	ug/m3	<41	<41	nm
Ethylbenzene	ug/m3	<2.4	<2.4	nm
m,p-Xylene	ug/m3	<4.8	<4.8	nm
o-Xylene	ug/m3	<2.4	<2.4	nm
Naphthalene	ug/m3	<1.4	<1.4	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
2-Propanol	ug/m3	33	94	70-130
Benzene	ug/m3	43	89	70-130
Toluene	ug/m3	51	109	70-130
Ethylbenzene	ug/m3	59	96	70-130
m,p-Xylene	ug/m3	120	94	70-130
o-Xylene	ug/m3	59	99	70-130
Naphthalene	ug/m3	71	75	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

309058

SAMPLE CHAIN OF CUSTODY

09/07/23 — Page # 1 of 1

Report To Gabe Cisneros + Manique Talaia-Murray
Company Floyd Snider
Address 601 Union St. Suite 600
City, State, ZIP Seattle, WA 98101
Phone 206 292-2078 Email gabe.cisneros@floydsnider.com (labdata@floydsnider.com)

SAMPLERS (signature)

PROJECT NAME & ADDRESS: Big B/CL Ellensburg

PO #

NOTES: ~~Limited 8260 list~~ P.O.

INVOICE TO

TURNAROUND TIME
Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Default: Clean following final report delivery
Hold (Fee may apply):

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium	2-propanol	A-per MT 10/13/23 ME Notes
SVP-1-090623	01	2303	303	IA / (SG)	9/6/23	30	1328	45	1334		✓		✓		A	
SVP-101-090623	02	3252	73	IA / (SG)	9/6/23	28	1328	45	1333		✓		✓		A	
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

Samples received at 20 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Manique Talaia-Murray	F/S	9/7/23	0748
Received by: D. M. B	Liz Webber-Bruya	F:B	9/7/23	748
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COCTO-15.DOC