

# Memorandum

**To:** John Mefford, Washington State Department of Ecology

**Copies:** Surjit Singh, Big B LLC  
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**From:** Gabe Cisneros and Manique Talala-Murray, Floyd|Snider

**Date:** December 26, 2025

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

**Re:** **2025 Data Summary Memorandum**

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## PURPOSE

Floyd|Snider has prepared this technical memorandum to summarize semiannual groundwater compliance monitoring performed in 2025 at the Big B Mini Mart Site (Site; Facility Site ID #386, Cleanup Site ID #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).

During the submittal of the 2024 Data Summary Memorandum, Floyd|Snider proposed that gasoline-range organics (GRO) and benzene, toluene, ethylbenzene, xylenes, and naphthalenes (BTEXN) be eliminated from future analytical reporting because there have been no cleanup level (CUL) exceedances in GRO, and all BTEXN results have been less than their respective reporting limits to date in all performance samples. On May 27, 2025, Floyd|Snider received formal Ecology approval for a change in the analyte list for groundwater monitoring in the CAP Agreed Order (Attachment 2; Ecology 2025a). Floyd|Snider had received an informal approval to implement this change for the spring groundwater monitoring event, prior to the receipt of the formal approval letter.

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

GRO defined in the CAP, which are greater than the Site CULs. Therefore, soil impacted with contaminants of concern 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 (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 time the power to the Site was turned off.

This memorandum summarizes the results for the third round of semiannual groundwater sampling event that was conducted in accordance with the CAP and EDR. Environmental data associated with the 2025 monitoring events were submitted to Ecology's Environmental Information Management database on December 1, 2025.

## **GROUNDWATER MONITORING AND SAMPLING EVENTS**

The first monitoring event of 2025 occurred on April 30, 2025, and the second event occurred on September 18, 2025. Static water levels were collected from Site wells prior to groundwater sample collection. Light non-aqueous phase liquid (LNAPL) was not detected within any monitoring well. 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 1. In the spring, groundwater flow direction was generally toward the southwest, and in the fall, flow direction was toward the southwest on the Big B property and shifted to the southeast on the Toad's property. The change in flow direction is likely related to the more permeable backfill material placed in the excavation beneath the Toad's property. The hydraulic gradient for the spring event ranged from approximately 0.001 to 0.002 feet per foot (ft/ft), and the hydraulic gradient for the fall event ranged between 0.001 and 0.005 ft/ft.

Groundwater sampling was performed on the Big B property upgradient wells MW-1A and MW-3; Big B property performance wells MW-2A, MW-4B, and MW-9A; and Toad's property wells MW-1 and MW-2 (shown as T-MW-1 and T-MW-2 on figures). The upgradient wells were added to the sampling network to comply with the recommendations in Ecology's Guidance for Silica Gel Cleanup in Washington State (Ecology 2023) for quantifying naturally occurring organics in pre- and post-silica gel cleanup (SGC) DRO samples.

At each monitoring well, dedicated polyethylene tubing was inserted so that the intake was at the approximate midpoint of the submerged portion 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 and field parameters stabilized, 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 performance groundwater samples were stored on ice for transport per Table C.2 of the Sampling and Analysis Plan/Quality Assurance Project Plan, Appendix C in the EDR, and submitted to Friedman & Bruya, Inc. for analysis of the following constituent (reduced from the original analyte list per Ecology approval in Attachment 2):

- DRO and oil-range organics (ORO) by NWTPH-Dx, with and without SGC

To account for naturally occurring organics, upgradient wells MW-1A and MW-3 were analyzed for DRO and ORO with and without SGC. MW-1A and MW-3 are hydraulically upgradient and cross-gradient, respectively, of contaminant sources and releases to the Site. Total organic carbon (TOC) was not analyzed during the 2025 sampling events because TOC results from previous sampling events have established that naturally occurring organics are present in groundwater at the Site.

## **GROUNDWATER SAMPLING RESULTS**

Groundwater analytical results are provided in Table 2. The laboratory analytical reports and groundwater sampling forms are included as Attachment 1.

Total DRO + ORO concentrations measured in unimpacted upgradient/background monitoring wells MW-1A and MW-3 were used to quantify the amount of naturally occurring organics present in Site groundwater. The concentration of polar metabolic by-products was calculated using the following formula:

$$\text{NWTPH-Dx (no SGC)} - \text{NWTPH-Dx (with SGC)} - \text{Background NWTPH-Dx (no SGC)} = \text{polar metabolic by-product concentration};$$
 where, NWTPH-Dx (no SGC) is the total concentration of DRO, ORO, and polar metabolic by-products, NWTPH-Dx (with SGC) is the concentration of non-polar hydrocarbons, and background NWTPH-Dx (no SGC) is the seasonal concentration of total DRO + ORO at unimpacted upgradient wells.

The results of these calculations are presented in Table 2. The concentration of polar metabolic by-products was compared to a CUL of 500 micrograms per liter ( $\mu\text{g/L}$ ) because DRO is detected in Site groundwater samples with SGC analyses.

**DRO Results without SGC:** During the 2025 spring event, concentrations of DRO without SGC exceeded the Site CUL of 500  $\mu\text{g/L}$  in the following wells:

- MW-2A
- MW-4B
- MW-1 (Toad's)
- MW-2 (Toad's)

During the 2025 fall event, concentrations of DRO without SGC exceeded the Site CUL of 500  $\mu\text{g/L}$  in the following wells:

- MW-4B
- MW-1 (Toad's)
- MW-2 (Toad's)

MW-9A, located in the southeast corner of the Big B property, and MW-2A, located in the center of the Big B property, both contained measurable LNAPL thicknesses prior to cleanup activities; however, concentrations of DRO and ORO (without SGC) detected in MW-9A and MW-2A were less the CUL during the 2025 fall event. During the 2025 spring and fall events, the greatest DRO concentrations, without SGC, were detected at MW-2 (4,800 and 2,300  $\mu\text{g/L}$ , respectively) on Toad's. Concentrations of DRO generally decreased between the spring and fall monitoring events, a trend that was also observed in 2024, indicating there are seasonal trends to DRO concentrations, without SGC, coinciding with lower fall water levels. Since the beginning of semiannual groundwater monitoring in 2023, concentrations at all impacted monitoring wells within the network have decreased, with the exception of concentrations at MW-1 (Toad's) that continues to fluctuate at concentrations greater than the CUL.

**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.

During the 2025 spring event, DRO concentrations analyzed with SGC in groundwater exceeded the CUL in the following well:

- MW-4B

During the 2025 fall event, DRO concentrations analyzed with SGC exceeded the CUL in the following well:

- MW-2 (Toad's)

**Polar Metabolic By-Products:** Polar metabolic by-products within monitoring wells in the groundwater plume are calculated using the formula above.

During the spring 2025 event, the calculated concentrations of polar metabolic by-products exceeded the CUL of 500 µg/L in the following wells:

- MW-4B
- MW-1 (Toad's), field duplicate only
- MW-2 (Toad's)

During the fall 2025 event, the calculated concentrations of polar metabolic by-products exceeded the CUL in the following wells:

- MW-4B
- MW-2 (Toad's)

Concentrations of total metabolic by-products were greatest at MW-4B and MW-2 (Toad's), which is understandable given the linear relationship between elevated DRO and the concentration of total metabolic by-products. The results of these calculations show that a substantial portion of the DRO results (without SGC) at MW-4B and MW-2 (Toad's) can be accounted for by polar metabolites, which account for approximately 50% to 90% of 2025 NWTPH-Dx results.

Chromatogram patterns indicate weathered diesel and biodegradation metabolites, which are present in the chromatograms for samples analyzed without SGC but are absent in chromatograms for samples analyzed with SGC (Attachment 1). The chromatograms and the presence of polar metabolites are evidence that biodegradation is occurring at the Site.

### **Additional Activities**

On November 7, 2025, Floyd|Snider received Ecology approval to place an Oxygen Release Compound (ORC) sock in MW-4B because the concentration of DRO in MW-4B fluctuates between greater than the CUL in the spring and less than the CUL in the fall (Ecology 2025b). Placing the ORC sock will promote biodegradation further. The ORC sock was placed in the well on November 12, 2025, and will be removed approximately 1 month before the spring 2026 sampling event.

### **BIOVENTING SYSTEM STATUS**

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, 2023, the blower has been running continuously, and these parameters are within expected limits. The blower filter was replaced during the May 2025 sampling event.

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

The bioventing system layout is presented on Figure 2.

## CONCLUSIONS AND NEXT STEPS

Semiannual monitoring of groundwater was completed at the Site in May and September 2025.

DRO concentrations analyzed without SGC show exceedances in one or both monitoring events in samples collected from MW-2A, MW-4B, MW-1 (Toad's), and MW-2 (Toad's). Concentrations of DRO without SGC have generally decreased at these wells from concentrations as great as 5,800 µg/L to less than the CUL since post-cleanup monitoring began in 2023. DRO results analyzed with SGC indicate that DRO in a subset of wells (MW-4B and MW-2 [Toad's]) were generally reduced compared to the 2024 results. The calculated concentrations of total metabolic by-products mirror the elevated concentrations of DRO in groundwater in the monitoring network.

To comply with Ecology's Guidance for Silica Gel Cleanup in Washington State (Ecology 2023) for quantifying naturally occurring organics in pre- and post-SGC DRO samples, the monitoring network will continue to consist of the following monitoring wells: MW-1A, MW-2, MW-3, MW-4B, and MW-9A on the Big B property and MW-1 and MW-2 on the Toad's property. An ORC sock placed in MW-4B will be removed at least 1 month prior to the spring 2026 monitoring event. Groundwater sampling will continue until the conditions in Section 4.3.1 of the CAP are satisfied.

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.

\_\_\_\_\_. 2025. Big B - ORC Socks request. Internal Floyd|Snider email from Manique Talaia-Murray to Danielle Gallaher and Gabe Cisneros. 14 November.

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.
- \_\_\_\_\_. 2023. *Guidance for Silica Gel Cleanup in Washington State*. Publication No. 22-09-059. November.
- \_\_\_\_\_. 2025. "CLARC Data Tables and Other Technical Information." Last accessed November 1, 2025. <https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/contamination-cleanup-tools/clarc/data-tables>
- \_\_\_\_\_. 2025a. *Approval of change in analyte list for groundwater monitoring in Cleanup Action Plan Agreed Order*. 27 May.
- \_\_\_\_\_. 2025b. Big B—ORC Socks request. Email from John Mefford, Washington State Department of Ecology, to Gabe Cisneros, Floyd|Snider. 7 November.

#### LIST OF ATTACHMENTS

- Table 1 Groundwater Elevation Summary
- Table 2 Groundwater Analytical Results
- Figure 1 Vicinity Map
- Figure 2 Site Map
- Figure 3 Groundwater Elevation and Contour Map, April 30, 2025
- Figure 4 Groundwater Elevation and Contour Map, September 18, 2025
- Attachment 1 Spring and Fall 2025 Laboratory Reports and Groundwater Sampling Forms
- Attachment 2 Ecology Analytical List Change Approval (May 27, 2025)



MANIQUE TALAIA-MURRAY

A handwritten signature in cursive script that reads "Manique Talaiá-Murray".

## Tables

**Table 1**  
**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)
<b>Big B Property</b>					
MW-1A	4-14	1,490.76	5/1/2023	4.64	1,486.12
			9/7/2023	5.61	1,485.15
			5/7/2024	4.88	1,485.88
			9/10/2024	5.57	1,485.19
			4/30/2025	4.42	1,486.34
			9/18/2025	5.80	1,484.96
MW-2A	3-13	1,490.91	5/1/2023	4.85	1,486.06
			9/7/2023	5.89	1,485.02
			5/7/2024	5.11	1,485.80
			9/10/2024	5.75	1,485.16
			4/30/2025	4.69	1,486.22
			9/18/2025	6.03	1,484.88
MW-3	1-11	1,490.88	5/1/2023	4.82	1,486.06
			9/7/2023	5.78	1,485.10
			5/7/2024	5.07	1,485.81
			9/10/2024	5.70	1,485.18
			4/30/2025	4.56	1,486.32
			9/18/2025	6.00	1,484.88
MW-4B	3-13	1,489.79	5/1/2023	3.85	1,485.94
			9/7/2023	4.82	1,484.97
			5/7/2024	4.19	1,485.60
			9/10/2024	4.79	1,485.00
			4/30/2025	3.77	1,486.02
			9/18/2025	5.14	1,484.65
MW-8	3-13	1,490.85	5/1/2023	4.72	1,486.13
			9/7/2023	5.76	1,485.09
			5/7/2024	5.04	1,485.81
			9/10/2024	5.66	1,485.19
			4/30/2025	4.61	1,486.24
			9/18/2025	5.97	1,484.88
MW-9A	3-13	1,489.97	5/1/2023	3.96	1,486.01
			9/7/2023	4.95	1,485.02
			5/7/2024	4.89	NM
			9/10/2024	4.90	1,485.07
			4/30/2025	3.80	1,486.17
			9/18/2025	5.15	1,484.82
MW-10	4-14	1,490.83	5/1/2023	4.78	1,486.05
			9/7/2023	5.81	1,485.02
			5/7/2024	5.04	1,485.79
			9/10/2024	5.66	1,485.17
			4/30/2025	4.61	1,486.22
			9/18/2025	5.95	1,484.88
<b>Toad's Property</b>					
T-MW-1	4-14	1,490.31	5/1/2023	4.36	1,485.95
			9/7/2023	5.39	1,484.92
			5/7/2024	4.69	1,485.62
			9/10/2024	5.37	1,484.94
			4/30/2025	4.25	1,486.06
			9/18/2025	5.67	1,484.64
T-MW-2	4-14	1,490.24	5/1/2023	4.35	1,485.89
			9/7/2023	5.22	1,485.02
			5/7/2024	4.53	NM
			9/10/2024	5.19	1,485.05
			4/30/2025	4.14	1,486.10
			9/18/2025	5.46	1,484.78

Abbreviations:  
 bgs Below ground surface  
 bTOC Below top of casing  
 NM Not measured  
 NAVD 88 North American Vertical Datum of 1988

**Table 2**  
**Groundwater Analytical Results**

Area				Upgradient/Background								Within Dissolved-Phase Plume					
Location Name				MW-1A				MW-3				MW-2A					
Sample Name				MW-1A-050724	MW-1A-091024	MW-1A-043025	MW-1A-091825	MW-3-050724	MW-3-091024	MW-3-043025	MW-3-091825	MW-2A-050123	MW-2A-090723	MW-2A-050724	MW-2A-091024	MW-2A-043025	MW-2A-091825
Sample Date				5/7/2024	9/10/2024	4/30/2025	9/18/2025	5/7/2024	9/10/2024	4/30/2025	9/18/2025	5/1/2023	9/7/2023	5/7/2024	9/10/2024	4/30/2025	9/18/2025
Analyte	CAS No.	CUL <sup>(1)</sup>	Unit														
<b>Total Petroleum Hydrocarbons by NWTPH-Gx, -Dx</b>																	
Gasoline-range organics	GRO	800	µg/L									390	330	410	440		
Diesel-range organics	DRO	500	µg/L	110 <sup>(2)</sup>	50 U	54 <sup>(2)</sup>	50 U	430 <sup>(2)</sup>	64 <sup>(2)</sup>	220 <sup>(2)</sup>	160 <sup>(2)</sup>	2,700 <sup>(2)</sup>	540 <sup>(2)</sup>	1,200 <sup>(2)</sup>	490 <sup>(2)</sup>	560 <sup>(2)</sup>	330 <sup>(2)</sup>
Oil-range organics	ORO	--	µg/L	250 U	250 U	250 U	200 U	250 U	250 U	250 U	200 U	340 <sup>(2)</sup>	250 U	250 U	250 U	250 U	200 U
Total DRO & ORO	T_DRO&ORO (U=0)	500	µg/L	110	250 U	54	200 U	430	64	220	160	3,000	540	1,200	490	560	330
<b>Total Petroleum Hydrocarbons by NWTPH-Dx w/ Silica Gel Cleanup</b>																	
Diesel-range organics	DRO	500	µg/L	50 U	50 U	50 U	50 U	60 U	50 U	50 U	50 U	110	50 U	50 U	79 <sup>(2)</sup>	50 U	87
Oil-range organics	ORO	--	µg/L	250 U	250 U	250 U	200 U	250 U	250 U	250 U	200 U	250 U	250 U	250 U	250 U	250 U	200 U
Total DRO & ORO	T_DRO&ORO (U=0)	500	µg/L	250 U	250 U	250 U	200 U	250 U	250 U	250 U	200 U	110	250 U	250 U	79	250 U	87
<b>Adjusted for Silica Gel Cleanup</b>																	
Nonpolar hydrocarbons	T_DRO&ORO (U=0)	--	µg/L	250 U	250 U	250 U	200 U	250 U	250 U	250 U	200 U	110	50 U	50 U	79	50 U	87
Total polar metabolites and NOC quantified within the DRO and ORO <sup>(3)</sup>	--	--	µg/L	110	250 U	54	200 U	430	64	220	160	2,900	540	1,200	410	560	240
NOC <sup>(3,4)</sup>	--	--	µg/L	110	--	54	--	430	64	220	160	--	--	270	64	140	160
Polar metabolic by-products <sup>(5)</sup>	--	500/700 <sup>(6)</sup>	µg/L	--	--	--	--	--	--	--	--	--	--	930	350	420	80
<b>BTEXN by EPA 8260D</b>																	
Benzene	71-43-2	5	µg/L									0.35 U	0.35 U	0.35 U	0.35 U		
Toluene	108-88-3	1,000	µg/L									1.0 U	1.0 U	1.0 U	1.0 U		
Ethylbenzene	100-41-4	700	µg/L									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		
Xylene (ortho)	95-47-6	--	µg/L									1.0 U	1.0 U	1.0 U	1.0 U		
Xylene (total)	1330-20-7	1,000	µg/L									2.0 U	2.0 U	2.0 U	2.0 U		
Naphthalene	91-20-3	160	µg/L									1.0 U	1.0 U	1.0 U	1.0 U		
<b>Dissolved Gases by RSK 175</b>																	
Methane	74-82-8	--	mg/L	0.0061	0.0050 U			0.0053	0.0089			0.27	0.22	0.49	0.61		
<b>Dissolved Metals by EPA 6020B</b>																	
Manganese	7439-96-5	--	µg/L	41	2			290	190			760	760	710	750		
<b>Conventionals</b>																	
Ferrous iron	15438-31-0	--	mg/L	0 J	0 J			0 J	0 J			1.5 J	3.0 J	2.5 J	3.5 J		
Nitrate (as Nitrogen)	--	--	mg/L	6.5 J	3.8			2.7 J	1.4			0.20 UJ	0.20 UJ	0.20 UJ	0.40 U		
Sulfate	14808-79-8	--	mg/L	20	16			23	13			13	16	24	17		
Total Organic Carbon <sup>(7)</sup>	TOC	--	µg/L	3,300	2,000			2,600	1,900			7,800	4,200	4,900	3,900		

**Table 2**  
**Groundwater Analytical Results**

Area				Upgradient/Background								Within Dissolved-Phase Plume					
Location Name				MW-1A				MW-3				MW-2A					
Sample Name				MW-1A-050724	MW-1A-091024	MW-1A-043025	MW-1A-091825	MW-3-050724	MW-3-091024	MW-3-043025	MW-3-091825	MW-2A-050123	MW-2A-090723	MW-2A-050724	MW-2A-091024	MW-2A-043025	MW-2A-091825
Sample Date				5/7/2024	9/10/2024	4/30/2025	9/18/2025	5/7/2024	9/10/2024	4/30/2025	9/18/2025	5/1/2023	9/7/2023	5/7/2024	9/10/2024	4/30/2025	9/18/2025
Analyte	CAS No.	CUL <sup>(1)</sup>	Unit														
<b>Field Parameters</b>																	
Depth to Water	WDepth	--	feet	4.9	4.88	4.4	5.8	5.08	5.07	4.55	6	4.85	5.87	5.12	5.11	4.7	6.03
Dissolved Oxygen	--	--	mg/L	0.45	1.21	0.44	2.12	0.45	0.37	0.21	0.08	0.21	0.29	0.4	0.35	0.16	0.34
ORP	--	--	mV	107.6	114.4	114.2	210.9	46.1	124	89.9	140.2	23.5	-91	-50.5	-86.5	-39.5	-58.2
pH	pH	--	pH	6.59	6.42	6.58	6.49	6.64	6.5	6.78	6.71	6.96	6.72	6.68	3	6.75	6.55
Specific Conductance	--	--	µS/cm	269.6	625	697	557	325.1	670	540	564	521	770	389.4	745	794	677
Temperature	--	--	°C	13.5	21.5	13.3	22.9	12.1	18.8	12.6	19.5	10.7	20	12.3	21	12.8	21.6
Turbidity	--	--	NTU	1.9	1.52	3.5	0.99	0.66	1.57	3.82	2.5	3.98	0.67	2.3	2.68	5.66	0.41

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 (Ecology 2024).
- 2 The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
- 3 Characterizing the contribution from naturally occurring organics in groundwater to the TPH totals may be done by analyzing clean representative background samples (located hydraulically upgradient of contaminant sources and releases to the Site) from permanent monitoring wells.
- 4 The average concentration of naturally occurring organics is obtained by using the total organic carbon concentrations from the two upgradient wells MW-1A and MW-3 during each monitoring event.
- 5 The polar metabolic by-product concentration is derived by [NWTPH-Dx (no SGC)] – [NWTPH-Dx (with SGC)] – [Background NWTPH-Dx (no SGC)] = polar metabolic by-product concentration.
- 6 A Site-wide CUL of 700 µg/L may be applied for sites that have no detectable concentrations of petroleum hydrocarbons (i.e., no detects using NWTPH-Gx or -Dx with SGC).
- 7 Total organic carbon by SM 5310C.

Abbreviations:

- BTEXN Benzene, toluene, ethylbenzene, xylenes, and naphthalene
- °C Degrees Celsius
- CAS Chemical Abstracts Service
- CUL Cleanup level
- DRO Diesel-range organics
- µg/L Micrograms per liter
- µS/cm Microsiemens per centimeter
- mg/L Milligrams per liter
- mV Millivolts
- MTCA Model Toxics Control Act
- NOC Naturally occurring carbon
- NTU Nephelometric turbidity units
- ORO Oil-range organics
- ORP Oxidation–reduction potential
- Site Big B Mini Mart Site
- TPH Total petroleum hydrocarbons
- 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.

**Table 2**  
**Groundwater Analytical Results**

Area				Within Dissolved-Phase Plume (cont.)												
Location Name				MW-4B						MW-9A						
Sample Name				MW-4B-050123	MW-4B-090723	MW-104B-090723	MW-4B-050724	MW-4B-091024	MW-4B-043025	MW-4B-091825	MW-9A-050123	MW-9A-090723	MW-9A-050724	MW-9A-091024	MW-9A-043025	MW-9A-091825
Sample Date				5/1/2023	9/7/2023	9/7/2023	5/7/2024	9/10/2024	4/30/2025	9/18/2025	5/1/2023	9/7/2023	5/7/2024	9/10/2024	4/30/2025	9/18/2025
Analyte	CAS No.	CUL <sup>(1)</sup>	Unit													
<b>Total Petroleum Hydrocarbons by NWTPH-Gx, -Dx</b>																
Gasoline-range organics	GRO	800	µg/L	440	490	490	360	550			100 U	100 U	100 U	100 U		
Diesel-range organics	DRO	500	µg/L	5,000 <sup>(2)</sup>	2,200 <sup>(2)</sup>	2,200 <sup>(2)</sup>	5,300 <sup>(2)</sup>	3,300 <sup>(2)</sup>	3,800 <sup>(2)</sup>	1,800 <sup>(2)</sup>	120 <sup>(2)</sup>	50 U	160 <sup>(2)</sup>	160 <sup>(2)</sup>	300	100 <sup>(2)</sup>
Oil-range organics	ORO	--	µg/L	470 <sup>(2)</sup>	370 <sup>(2)</sup>	350 <sup>(2)</sup>	530 <sup>(2)</sup>	300 <sup>(2)</sup>	250 U	200 U	250 U	250 U	250 U	250 U	200 U	200 U
Total DRO & ORO	T_DRO&ORO (U=0)	500	µg/L	5,500	2,600	2,600	5,800	3,600	3,800	1,800	120	250 U	160	160	300	100
<b>Total Petroleum Hydrocarbons by NWTPH-Dx w/ Silica Gel Cleanup</b>																
Diesel-range organics	DRO	500	µg/L	360	390	430	510 <sup>(2)</sup>	390 <sup>(2)</sup>	1,900	470	50 U	50 U	50 U	50 U	50 U	50 U
Oil-range organics	ORO	--	µg/L	250 U	250 U	250 U	250 U	250 U	250 U	200 U	250 U	250 U	250 U	250 U	200 U	200 U
Total DRO & ORO	T_DRO&ORO (U=0)	500	µg/L	360	390	430	510	390	1,900	470	250 U	250 U	250 U	250 U	200 U	200 U
<b>Adjusted for Silica Gel Cleanup</b>																
Nonpolar hydrocarbons	T_DRO&ORO (U=0)	--	µg/L	360	390	430	510	390	1,900	470	250 U	250 U	250 U	250 U	250 U	200 U
Total polar metabolites and NOC quantified within the DRO and ORO <sup>(3)</sup>	--	--	µg/L	5,100	2,200	2,200	5,300	3,200	1,900	1,300	120	250 U	160	160	300	100
NOC <sup>(3,4)</sup>	--	--	µg/L	--	--	--	270	64	140	160	--	--	270	64	140	160
Polar metabolic by-products <sup>(5)</sup>	--	500/700 <sup>(6)</sup>	µg/L	--	--	--	5,000	3,100	1,800	1,100	--	--	250 U	96	160	200 U
<b>BTEXN by EPA 8260D</b>																
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		
Toluene	108-88-3	1,000	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		
Ethylbenzene	100-41-4	700	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		
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		
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		
Xylene (total)	1330-20-7	1,000	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		
Naphthalene	91-20-3	160	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		
<b>Dissolved Gases by RSK 175</b>																
Methane	74-82-8	--	mg/L	0.65	0.62	0.62	1.5	1.3								
<b>Dissolved Metals by EPA 6020B</b>																
Manganese	7439-96-5	--	µg/L	1,400	960	910	1,100	1,000								
<b>Conventional</b>																
Ferrous iron	15438-31-0	--	mg/L	2.0 J	3.0 J		2.0 J	5.0 J					3.0 J	0.5 J		
Nitrate (as Nitrogen)	--	--	mg/L	0.20 UJ	0.20 UJ	0.20 UJ	0.20 UJ	0.40 U								
Sulfate	14808-79-8	--	mg/L	7.9	2.7	2.6	2.2	2.0								
Total Organic Carbon <sup>(7)</sup>	TOC	--	µg/L	12,000	6,300	6,600	8,900	11,000								

**Table 2**  
**Groundwater Analytical Results**

Area				Within Dissolved-Phase Plume (cont.)												
Location Name				MW-4B						MW-9A						
Sample Name				MW-4B-050123	MW-4B-090723	MW-104B-090723	MW-4B-050724	MW-4B-091024	MW-4B-043025	MW-4B-091825	MW-9A-050123	MW-9A-090723	MW-9A-050724	MW-9A-091024	MW-9A-043025	MW-9A-091825
Sample Date				5/1/2023	9/7/2023	9/7/2023	5/7/2024	9/10/2024	4/30/2025	9/18/2025	5/1/2023	9/7/2023	5/7/2024	9/10/2024	4/30/2025	9/18/2025
Analyte	CAS No.	CUL <sup>(1)</sup>	Unit													
<b>Field Parameters</b>																
Depth to Water	WDepth	--	feet	3.85	4.84		4.25	4.19	3.84	5.14	3.96	5	4.95	4.89	3.79	5.15
Dissolved Oxygen	--	--	mg/L	0.2	0.13		0.29	0.21	0.11	0.3	0.3	0.17	0.34	0.34	0.15	0.01
ORP	--	--	mV	6	-86.2		-21.3	-94.6	-98.3	-97.7	60.8	60.5	89.2	30	104.1	26.3
pH	pH	--	pH	7	6.7		6.79	6.69	6.91	6.65	7.04	6.67	6.61	6.6	6.81	6.77
Specific Conductance	--	--	µS/cm	491.6	716		261.1	682	650	710	344	716	264.2	626	650	472.2
Temperature	--	--	°C	10.4	20.8		12.4	21.1	12.1	21.6	11.1	19.5	13.2	19.8	12.7	19.8
Turbidity	--	--	NTU	1.61	0.57		1.45	0.98	1.33	0.46	1.42	0.65	2.58	5.61	2.16	0.88

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 (Ecology 2024).
- 2 The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
- 3 Characterizing the contribution from naturally occurring organics in groundwater to the TPH totals may be done by analyzing clean representative background samples (located hydraulically upgradient of contaminant sources and releases to the Site) from permanent monitoring wells.
- 4 The average concentration of naturally occurring organics is obtained by using the total organic carbon concentrations from the two upgradient wells MW-1A and MW-3 during each monitoring event.
- 5 The polar metabolic by-product concentration is derived by [NWTPH-Dx (no SGC)] – [NWTPH-Dx (with SGC)] – [Background NWTPH-Dx (no SGC)] = polar metabolic by-product concentration.
- 6 A Site-wide CUL of 700 µg/L may be applied for sites that have no detectable concentrations of petroleum hydrocarbons (i.e., no detects using NWTPH-Gx or -Dx with SGC).
- 7 Total organic carbon by SM 5310C.

Abbreviations:

- BTEXN Benzene, toluene, ethylbenzene, xylenes, and naphthalene
- °C Degrees Celsius
- CAS Chemical Abstracts Service
- CUL Cleanup level
- DRO Diesel-range organics
- µg/L Micrograms per liter
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- mg/L Milligrams per liter
- mV Millivolts
- MTCA Model Toxics Control Act
- NOC Naturally occurring carbon
- NTU Nephelometric turbidity units
- ORO Oil-range organics
- ORP Oxidation–reduction potential
- Site Big B Mini Mart Site
- TPH Total petroleum hydrocarbons
- 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.

**Table 2**  
**Groundwater Analytical Results**

Area				Within Dissolved-Phase Plume (cont.)										
Location Name				MW-1 (Toad's)										
Sample Name				MW-1-050123	MW-101-050123	MW-1-090723	MW-1-050724	MW-101-050724	MW-1-091024	MW-101-091024	MW-1-043025	MW-101-043025	MW-1-091825	MW-101-091825
Sample Date				5/1/2023	5/1/2023	9/7/2023	5/7/2024	5/7/2024	9/10/2024	9/10/2024	4/30/2025	4/30/2025	9/18/2025	9/18/2025
Analyte	CAS No.	CUL <sup>(1)</sup>	Unit											
<b>Total Petroleum Hydrocarbons by NWTPH-Gx, -Dx</b>														
Gasoline-range organics	GRO	800	µg/L	100 U	100 U	100 U	100 U	100 U	210	280				
Diesel-range organics	DRO	500	µg/L	640 <sup>(2)</sup>	680 <sup>(2)</sup>	1,700 <sup>(2)</sup>	1,000 <sup>(2)</sup>	1,100 <sup>(2)</sup>	1,200 <sup>(2)</sup>	2,200 <sup>(2)</sup>	700 <sup>(2)</sup>	800 <sup>(2)</sup>	850 <sup>(2)</sup>	930 <sup>(2)</sup>
Oil-range organics	ORO	--	µg/L	250 U	250 U	250 U	250 U	250 U	700	1,500	250 U	250 U	200 U	200 U
Total DRO & ORO	T_DRO&ORO (U=0)	500	µg/L	640	680	1,700	1,000	1,100	1,900	3,700	700	800	850	930
<b>Total Petroleum Hydrocarbons by NWTPH-Dx w/ Silica Gel Cleanup</b>														
Diesel-range organics	DRO	500	µg/L	99	82	210	130	120	540	1,400	130	150	330	470
Oil-range organics	ORO	--	µg/L	250 U	250 U	250 U	250 U	250 U	530	1,200	250 U	250 U	200 U	200 U
Total DRO & ORO	T_DRO&ORO (U=0)	500	µg/L	99	82	210	130	120	1,100	2,600	130	150	330	470
<b>Adjusted for Silica Gel Cleanup</b>														
Nonpolar hydrocarbons	T_DRO&ORO (U=0)	--	µg/L	99	82	210	130	120	1,100	2,600	130	150	330	470
Total polar metabolites and NOC quantified within the DRO and ORO <sup>(3)</sup>	--	--	µg/L	540	600	1,500	870	980	800	1,100	570	650	520	460
NOC <sup>(3,4)</sup>	--	--	µg/L	--	--	--	270	270	64	64	140	140	160	160
Polar metabolic by-products <sup>(5)</sup>	--	500/700 <sup>(6)</sup>	µg/L	--	--	--	600	710	740	1,000	430	510	360	300
<b>BTEXN by EPA 8260D</b>														
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			
Toluene	108-88-3	1,000	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			
Ethylbenzene	100-41-4	700	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			
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			
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			
Xylene (total)	1330-20-7	1,000	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			
Naphthalene	91-20-3	160	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			
<b>Dissolved Gases by RSK 175</b>														
Methane	74-82-8	--	mg/L	0.11	0.10	0.20	0.11	0.11	0.21	0.15				
<b>Dissolved Metals by EPA 6020B</b>														
Manganese	7439-96-5	--	µg/L	780	770	860	730	730	750	730				
<b>Conventionals</b>														
Ferrous iron	15438-31-0	--	mg/L	3.5 J		3.5 J	4.5 J		2.5 J					
Nitrate (as Nitrogen)	--	--	mg/L	0.20 UJ	0.20 UJ	0.20 UJ	0.20 U	0.20 U	0.40 U	0.40 U				
Sulfate	14808-79-8	--	mg/L	14	14	2.9	20	20	12	12				
Total Organic Carbon <sup>(7)</sup>	TOC	--	µg/L	4,500	4,500	7,200	4,600	4,600	4,600	4,500				

**Table 2  
Groundwater Analytical Results**

Area				Within Dissolved-Phase Plume (cont.)										
Location Name				MW-1 (Toad's)										
Sample Name				MW-1-050123	MW-101-050123	MW-1-090723	MW-1-050724	MW-101-050724	MW-1-091024	MW-101-091024	MW-1-043025	MW-101-043025	MW-1-091825	MW-101-091825
Sample Date				5/1/2023	5/1/2023	9/7/2023	5/7/2024	5/7/2024	9/10/2024	9/10/2024	4/30/2025	4/30/2025	9/18/2025	9/18/2025
Analyte	CAS No.	CUL <sup>(1)</sup>	Unit											
<b>Field Parameters</b>														
Depth to Water	WDepth	--	feet	4.36		5.39	4.64		4.69		4.24		5.67	
Dissolved Oxygen	--	--	mg/L	0.05		0.23	0.3		0.19		1.5		0.31	
ORP	--	--	mV	-50.2		-106.2	26.7		-82.6		-78.1		-81.8	
pH	pH	--	pH	6.86		6.74	6.77		6.78		6.83		6.71	
Specific Conductance	--	--	µS/cm	470.1		828	266.5		653		685		671	
Temperature	--	--	°C	10.8		20.3	12.2		20.5		11.9		21	
Turbidity	--	--	NTU	3.67		0.41	3.16		0.97		1.2		0.89	

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 (Ecology 2024).
- 2 The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
- 3 Characterizing the contribution from naturally occurring organics in groundwater to the TPH totals may be done by analyzing clean representative background samples (located hydraulically upgradient of contaminant sources and releases to the Site) from permanent monitoring wells.
- 4 The average concentration of naturally occurring organics is obtained by using the total organic carbon concentrations from the two upgradient wells MW-1A and MW-3 during each monitoring event.
- 5 The polar metabolic by-product concentration is derived by [NWTPH-Dx (no SGC)] – [NWTPH-Dx (with SGC)] – [Background NWTPH-Dx (no SGC)] = polar metabolic by-product concentration.
- 6 A Site-wide CUL of 700 µg/L may be applied for sites that have no detectable concentrations of petroleum hydrocarbons (i.e., no detects using NWTPH-Gx or -Dx with SGC).
- 7 Total organic carbon by SM 5310C.

Abbreviations:

- BTEXN Benzene, toluene, ethylbenzene, xylenes, and naphthalene
- °C Degrees Celsius
- CAS Chemical Abstracts Service
- CUL Cleanup level
- DRO Diesel-range organics
- µg/L Micrograms per liter
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- mg/L Milligrams per liter
- mV Millivolts
- MTCA Model Toxics Control Act
- NOC Naturally occurring carbon
- NTU Nephelometric turbidity units
- ORO Oil-range organics
- ORP Oxidation–reduction potential
- Site Big B Mini Mart Site
- TPH Total petroleum hydrocarbons
- 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.

**Table 2**  
**Groundwater Analytical Results**

Area				Within Dissolved-Phase Plume (cont.)					
Location Name				MW-2 (Toad's)					
Sample Name				MW-2-050123	MW-2-090723	MW-2-050724	MW-2-091024	MW-2-043025	MW-2-091825
Sample Date				5/1/2023	9/7/2023	5/7/2024	9/10/2024	4/30/2025	9/18/2025
Analyte	CAS No.	CUL <sup>(1)</sup>	Unit						
<b>Total Petroleum Hydrocarbons by NWTPH-Gx, -Dx</b>									
Gasoline-range organics	GRO	800	µg/L	160	100 U	100 U	100 U		
Diesel-range organics	DRO	500	µg/L	5,400 <sup>(2)</sup>	1,300 <sup>(2)</sup>	6,400 <sup>(2)</sup>	3,600 <sup>(2)</sup>	4,800 <sup>(2)</sup>	2,300 <sup>(2)</sup>
Oil-range organics	ORO	--	µg/L	780 <sup>(2)</sup>	370 <sup>(2)</sup>	700 <sup>(2)</sup>	450 <sup>(2)</sup>	530 <sup>(2)</sup>	320 <sup>(2)</sup>
Total DRO & ORO	T_DRO&ORO (U=0)	500	µg/L	6,200	1,700	7,100	4,100	5,300	2,600
<b>Total Petroleum Hydrocarbons by NWTPH-Dx w/ Silica Gel Cleanup</b>									
Diesel-range organics	DRO	500	µg/L	300	150	640	780	270	670
Oil-range organics	ORO	--	µg/L	250 U	250 U	250 U	280 U	250 U	200 U
Total DRO & ORO	T_DRO&ORO (U=0)	500	µg/L	300	150	640	780	270	670
<b>Adjusted for Silica Gel Cleanup</b>									
Nonpolar hydrocarbons	T_DRO&ORO (U=0)	--	µg/L	300	150	640	780	270	670
Total polar metabolites and NOC quantified within the DRO and ORO <sup>(3)</sup>	--	--	µg/L	5,900	1,600	6,500	3,300	5,000	1,900
NOC <sup>(3,4)</sup>	--	--	µg/L	--	--	270	64	140	160
Polar metabolic by-products <sup>(5)</sup>	--	500/700 <sup>(6)</sup>	µg/L	--	--	6,200	3,200	4,900	1,700
<b>BTEXN by EPA 8260D</b>									
Benzene	71-43-2	5	µg/L	0.35 U	0.35 U	0.35 U	0.35 U		
Toluene	108-88-3	1,000	µg/L	1.0 U	1.0 U	1.0 U	1.0 U		
Ethylbenzene	100-41-4	700	µg/L	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		
Xylene (ortho)	95-47-6	--	µg/L	1.0 U	1.0 U	1.0 U	1.0 U		
Xylene (total)	1330-20-7	1,000	µg/L	2.0 U	2.0 U	2.0 U	2.0 U		
Naphthalene	91-20-3	160	µg/L	1.0 U	1.0 U	1.0 U	1.0 U		
<b>Dissolved Gases by RSK 175</b>									
Methane	74-82-8	--	mg/L						
<b>Dissolved Metals by EPA 6020B</b>									
Manganese	7439-96-5	--	µg/L						
<b>Conventional</b>									
Ferrous iron	15438-31-0	--	mg/L			2.5 J	4.0 J		
Nitrate (as Nitrogen)	--	--	mg/L						
Sulfate	14808-79-8	--	mg/L						
Total Organic Carbon <sup>(7)</sup>	TOC	--	µg/L						

**Table 2  
Groundwater Analytical Results**

Area				Within Dissolved-Phase Plume (cont.)					
Location Name				MW-2 (Toad's)					
Sample Name				MW-2-050123	MW-2-090723	MW-2-050724	MW-2-091024	MW-2-043025	MW-2-091825
Sample Date				5/1/2023	9/7/2023	5/7/2024	9/10/2024	4/30/2025	9/18/2025
Analyte	CAS No.	CUL <sup>(1)</sup>	Unit						
<b>Field Parameters</b>									
Depth to Water	WDepth	--	feet	4.35	5.22	4.56	4.53	4.18	5.46
Dissolved Oxygen	--	--	mg/L	0.08	0.28	0.45	0.26	0.25	0.02
ORP	--	--	mV	-68.9	-122.5	-67.8	-114.2	-90.7	-113.9
pH	pH	--	pH	6.81	6.71	6.61	6.65	6.9	6.76
Specific Conductance	--	--	µS/cm	551	764	369.5	759	706	707
Temperature	--	--	°C	11	21.7	12.2	21.8	12.2	21.1
Turbidity	--	--	NTU	2.2	0.82	1.73	2.25	2.08	5.08

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 (Ecology 2024).
- 2 The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
- 3 Characterizing the contribution from naturally occurring organics in groundwater to the TPH totals may be done by analyzing clean representative background samples (located hydraulically upgradient of contaminant sources and releases to the Site) from permanent monitoring wells.
- 4 The average concentration of naturally occurring organics is obtained by using the total organic carbon concentrations from the two upgradient wells MW-1A and MW-3 during each monitoring event.
- 5 The polar metabolic by-product concentration is derived by [NWTPH-Dx (no SGC)] – [NWTPH-Dx (with SGC)] – [Background NWTPH-Dx (no SGC)] = polar metabolic by-product concentration.
- 6 A Site-wide CUL of 700 µg/L may be applied for sites that have no detectable concentrations of petroleum hydrocarbons (i.e., no detects using NWTPH-Gx or -Dx with SGC).
- 7 Total organic carbon by SM 5310C.

Abbreviations:

- BTEXN Benzene, toluene, ethylbenzene, xylenes, and naphthalene
- °C Degrees Celsius
- CAS Chemical Abstracts Service
- CUL Cleanup level
- DRO Diesel-range organics
- µg/L Micrograms per liter
- µS/cm Microsiemens per centimeter
- mg/L Milligrams per liter
- mV Millivolts
- MTCA Model Toxics Control Act
- NOC Naturally occurring carbon
- NTU Nephelometric turbidity units
- ORO Oil-range organics
- ORP Oxidation–reduction potential
- Site Big B Mini Mart Site
- TPH Total petroleum hydrocarbons
- 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

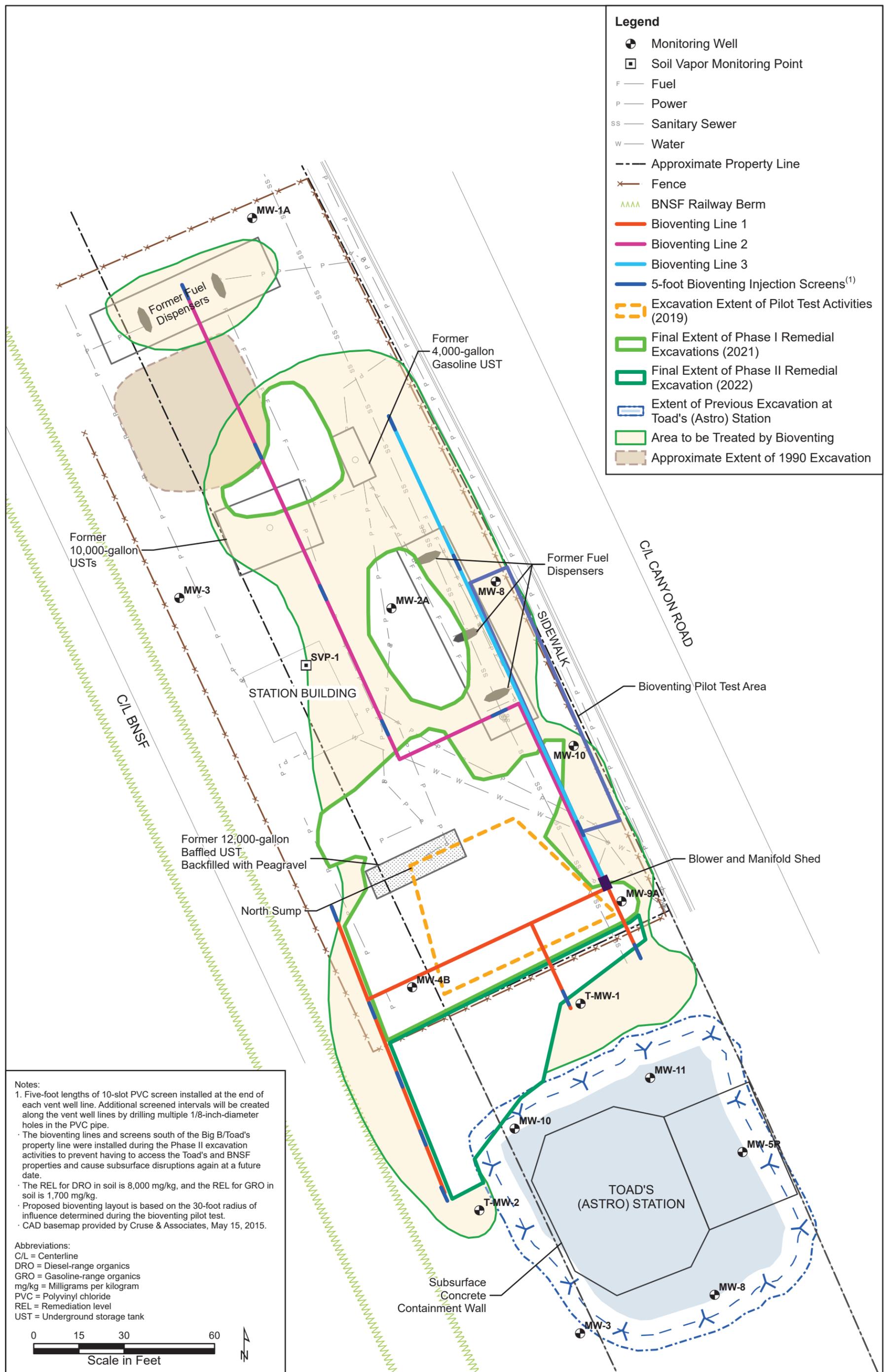


Note:  
 · Orthoimagery obtained from Esri, accessed 2025.

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**2025 Data Summary Memorandum  
 Big B Mini Mart Site  
 Ellensburg, Washington**

Figure 1  
 Vicinity Map

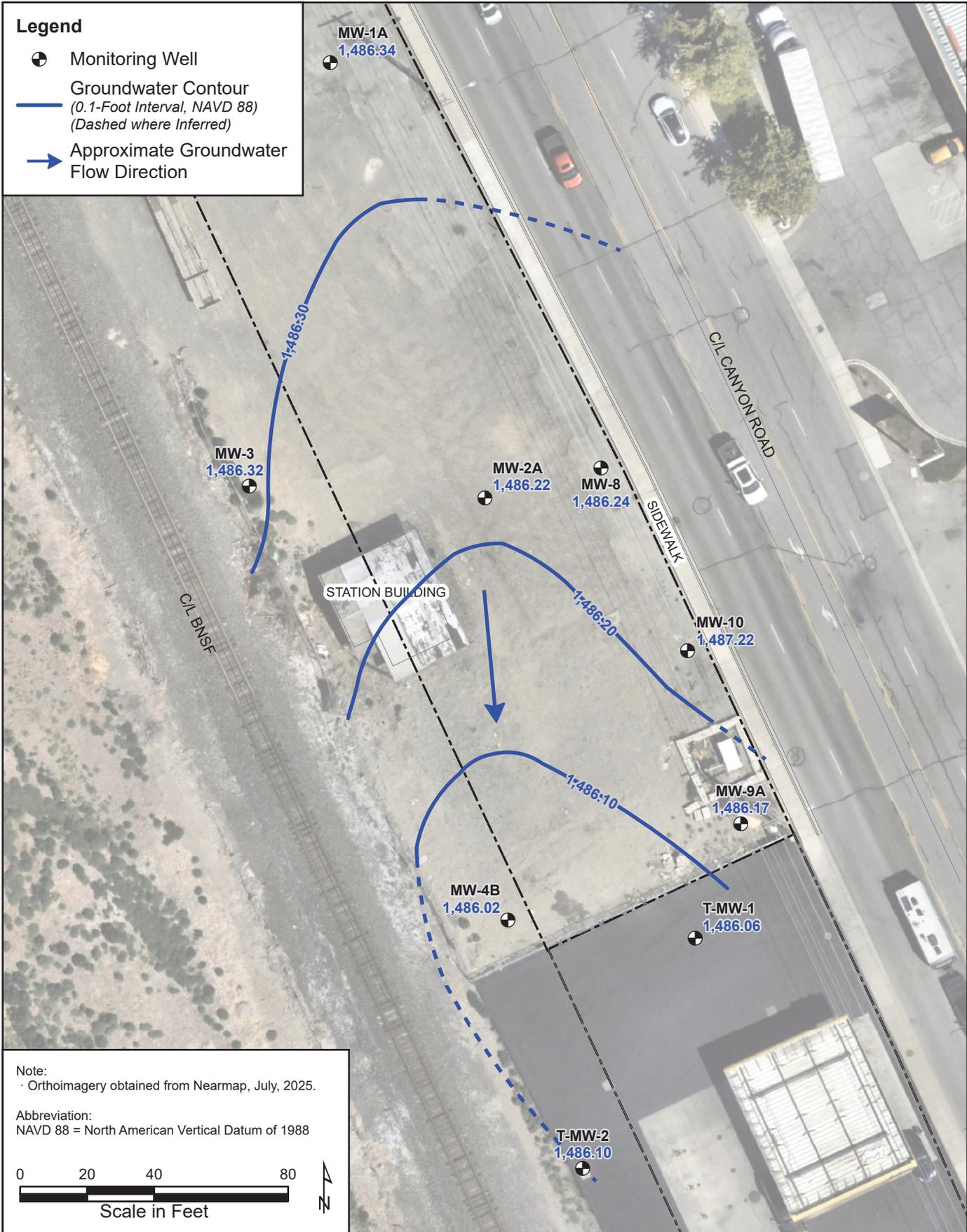


Notes:

- 1. Five-foot lengths of 10-slot PVC screen installed at the end of each vent well line. Additional screened intervals will be created along the vent well lines by drilling multiple 1/8-inch-diameter holes in the PVC pipe.
- The bioventing lines and screens south of the Big B/Toad's property line were installed during the Phase II excavation activities to prevent having to access the Toad's and BNSF properties and cause subsurface disruptions again at a future date.
- The REL for DRO in soil is 8,000 mg/kg, and the REL for GRO in soil is 1,700 mg/kg.
- Proposed bioventing layout is based on the 30-foot radius of influence determined during the bioventing pilot test.
- CAD basemap provided by Cruse & Associates, May 15, 2015.

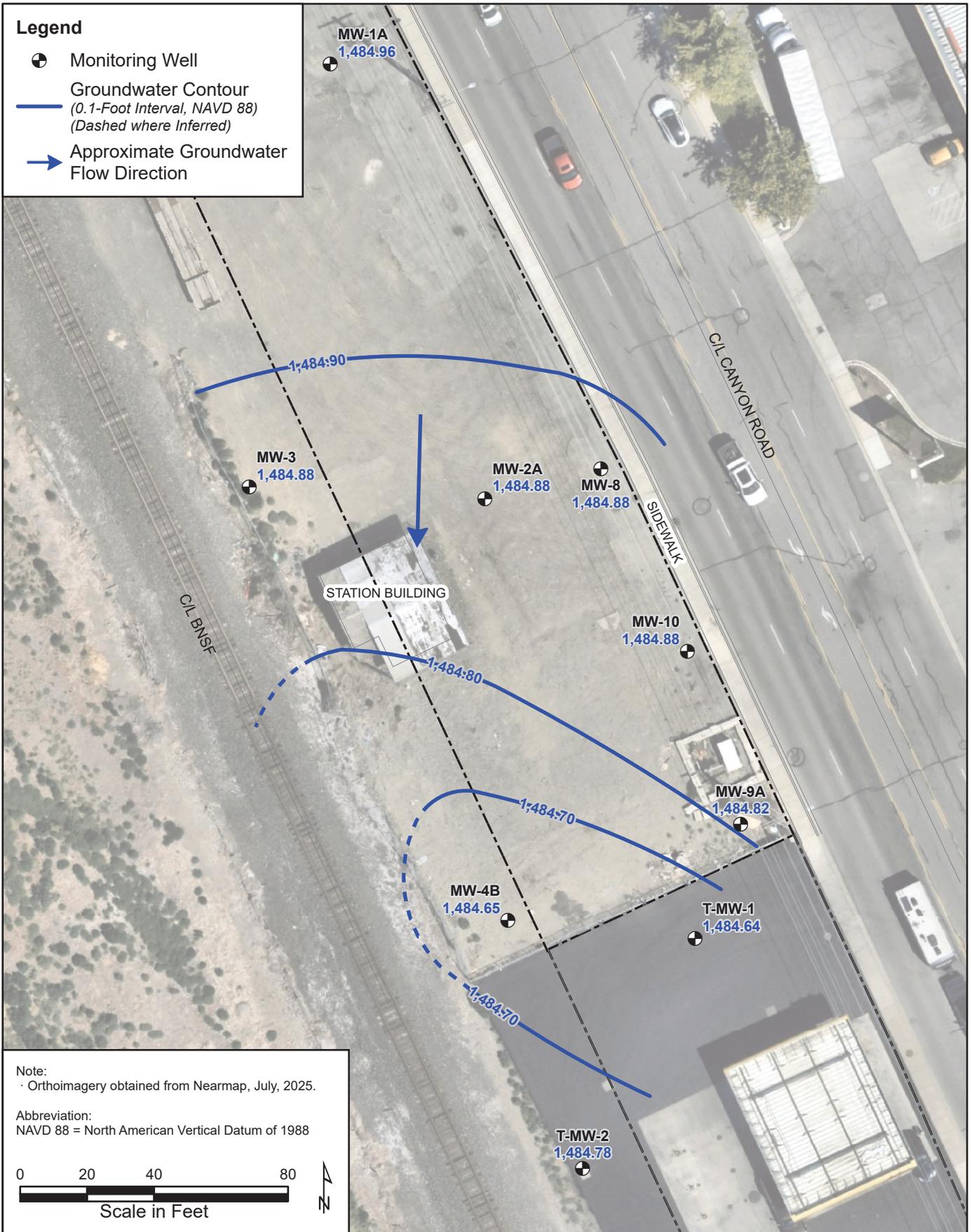
Abbreviations:  
 C/L = Centerline  
 DRO = Diesel-range organics  
 GRO = Gasoline-range organics  
 mg/kg = Milligrams per kilogram  
 PVC = Polyvinyl chloride  
 REL = Remediation level  
 UST = Underground storage tank





**Legend**

-  Monitoring Well
-  Groundwater Contour  
(0.1-Foot Interval, NAVD 88)  
(Dashed where Inferred)
-  Approximate Groundwater Flow Direction



Note:  
· Orthoimagery obtained from Nearmap, July, 2025.

Abbreviation:  
NAVD 88 = North American Vertical Datum of 1988



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**2025 Data Summary  
Memorandum  
Big B Mini Mart Site  
Ellensburg, Washington**

**Figure 4  
Groundwater Elevation  
and Contour Map  
September 18, 2025**

**Attachment 1**  
**Spring and Fall 2025 Laboratory Reports**  
**and Groundwater Sampling Forms**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya  
Ann Webber-Bruya  
Michael Erdahl  
Vineta Mills  
Eric Young

May 8, 2025

5500 4th Ave South  
Seattle, WA 98108-2419  
(206) 285-8282  
office@friedmanandbruya.com  
www.friedmanandbruya.com

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 April 30, 2025 from the Big B CL-Ellensburg, F&BI 504510 project. There are 6 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  
FDS0508R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 30, 2025 by Friedman & Bruya, Inc. from the Floyd-Snider Big B CL-Ellensburg, F&BI 504510 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Floyd-Snider</u>
504510 -01	MW-1A-043025
504510 -02	MW-3-043025
504510 -03	MW-2A-043025
504510 -04	MW-4B-043025
504510 -05	MW-9A-043025
504510 -06	MW-1-043025
504510 -07	MW-101-043025
504510 -08	MW-2-043025
504510 -09	TB-043025

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/08/25  
Date Received: 04/30/25  
Project: Big B CL-Ellensburg, F&BI 504510  
Date Extracted: 05/02/25  
Date Analyzed: 05/06/25

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
MW-1A-043025 504510-01	<50	<250	107
MW-3-043025 504510-02	<50	<250	94
MW-2A-043025 504510-03	<50	<250	95
MW-4B-043025 504510-04	1,900	<250	96
MW-9A-043025 504510-05	<50	<250	85
MW-1-043025 504510-06	130	<250	80
MW-101-043025 504510-07	150	<250	79
MW-2-043025 504510-08	270	<250	98
Method Blank 05-1105 MB	<50	<250	96

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/08/25  
Date Received: 04/30/25  
Project: Big B CL-Ellensburg, F&BI 504510  
Date Extracted: 05/02/25  
Date Analyzed: 05/02/25

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 50-150)
MW-1A-043025 504510-01	54 x	<250	111
MW-3-043025 504510-02	220 x	<250	104
MW-2A-043025 504510-03	560 x	<250	102
MW-4B-043025 504510-04	3,800 x	<250	110
MW-9A-043025 504510-05	300 x	<250	103
MW-1-043025 504510-06	740 x	<250	85
MW-101-043025 504510-07	820 x	<250	91
MW-2-043025 504510-08	4,800 x	530 x	128
Method Blank 05-1105 MB	<50	<250	97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/08/25

Date Received: 04/30/25

Project: Big B CL-Ellensburg, F&BI 504510

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

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	100	104	65-151	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/08/25

Date Received: 04/30/25

Project: Big B CL-Ellensburg, F&BI 504510

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

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	112	108	65-151	4

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **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 between the method detection limit and the lowest calibration point. 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.

5  
 Kottsto  
 Report To Maingue Tereia-Murray  
 Company Floyd Snider  
 Address 601 Union St, Ste 600  
 City, State, ZIP Seattle, WA 98101  
 Phone 206-292-2675 Email labdata@floyd-snider.com

**SAMPLE CHAIN OF CUSTODY**

504510  
 PROJECT NAME: CL-Sillenburg  
 PROJECT NUMBER: 1319 B  
 REMARKS: CL-Sillenburg  
 INVOICE TO: \_\_\_\_\_  
 ANALYSES REQUESTED: \_\_\_\_\_  
 SAMPLE DISPOSAL:  Standard turnaround  
 RUSH  
 Archive samples  
 Other  
 Rush charges authorized by: \_\_\_\_\_  
 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	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Notes
MW-1A-043025	01	4/30/25	11:48	GW	2	X	X						DX w/ and w/o SS
MW-3-043025	02		12:58		1	X	X						
MW-2A-043025	03		13:05		1	X	X						
MW-4B-043025	04		13:50		1	X	X						
MW-9A-043025	05		13:49		1	X	X						
MW-1-043025	06		10:15		1	X	X						
MW-101-043025	07		11:00		1	X	X						
MW-2-043025	08		11:16		1	X	X						
TB-043025	09 A B		08:00	W	2	X	X						Hold TB per MTM/ME 05/01/25

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

SIGNATURE: \_\_\_\_\_  
 PRINT NAME: Danalle Gollner  
 COMPANY: Floyd Snider  
 DATE: 4/30/25 TIME: 17:02  
 RECEIVED BY: Floyd Snider  
 RECEIVED BY: \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_  
 SAMPLES RECEIVED AT: 2 °C

04/30/25  
 Page # 1 of 1  
 1 MW1 / 1 CY

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 504510 JB CLIENT FDS INITIALS/ DATE: 04/30/25

If custody seals are present on cooler, are they intact?  NA  YES  NO

Cooler/Sample temperature 2 °C Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs?  YES  NO

How did samples arrive?  Over the Counter  Picked up by F&BI  FedEx/UPS/GSO

Is there a Chain-of-Custody\* (COC)?  YES  NO Initials/ Date: 5/1 JB

Number of days samples have been sitting prior to receipt at laboratory 0 days

Are the samples clearly identified? (explain "no" answer below)  YES  NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below)  YES  NO

Were appropriate sample containers used?  YES  NO  Unknown

If custody seals are present on samples, are they intact?  NA  YES  NO

Are samples requiring no headspace, headspace free?  NA  YES  NO

Is the following information provided on the COC, and does it match the sample label? (explain "no" answer below)

- Sample ID's  Yes  No  Not on COC/label
Date Sampled  Yes  No  Not on COC/label
Time Sampled  Yes  No  Not on COC/label
# of Containers  Yes  No
Relinquished  Yes  No
Requested analysis  Yes  On Hold

Other comments (use a separate page if needed)

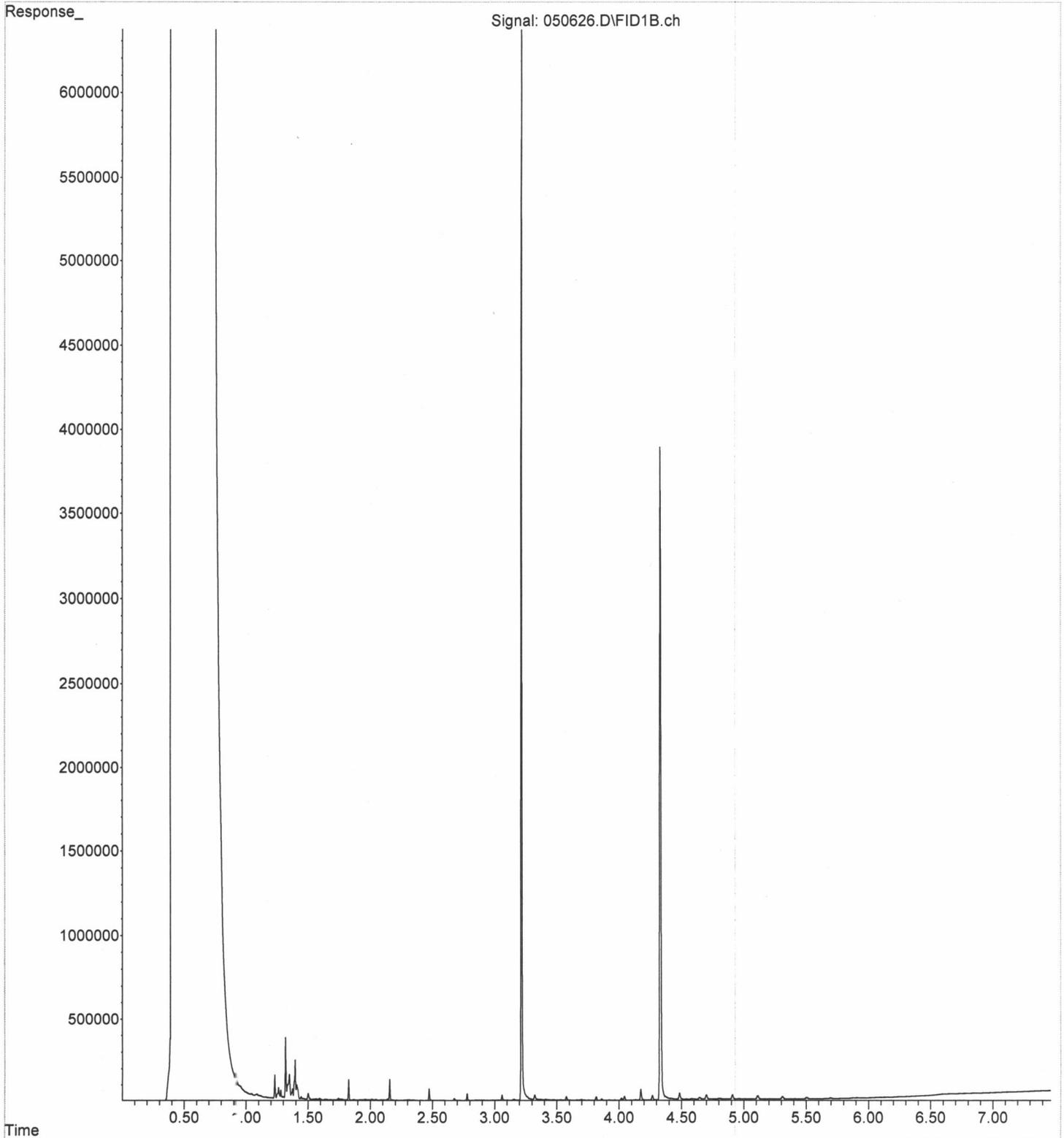
Air Samples: Were any additional canisters/tubes received?  NA  YES  NO

Number of unused TO15 canisters\*\* \_\_\_\_\_ Number of unused TO17 tubes \_\_\_\_\_

\*\*Fill out Green manifolds billing sheet

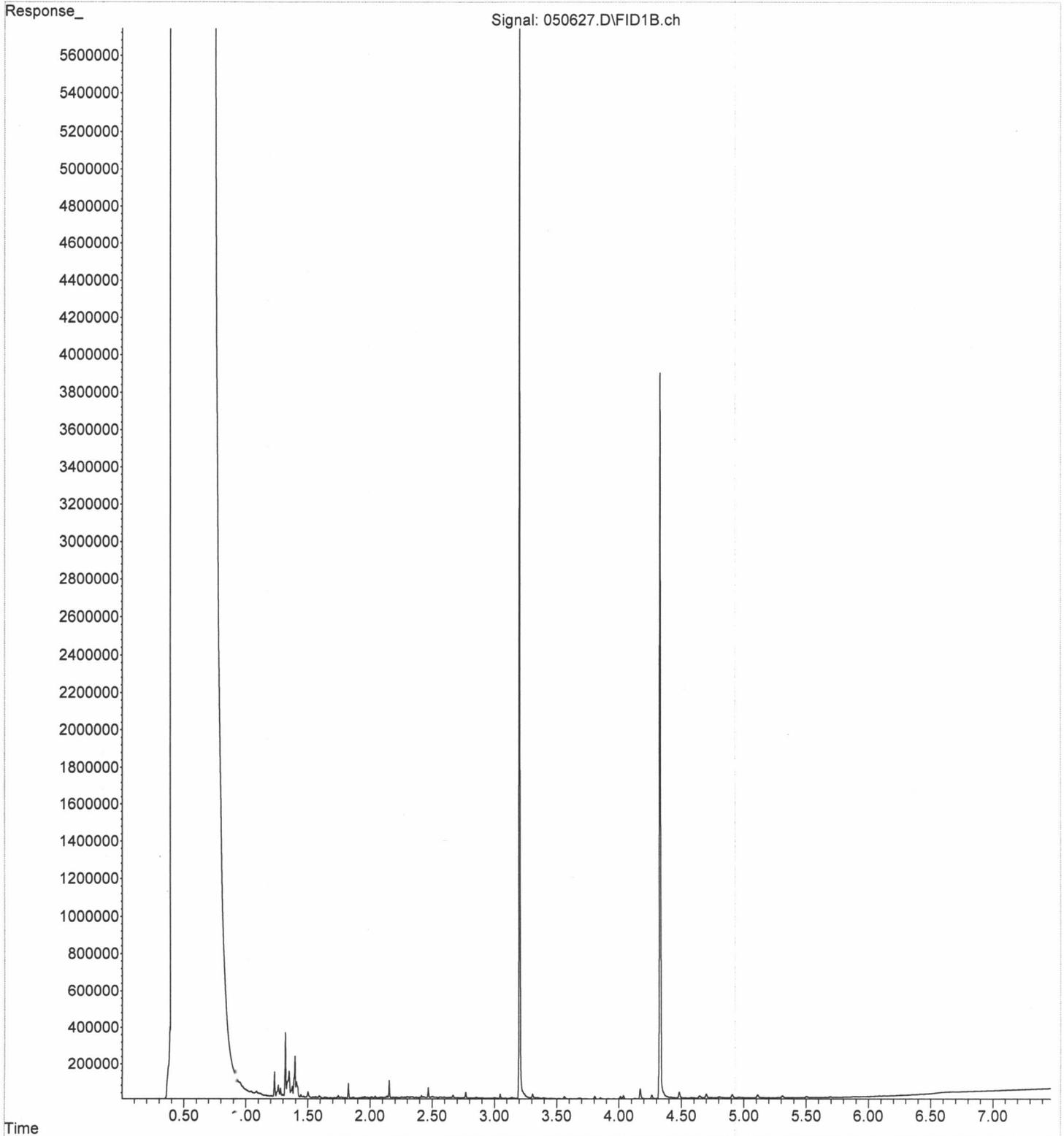
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Operator : TL  
Acquired : 06 May 2025 02:41 pm using AcqMethod DX.M  
Instrument : GC14  
Sample Name: 504510-01 sg  
Misc Info :  
Vial Number: 22

ERR



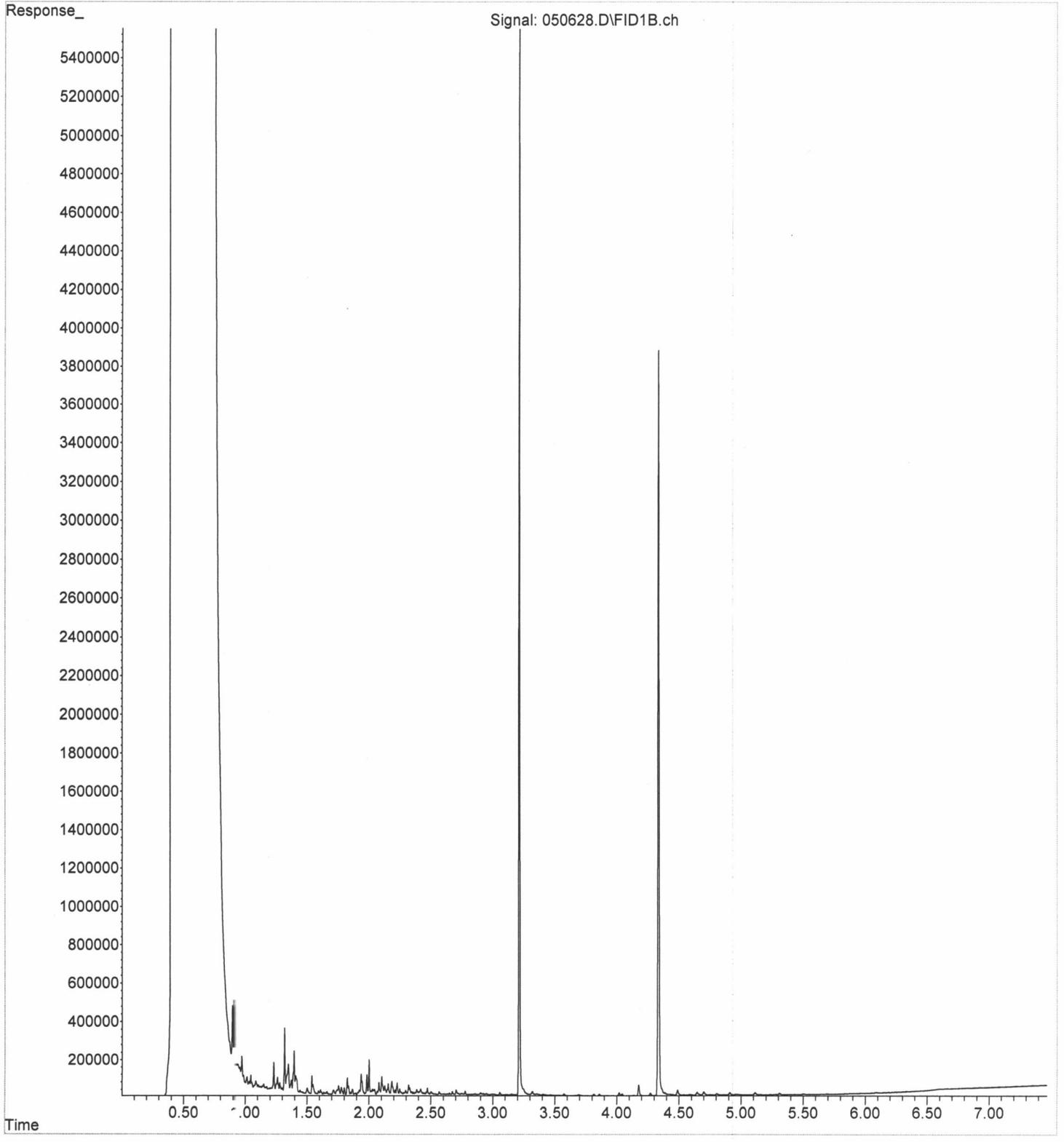
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Misc Info :  
Vial Number: 23

ERR



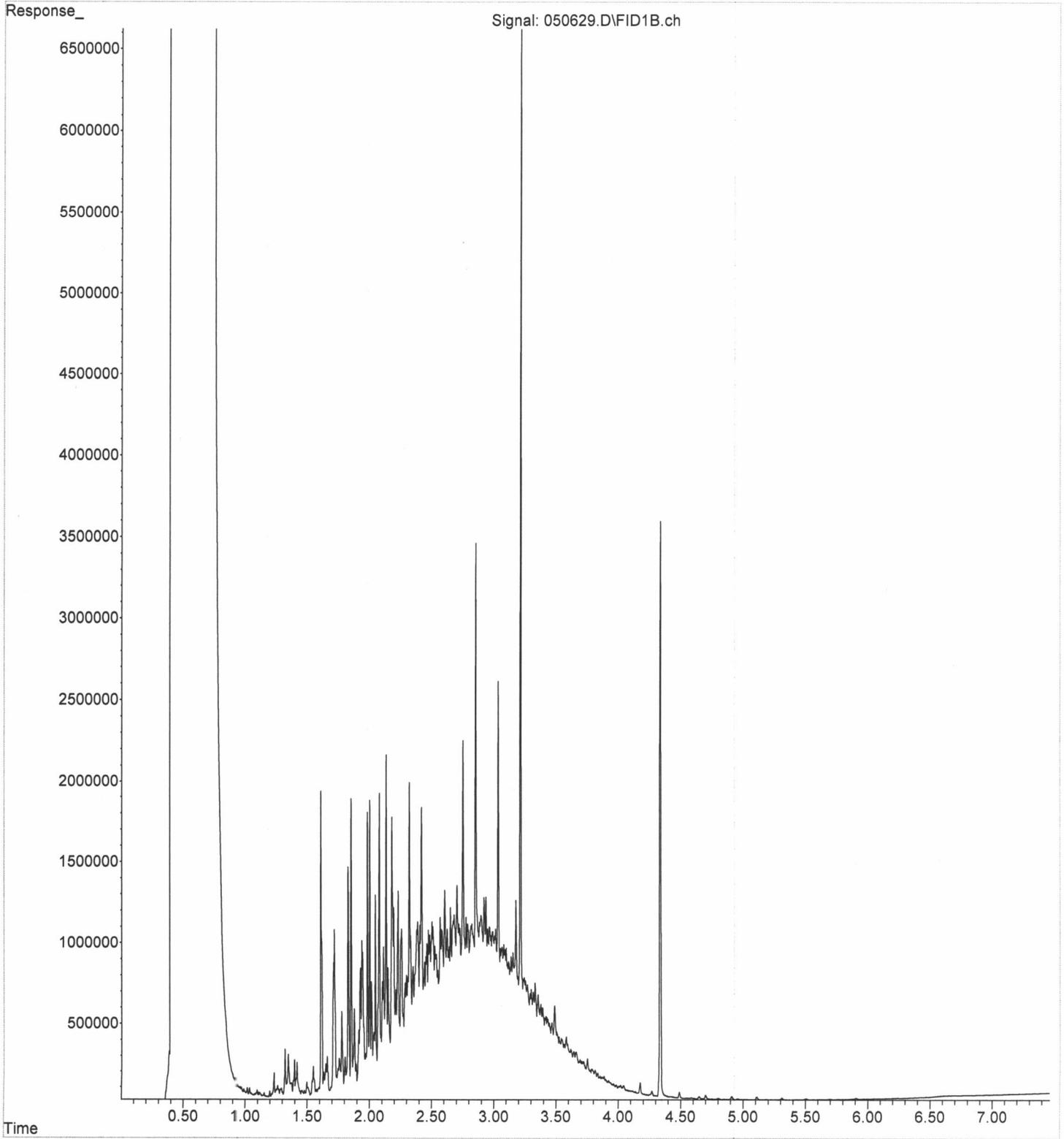
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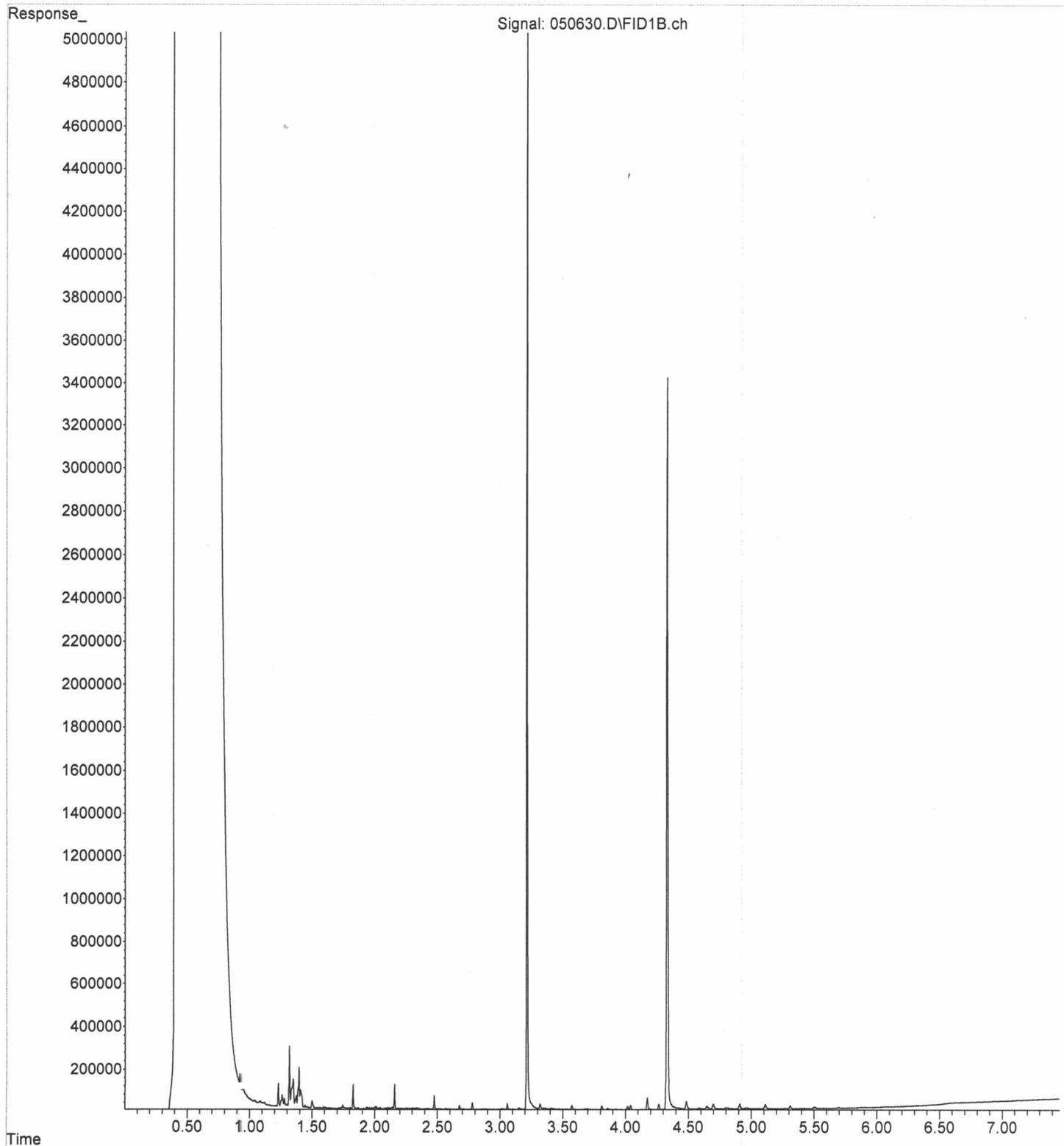
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Misc Info :  
Vial Number: 25

ERR



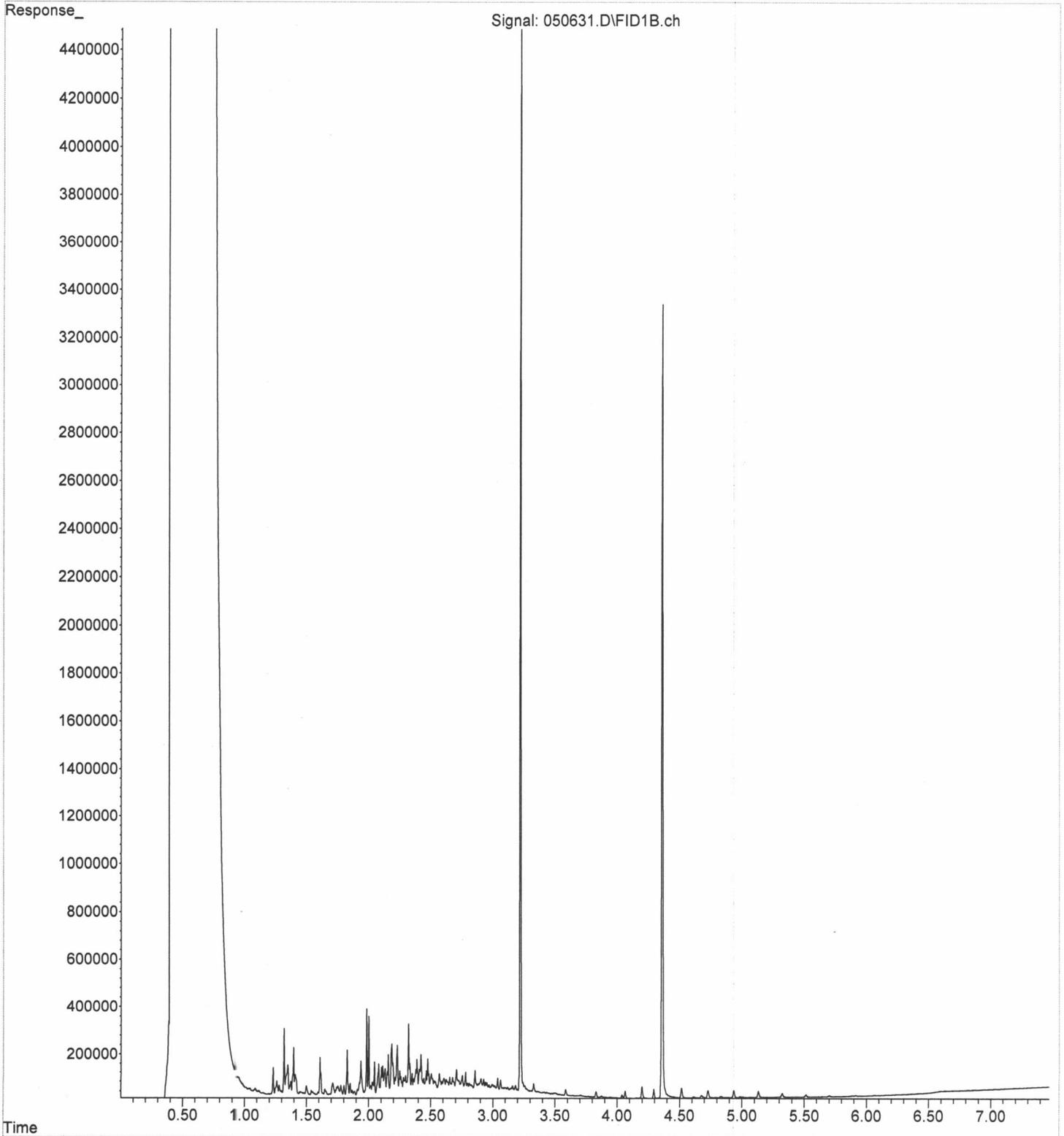
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Operator : TL  
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Sample Name: 504510-05 sg  
Misc Info :  
Vial Number: 26

ERR



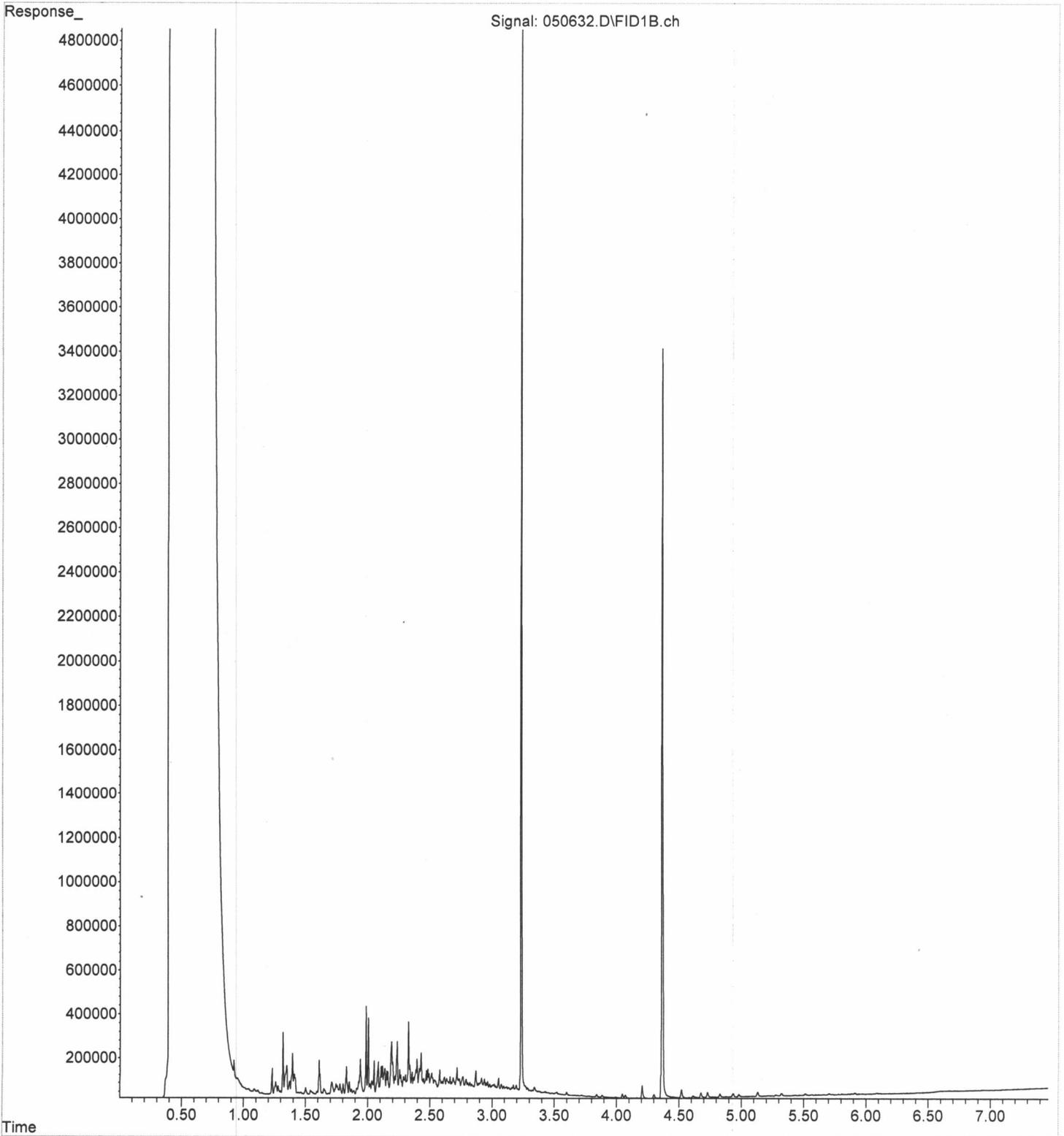
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Vial Number: 27

ERR



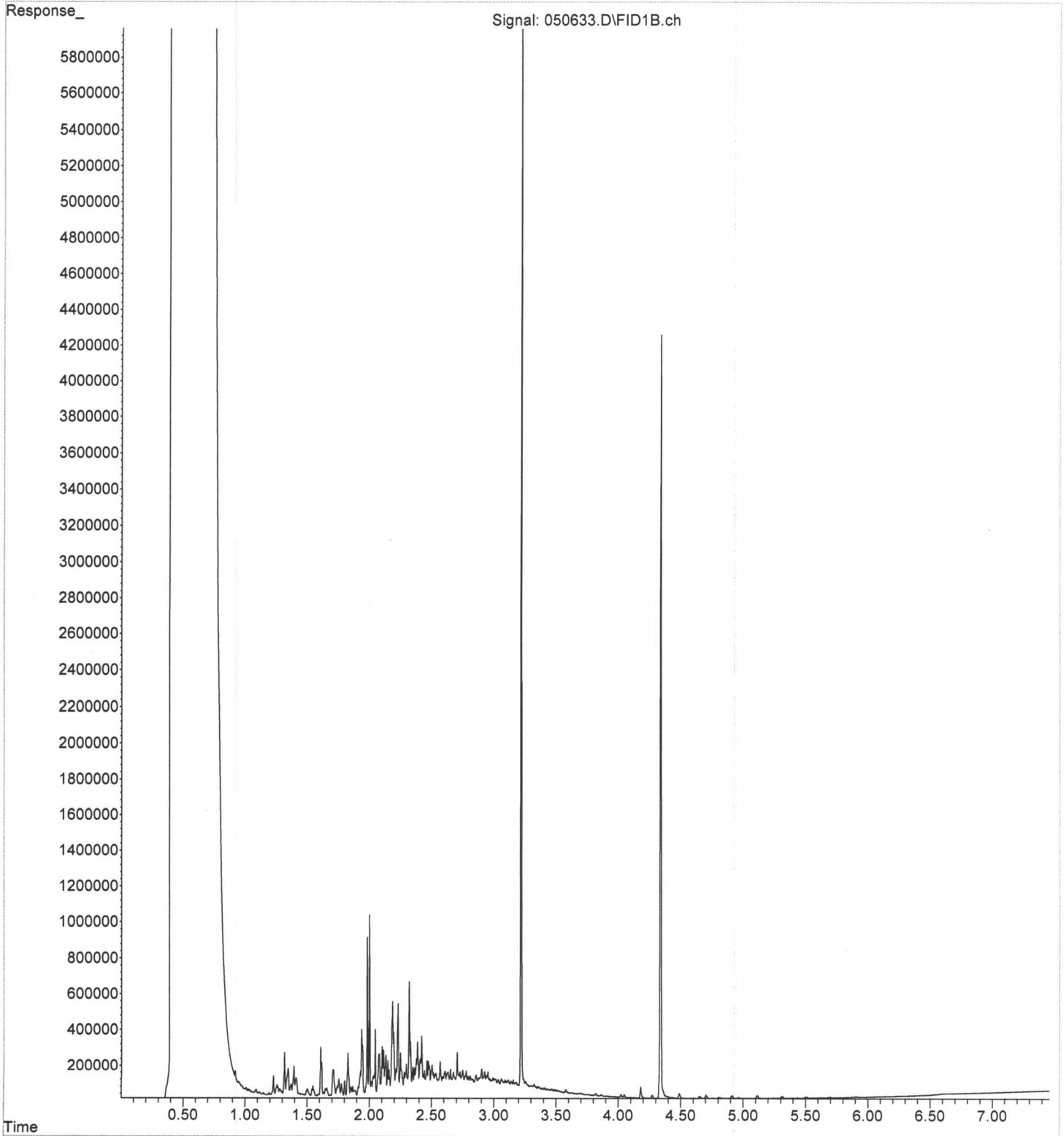
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Sample Name: 504510-07 sg  
Misc Info :  
Vial Number: 28

ERR



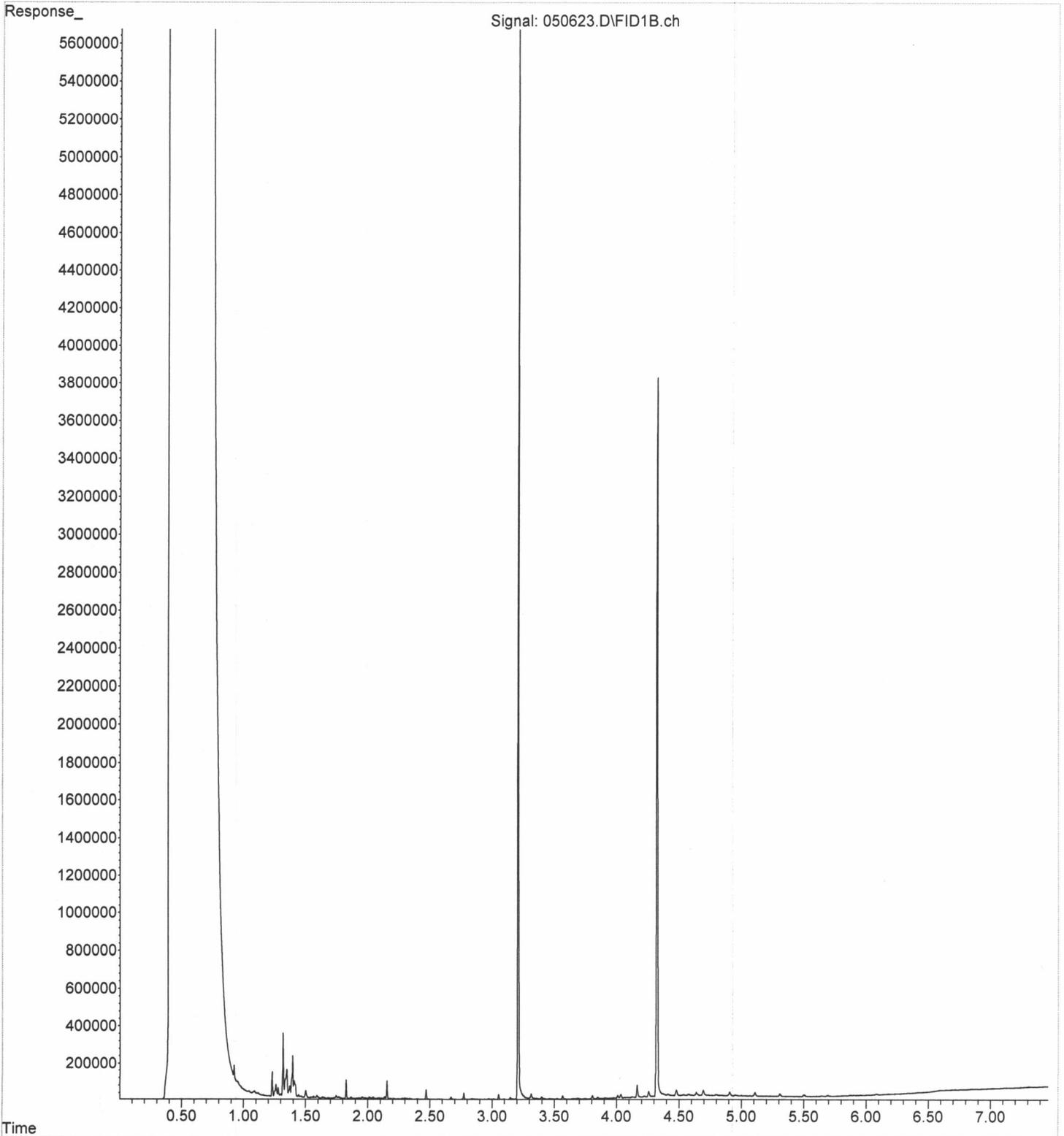
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Misc Info :  
Vial Number: 29

ERR



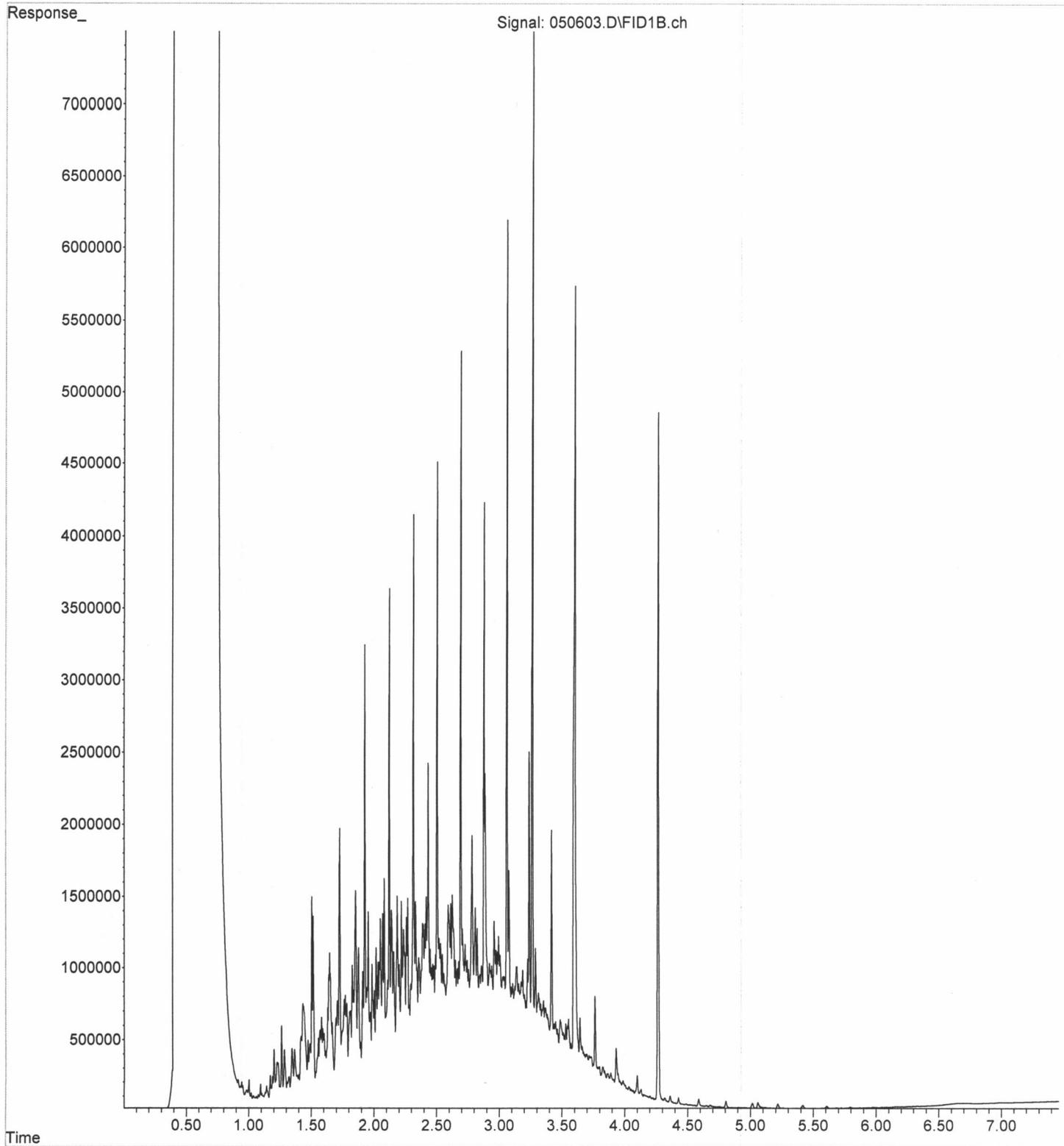
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Misc Info :  
Vial Number: 19

ERR



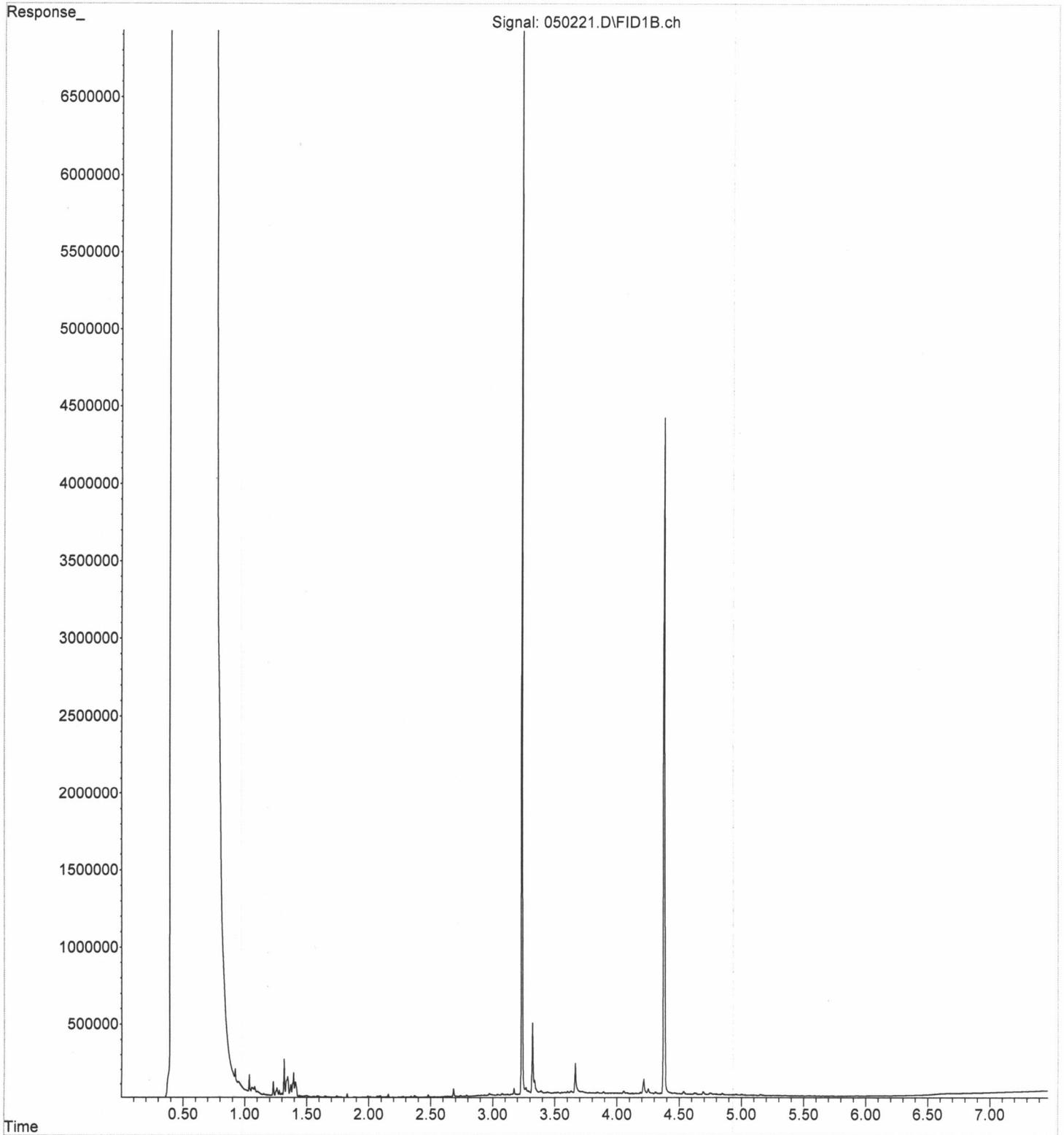
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Sample Name: 500 Dx 75-61B  
Misc Info :  
Vial Number: 3

ERR



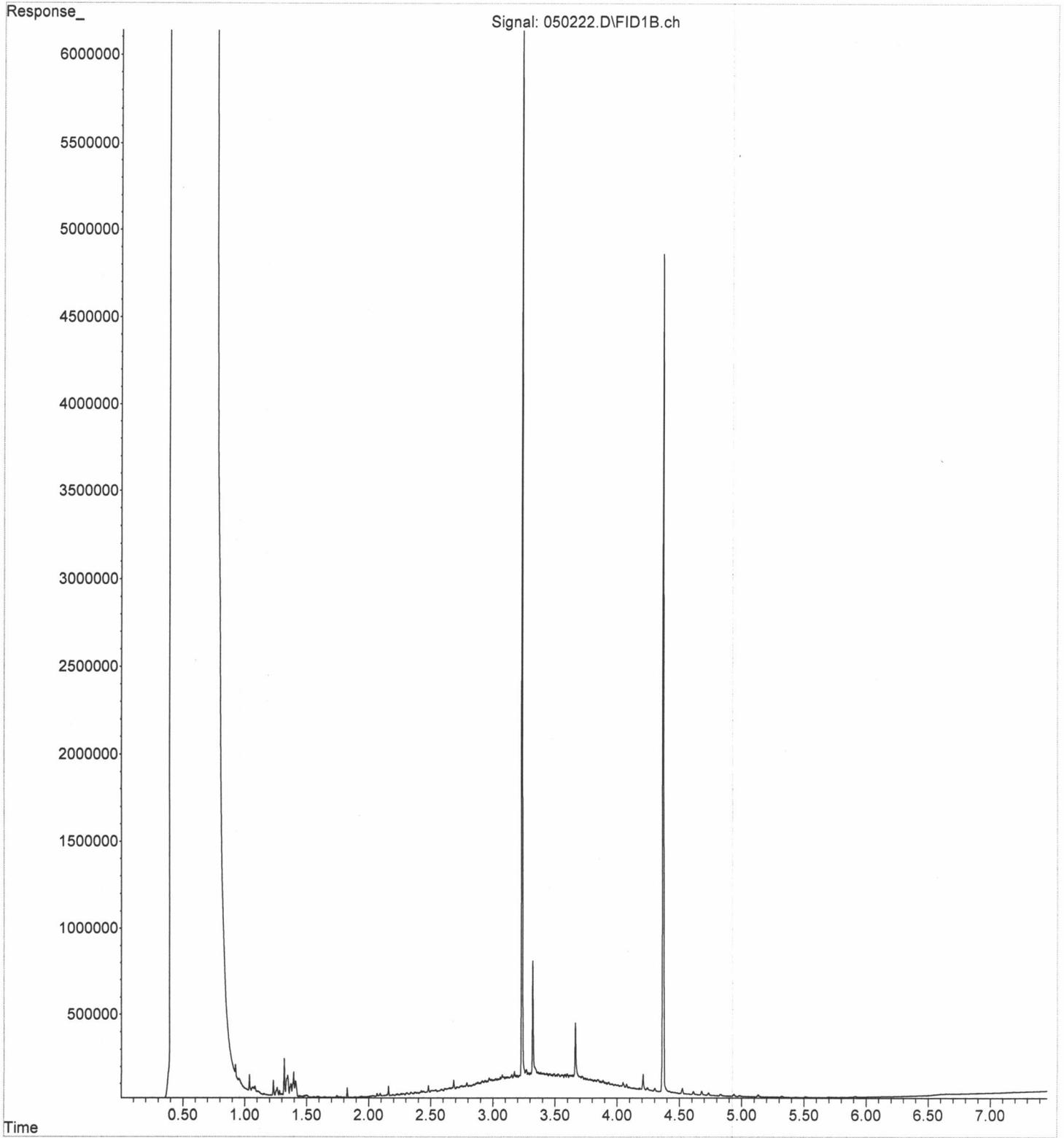
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Instrument : GC14  
Sample Name: 504510-01  
Misc Info :  
Vial Number: 22

ERR



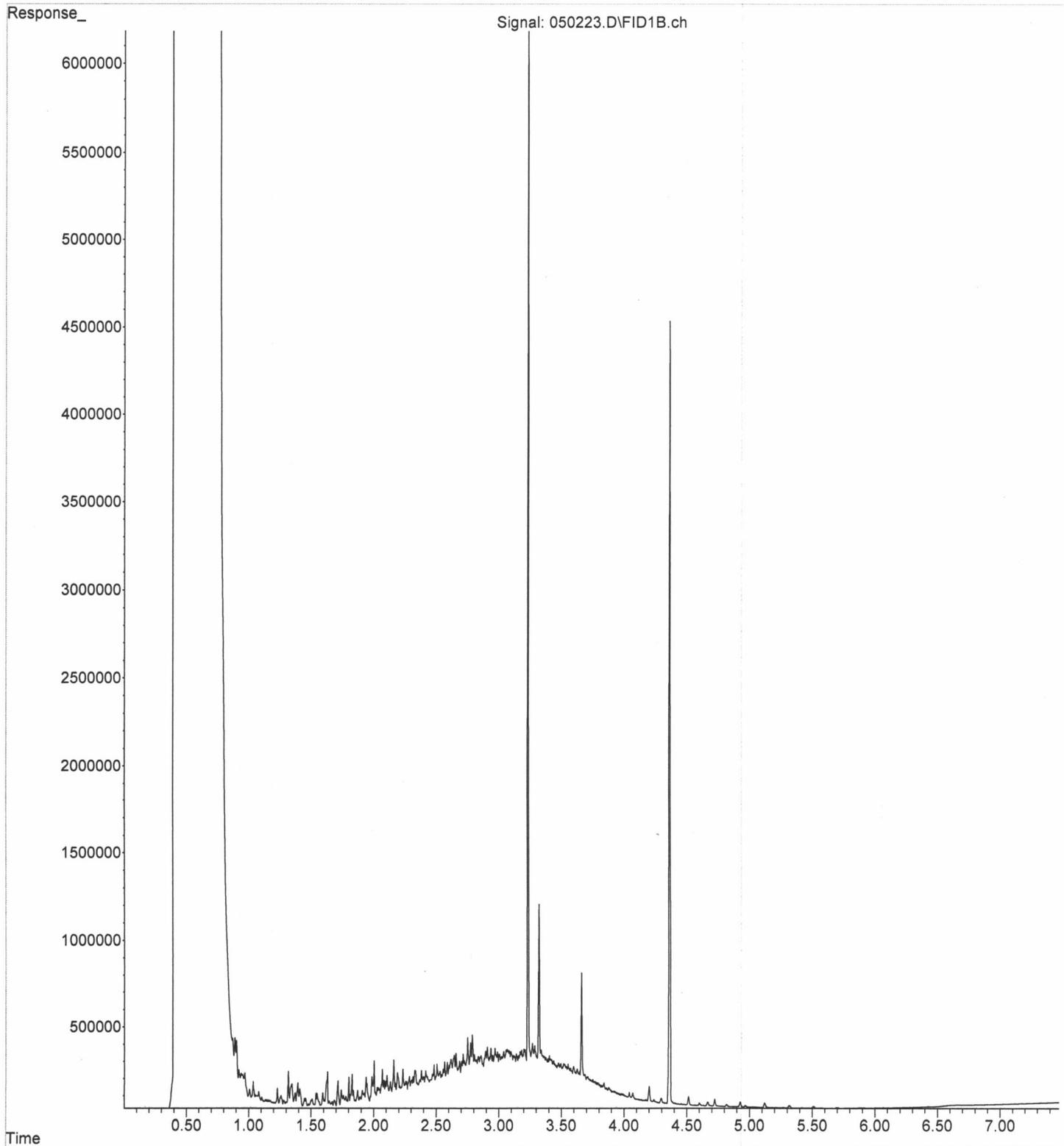
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Instrument : GC14  
Sample Name: 504510-02  
Misc Info :  
Vial Number: 23

ERR



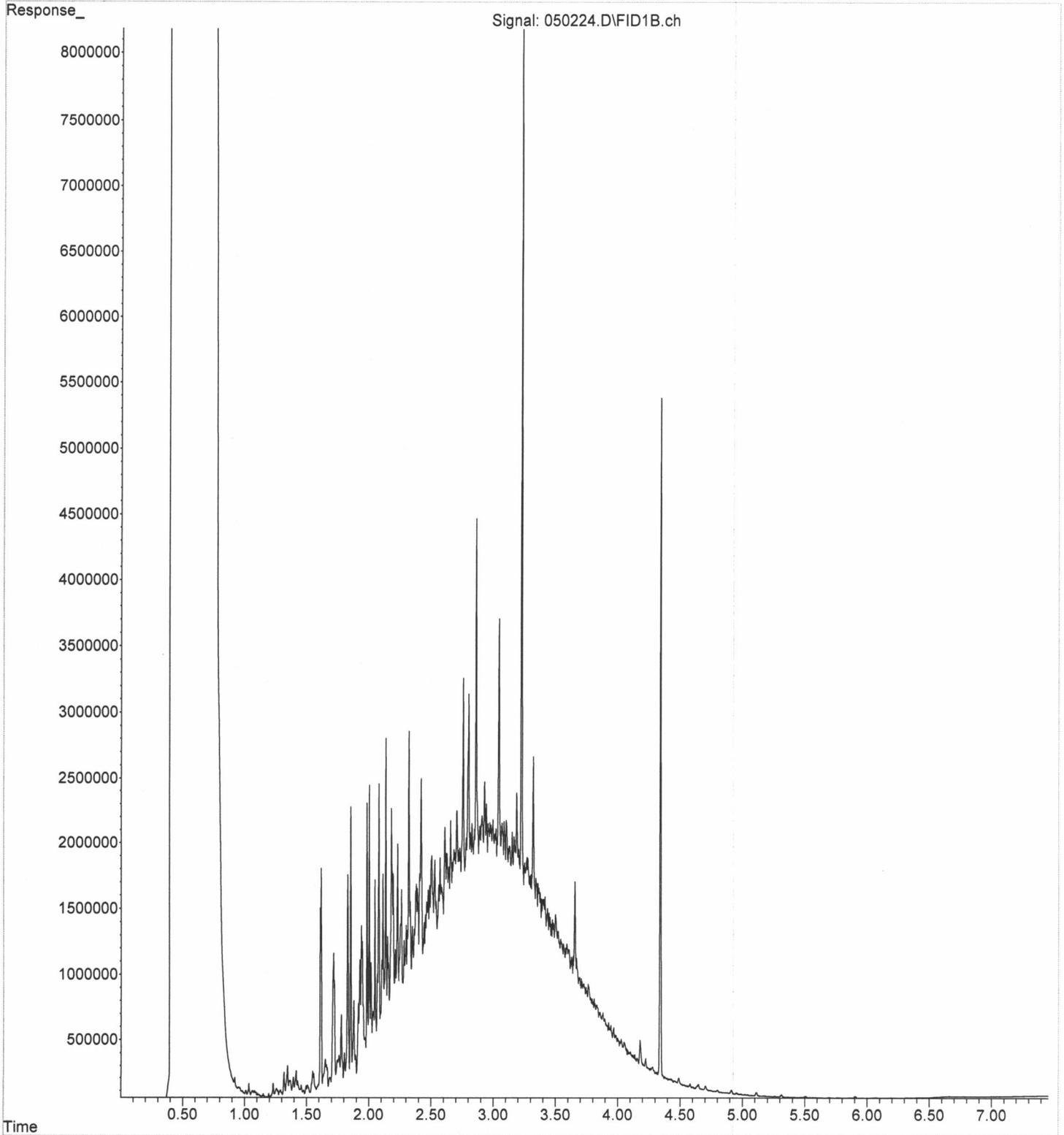
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Instrument : GC14  
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Misc Info :  
Vial Number: 24

ERR



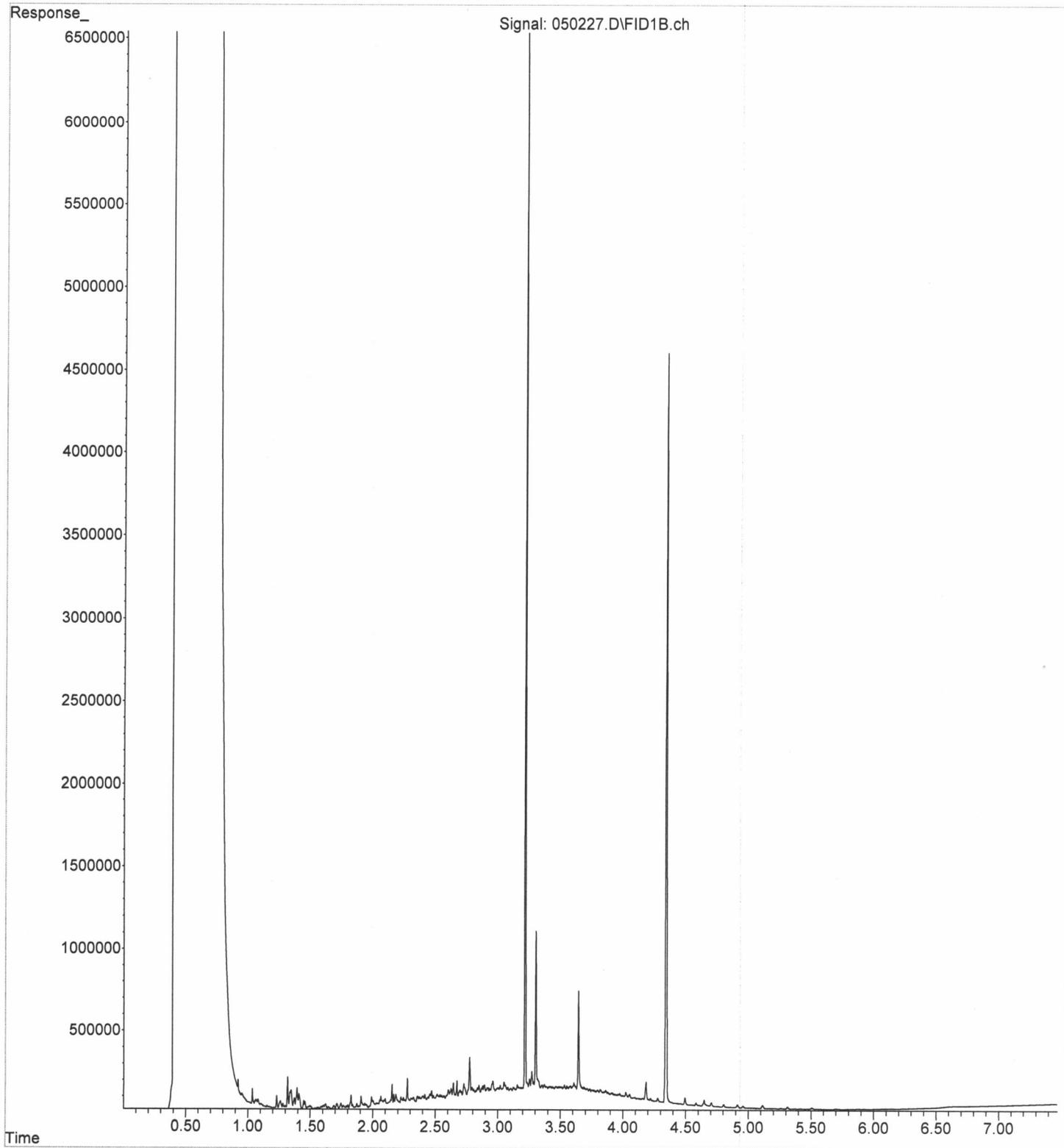
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Instrument : GC14  
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Misc Info :  
Vial Number: 25

ERR



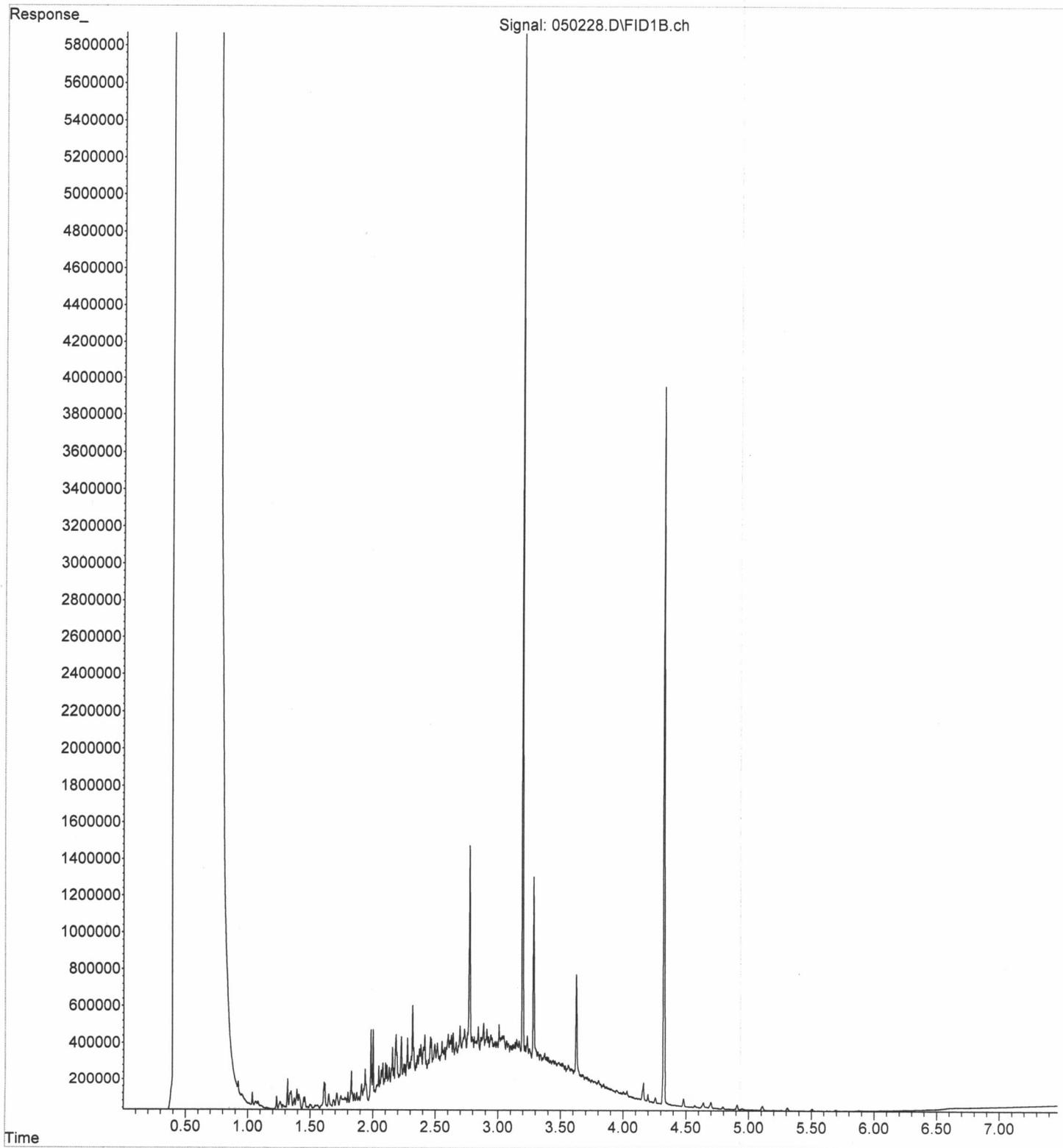
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Operator : TL  
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Instrument : GC14  
Sample Name: 504510-05  
Misc Info :  
Vial Number: 26

ERR



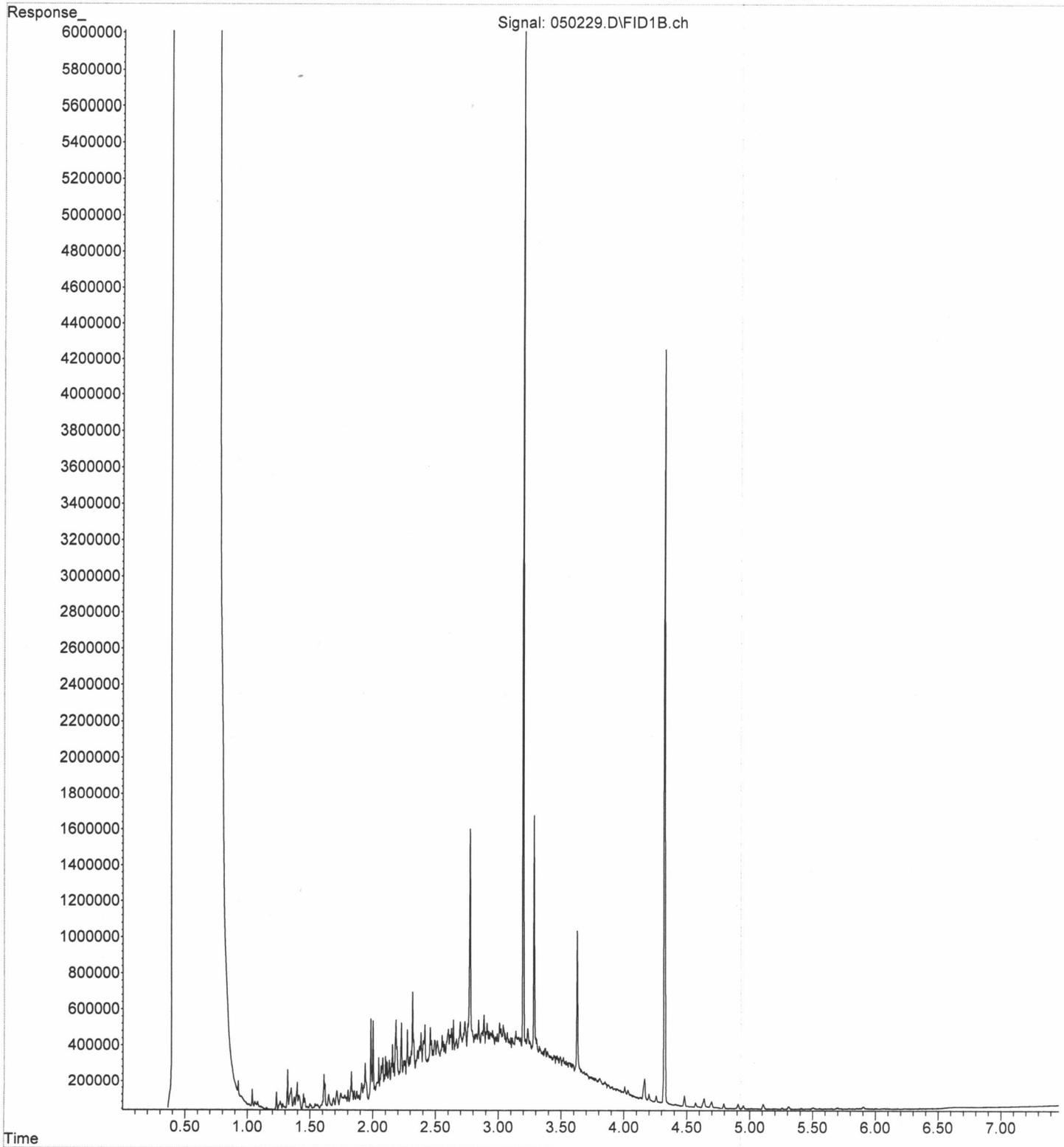
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Vial Number: 27

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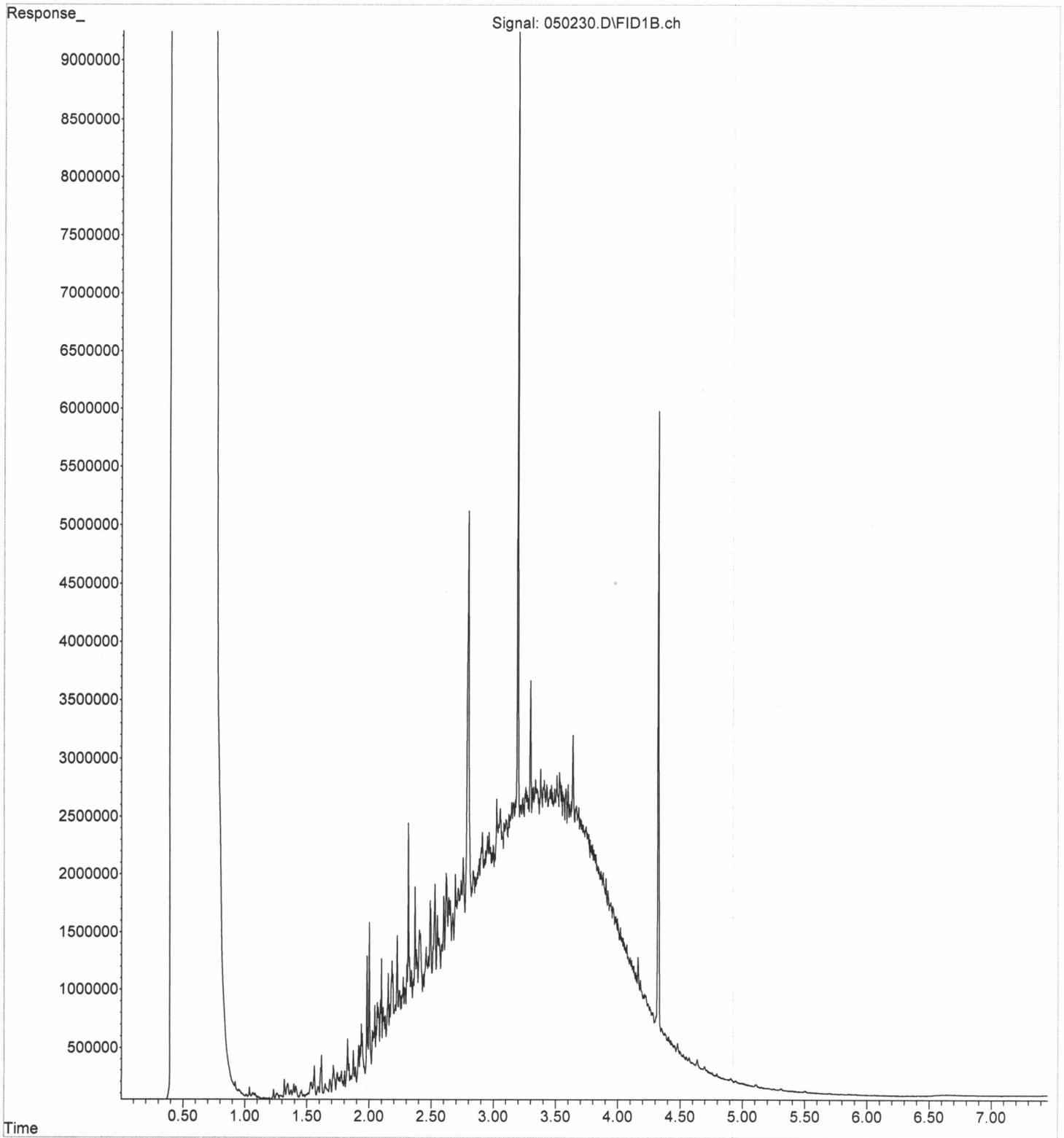
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Instrument : GC14  
Sample Name: 504510-07  
Misc Info :  
Vial Number: 28

ERR



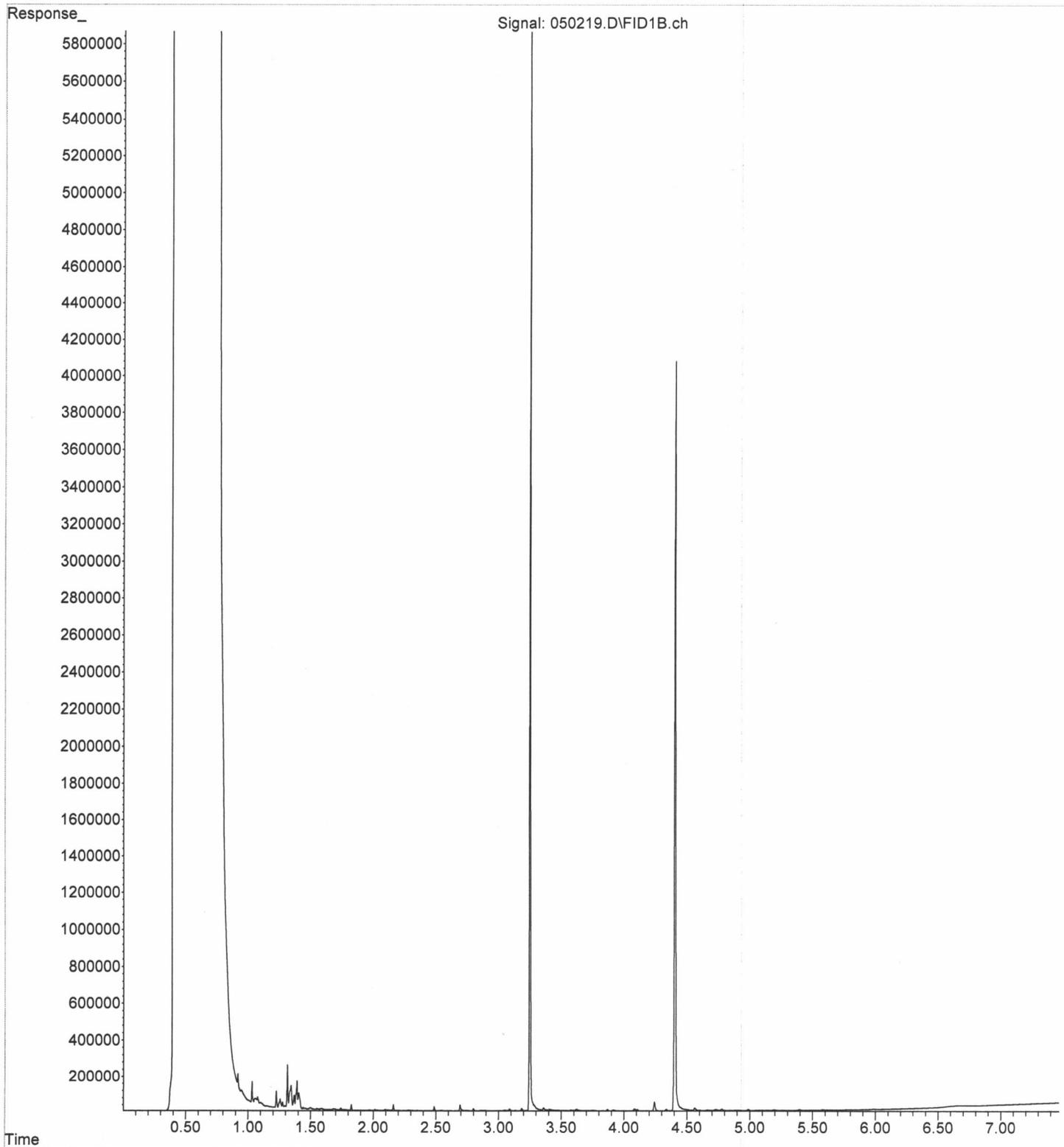
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Instrument : GC14  
Sample Name: 504510-08  
Misc Info :  
Vial Number: 29

ERR



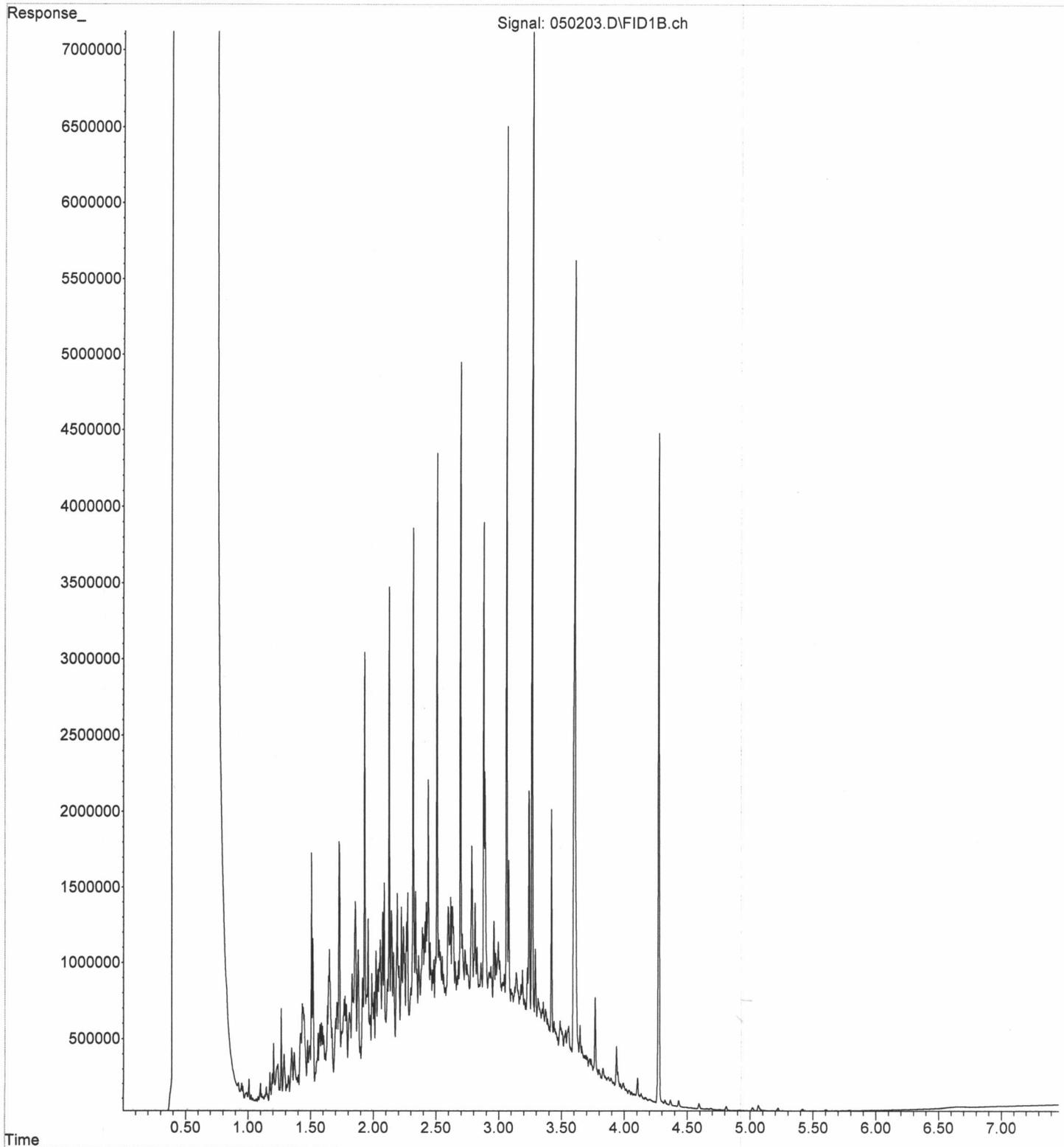
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Operator : TL  
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Instrument : GC14  
Sample Name: 05-1105 mb  
Misc Info :  
Vial Number: 20

ERR



File : P:\Proc\_GC14\05-02-25\050203.D  
Operator : TL  
Acquired : 02 May 2025 08:31 am using AcqMethod DX.M  
Instrument : GC14  
Sample Name: 500 Dx 75-61B  
Misc Info :  
Vial Number: 3

ERR



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya  
Ann Webber-Bruya  
Michael Erdahl  
Vineta Mills  
Eric Young

September 26, 2025

5500 4th Ave South  
Seattle, WA 98108-2419  
(206) 285-8282  
office@friedmanandbruya.com  
www.friedmanandbruya.com

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 18, 2025 from the Big B CL-Ellensburg, F&BI 509340 project. There are 6 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  
FDS0926R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 18, 2025 by Friedman & Bruya, Inc. from the Floyd-Snider Big B CL-Ellensburg, F&BI 509340 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Floyd-Snider</u>
509340 -01	MW-1A-091825
509340 -02	MW-2A-091825
509340 -03	MW-3-091825
509340 -04	MW-4B-091825
509340 -05	MW-9A-091825
509340 -06	MW-1-091825
509340 -07	MW-101-091825
509340 -08	MW-2-091825

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/26/25  
Date Received: 09/18/25  
Project: Big B CL-Ellensburg, F&BI 509340  
Date Extracted: 09/19/25  
Date Analyzed: 09/24/25

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
MW-1A-091825 509340-01	<50	<200	121
MW-2A-091825 509340-02	87	<200	115
MW-3-091825 509340-03	<50	<200	111
MW-4B-091825 509340-04	470	<200	109
MW-9A-091825 509340-05	<50	<200	118
MW-1-091825 509340-06	330	<200	100
MW-101-091825 509340-07	470	<200	115
MW-2-091825 509340-08	670	<200	104
Method Blank 05-2375 MB2	<50	<200	110

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/26/25  
Date Received: 09/18/25  
Project: Big B CL-Ellensburg, F&BI 509340  
Date Extracted: 09/19/25  
Date Analyzed: 09/19/25

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 41-152)
MW-1A-091825 509340-01	<50	<200	112
MW-2A-091825 509340-02	330 x	<200	107
MW-3-091825 509340-03	160 x	<200	108
MW-4B-091825 509340-04	1,800 x	<200	104
MW-9A-091825 509340-05	100 x	<200	100
MW-1-091825 509340-06	850 x	<200	96
MW-101-091825 509340-07	930 x	<200	99
MW-2-091825 509340-08	2,300 x	320 x	97
Method Blank 05-2375 MB2	<50	<200	103

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/26/25

Date Received: 09/18/25

Project: Big B CL-Ellensburg, F&BI 509340

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

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	112	112	65-151	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/26/25

Date Received: 09/18/25

Project: Big B CL-Ellensburg, F&BI 509340

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

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	120	116	65-151	3

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **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 between the method detection limit and the lowest calibration point. 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 CONDITION UPON RECEIPT CHECKLIST

PROJECT # 509340 CLIENT ~~Asy~~ Floyd Snider INITIALS/ DATE: AP 9/18/25

If custody seals are present on cooler, are they intact? [X] NA [ ] YES [ ] NO

Cooler/Sample temperature 2 °C Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? [X] YES [ ] NO

How did samples arrive? [X] Over the Counter [ ] Picked up by F&BI [ ] FedEx/UPS/GSO

Is there a Chain-of-Custody\* (COC)? [X] YES [ ] NO Initials/ Date: (NP) 9/18

Number of days samples have been sitting prior to receipt at laboratory 8 days

Are the samples clearly identified? (explain "no" answer below) [X] YES [ ] NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) [X] YES [ ] NO

Were appropriate sample containers used? [X] YES [ ] NO [ ] Unknown

If custody seals are present on samples, are they intact? [X] NA [ ] YES [ ] NO

Are samples requiring no headspace, headspace free? [X] NA [ ] YES [ ] NO

Is the following information provided on the COC, and does it match the sample label? (explain "no" answer below)

- Sample ID's [X] Yes [ ] No [ ] Not on COC/label
Date Sampled [X] Yes [ ] No [ ] Not on COC/label
Time Sampled [X] Yes [ ] No [ ] Not on COC/label
# of Containers [X] Yes [ ] No
Relinquished [X] Yes [ ] No
Requested analysis [X] Yes [ ] On Hold

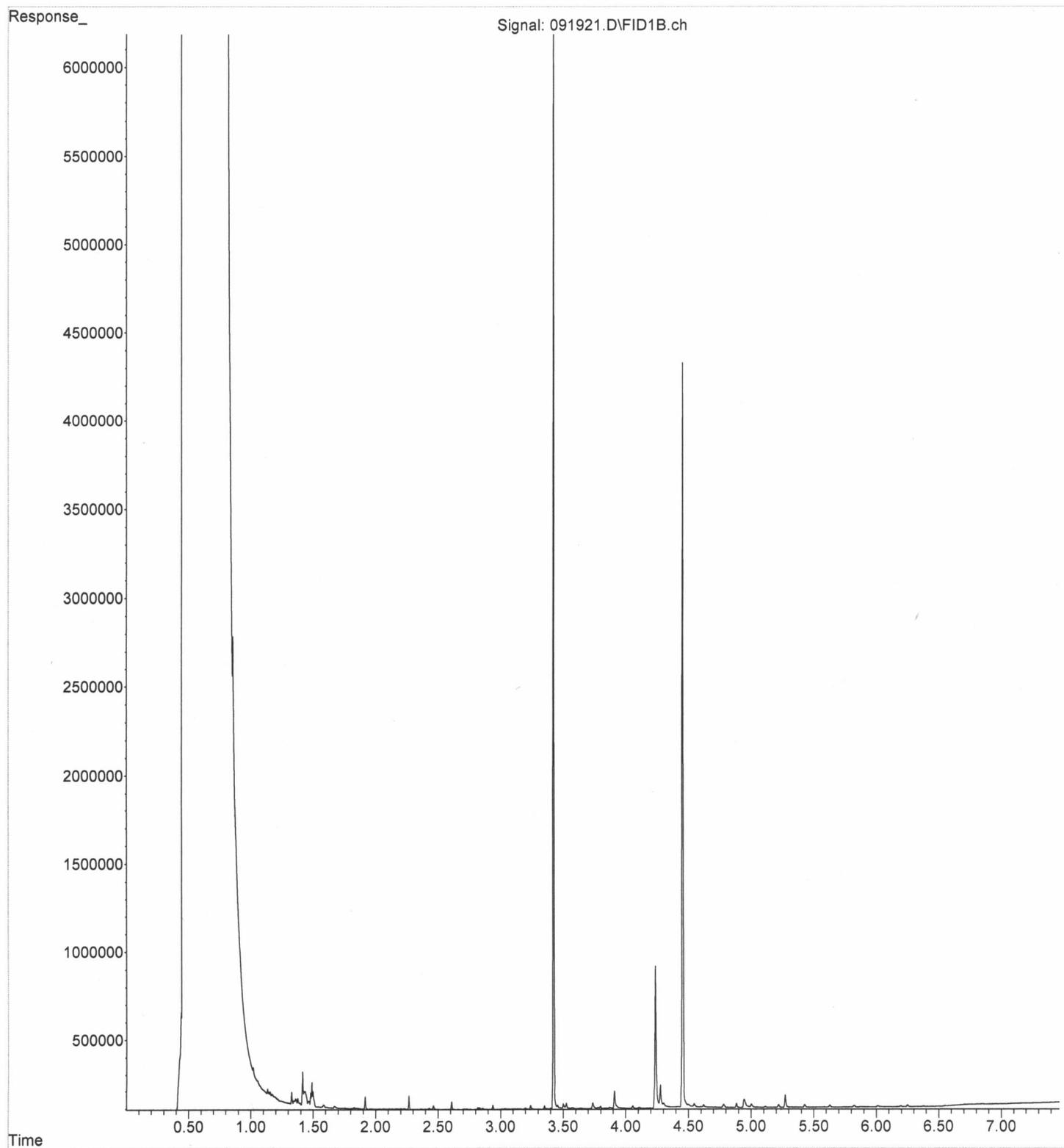
Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? [X] NA [ ] YES [ ] NO

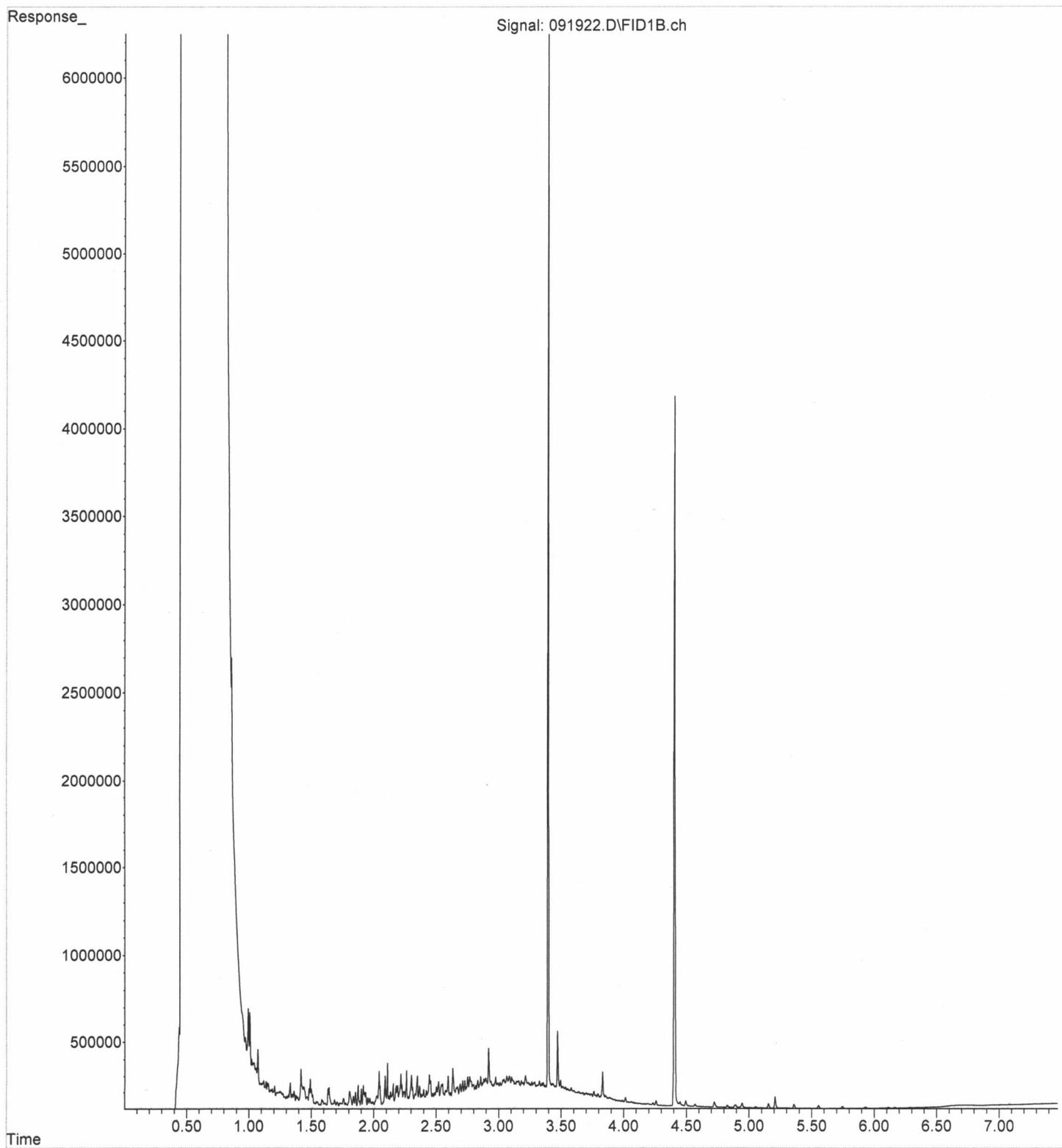
Number of unused TO15 canisters\*\* Number of unused TO17 tubes

\*\*Fill out Green manifolds billing sheet

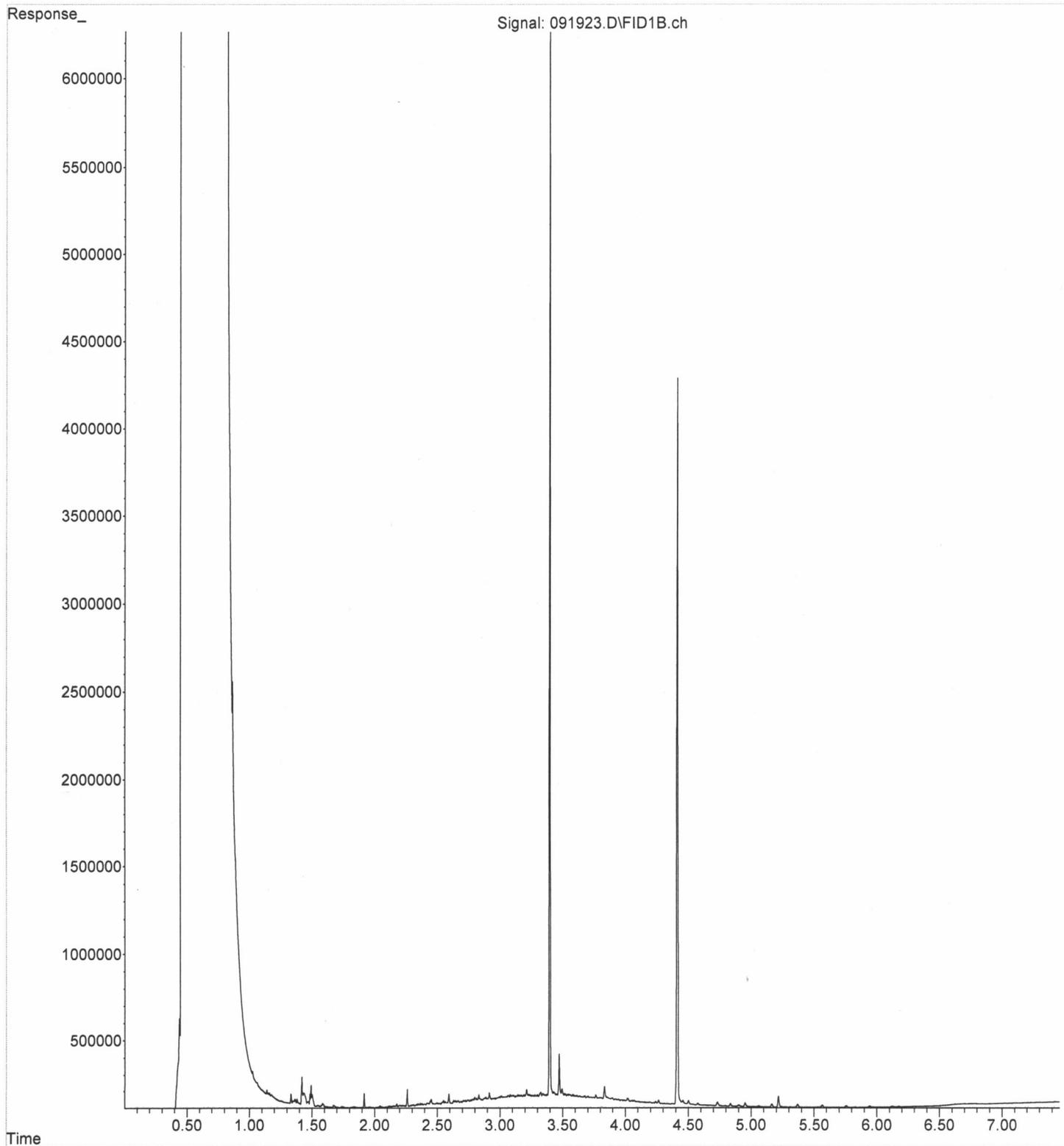
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Instrument : GC10  
Sample Name: 509340-01  
Misc Info :  
Vial Number: 20



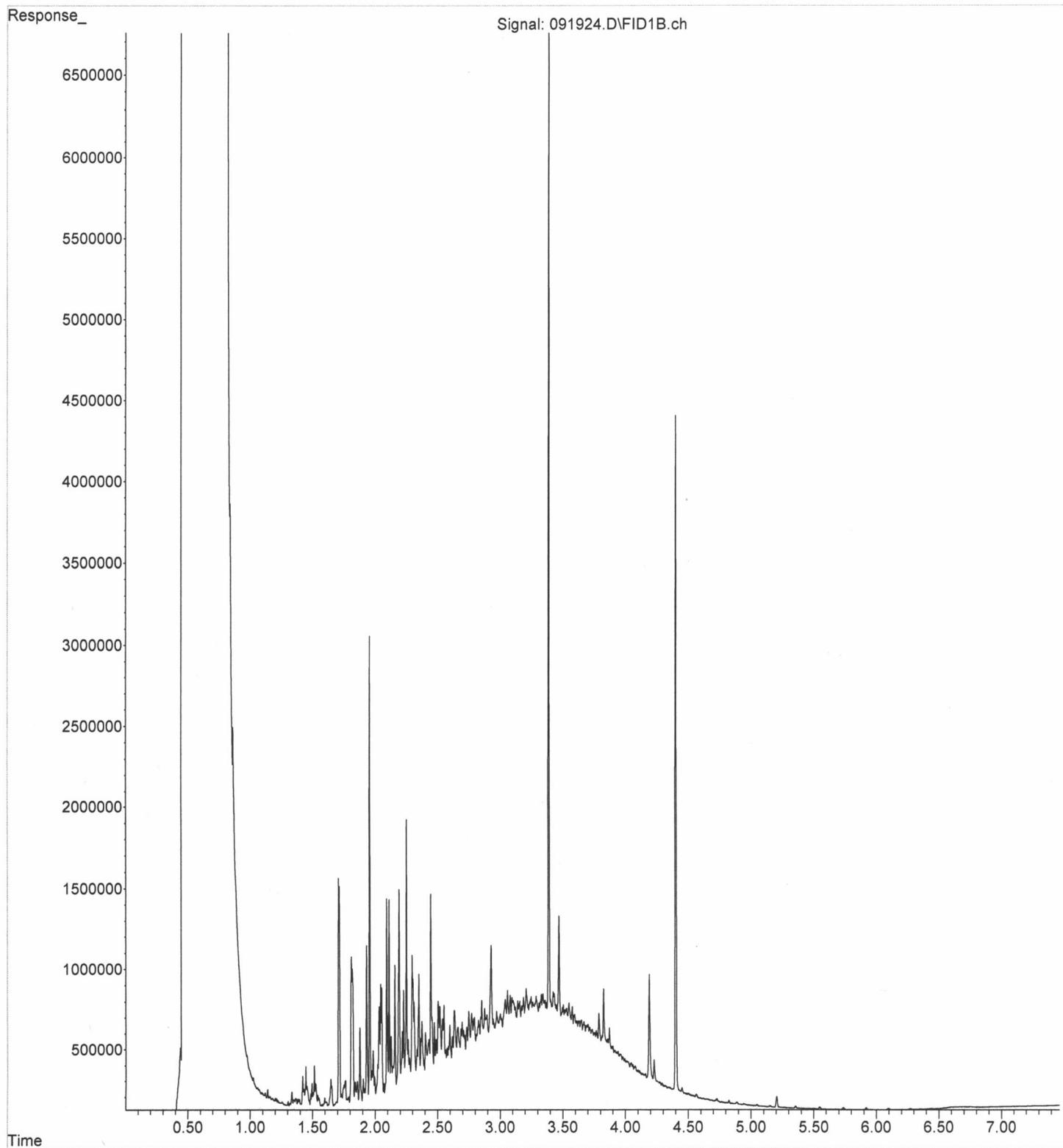
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Instrument : GC10  
Sample Name: 509340-02  
Misc Info :  
Vial Number: 21



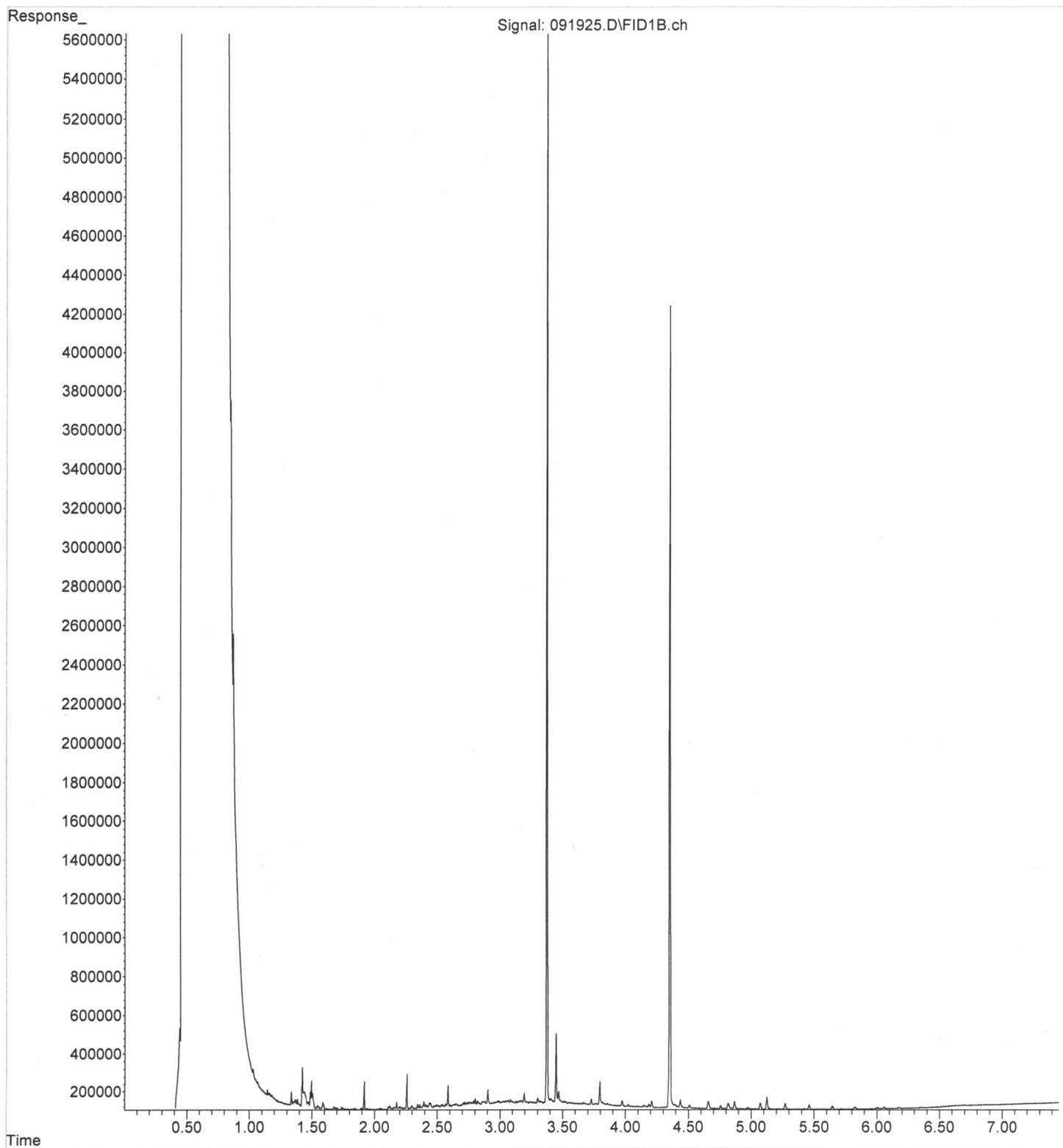
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Instrument : GC10  
Sample Name: 509340-03  
Misc Info :  
Vial Number: 22



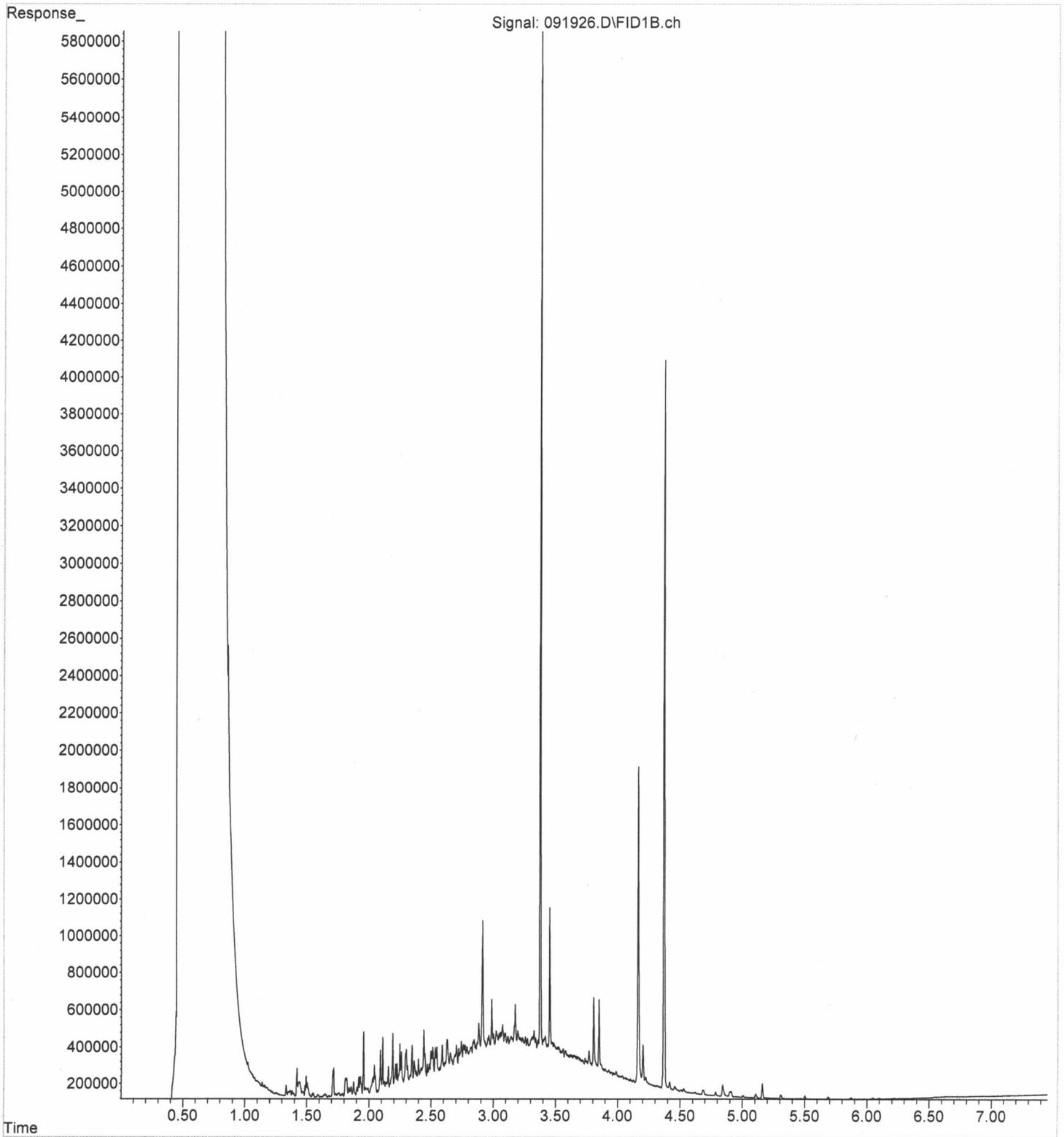
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Instrument : GC10  
Sample Name: 509340-04  
Misc Info :  
Vial Number: 23



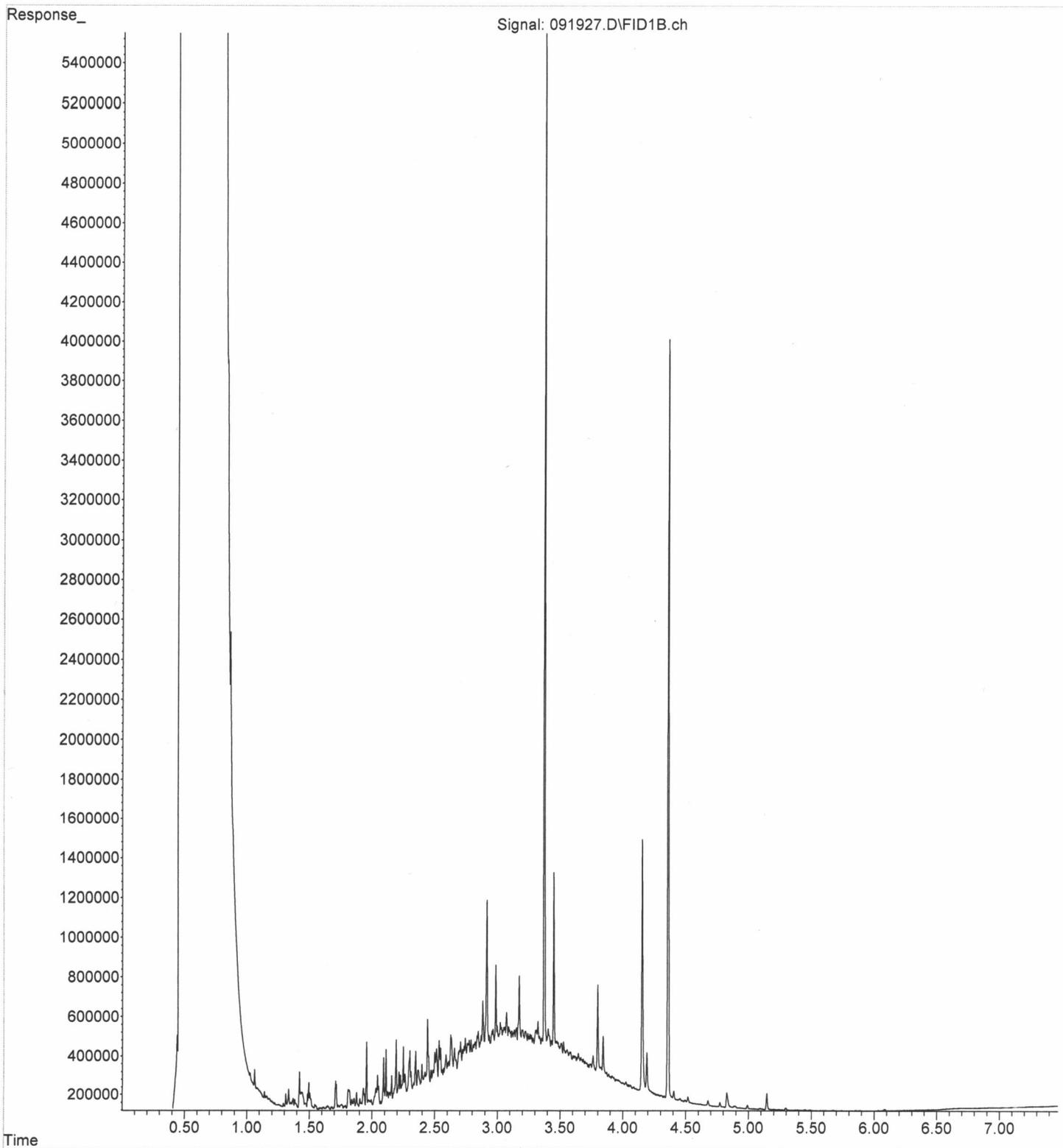
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Instrument : GC10  
Sample Name: 509340-05  
Misc Info :  
Vial Number: 24



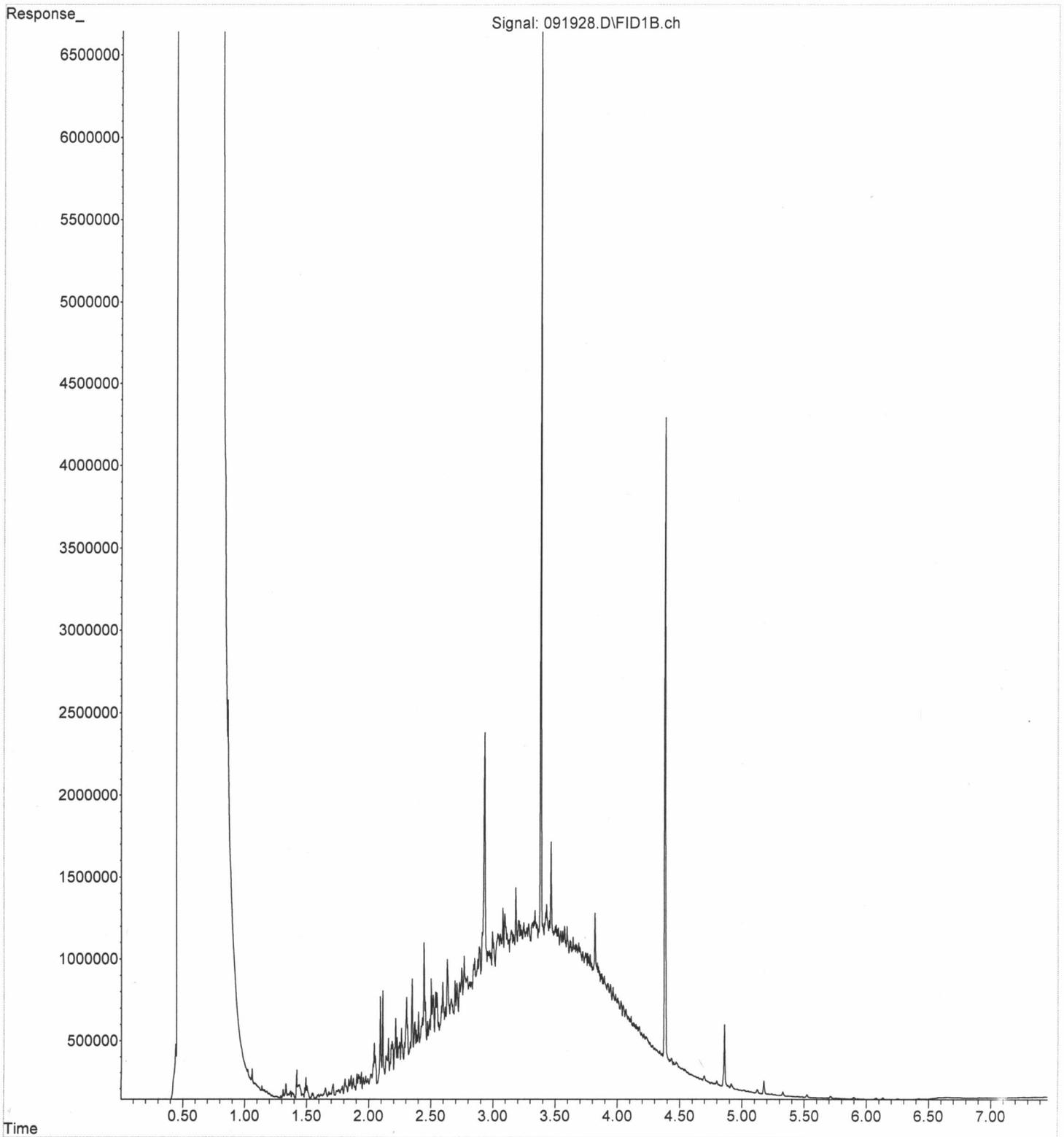
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Instrument : GC10  
Sample Name: 509340-06  
Misc Info :  
Vial Number: 25



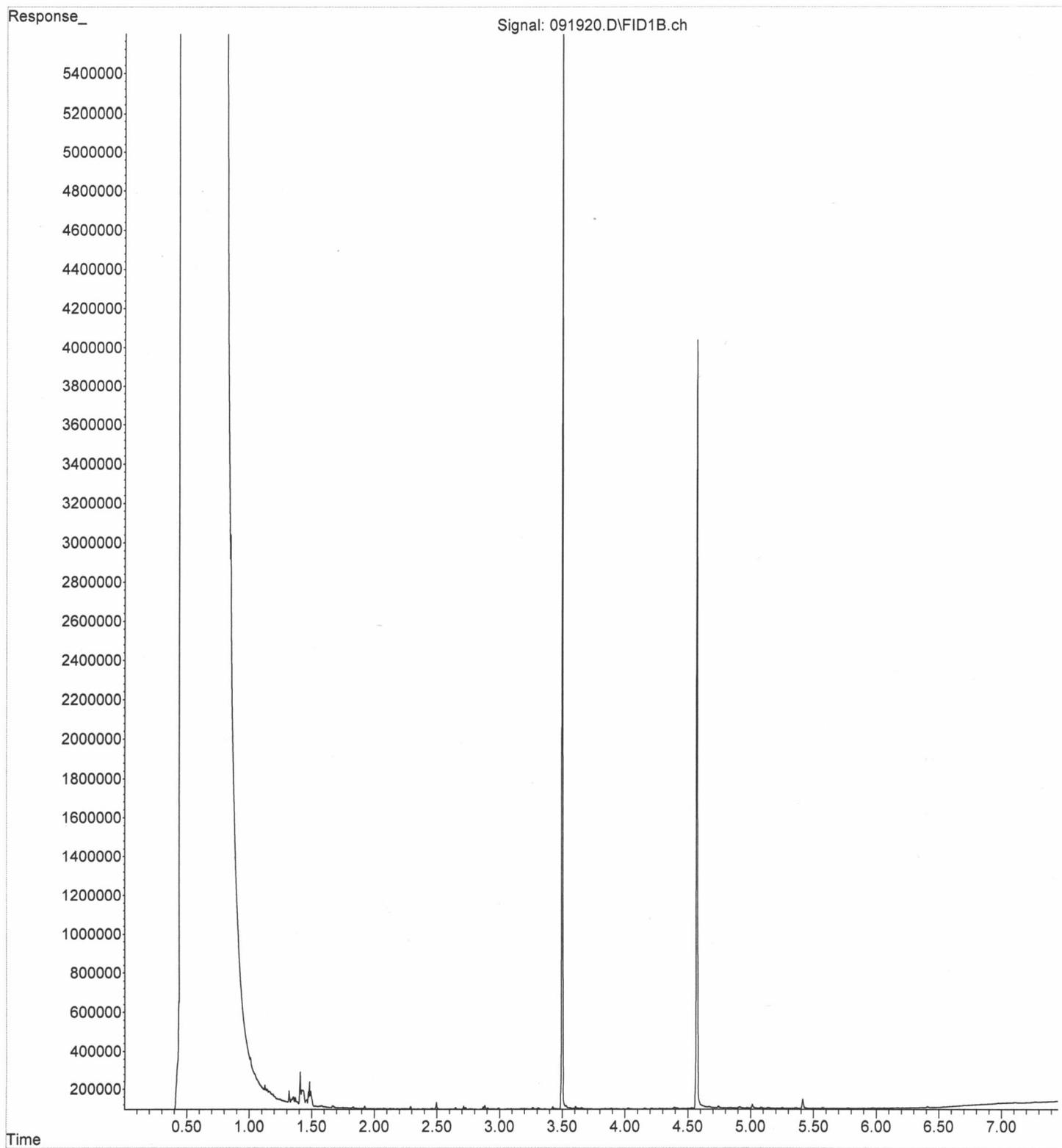
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Instrument : GC10  
Sample Name: 509340-07  
Misc Info :  
Vial Number: 26



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Operator : TL  
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Instrument : GC10  
Sample Name: 509340-08  
Misc Info :  
Vial Number: 27

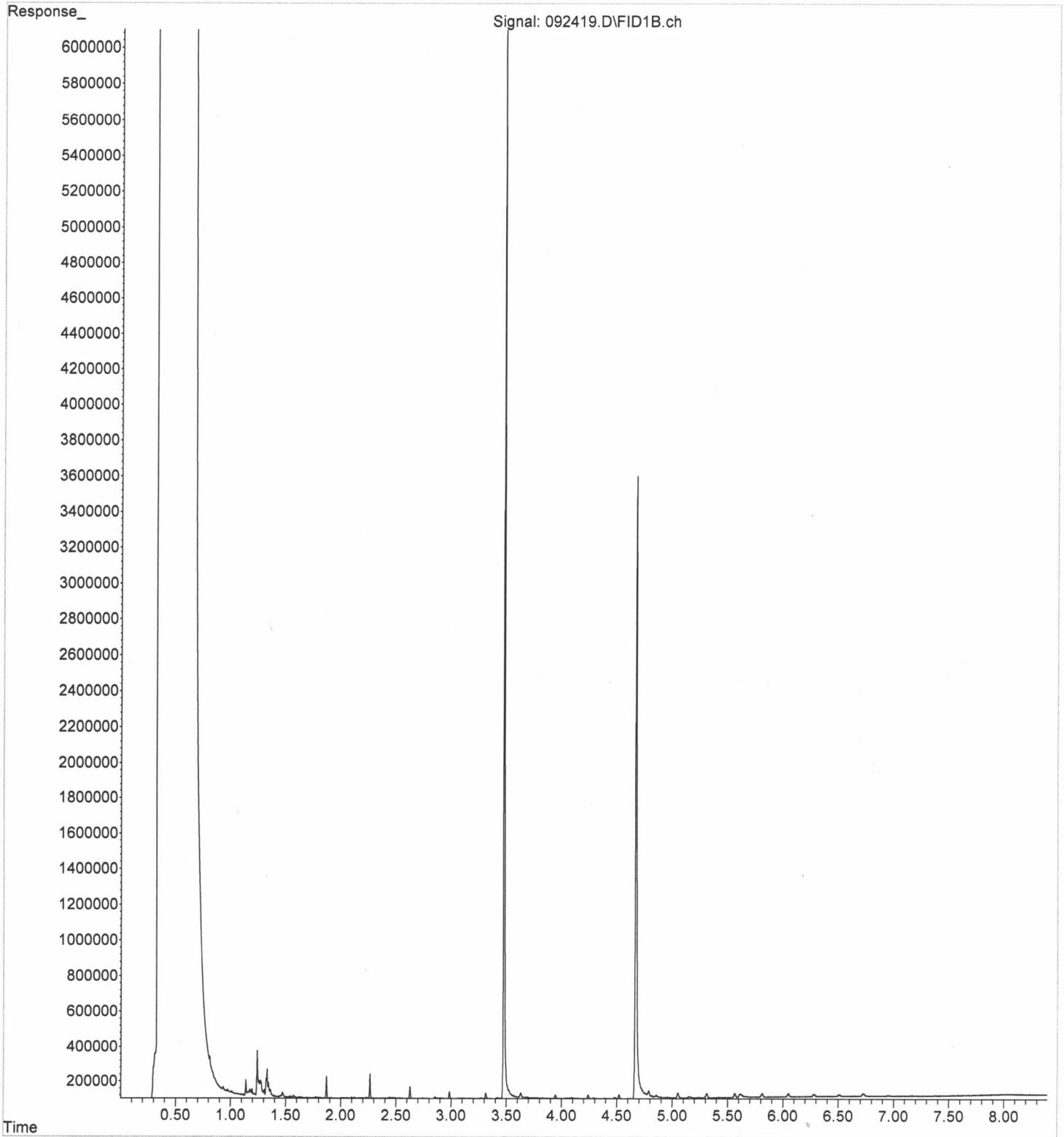


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Instrument : GC10  
Sample Name: 05-2375 mb2  
Misc Info :  
Vial Number: 19



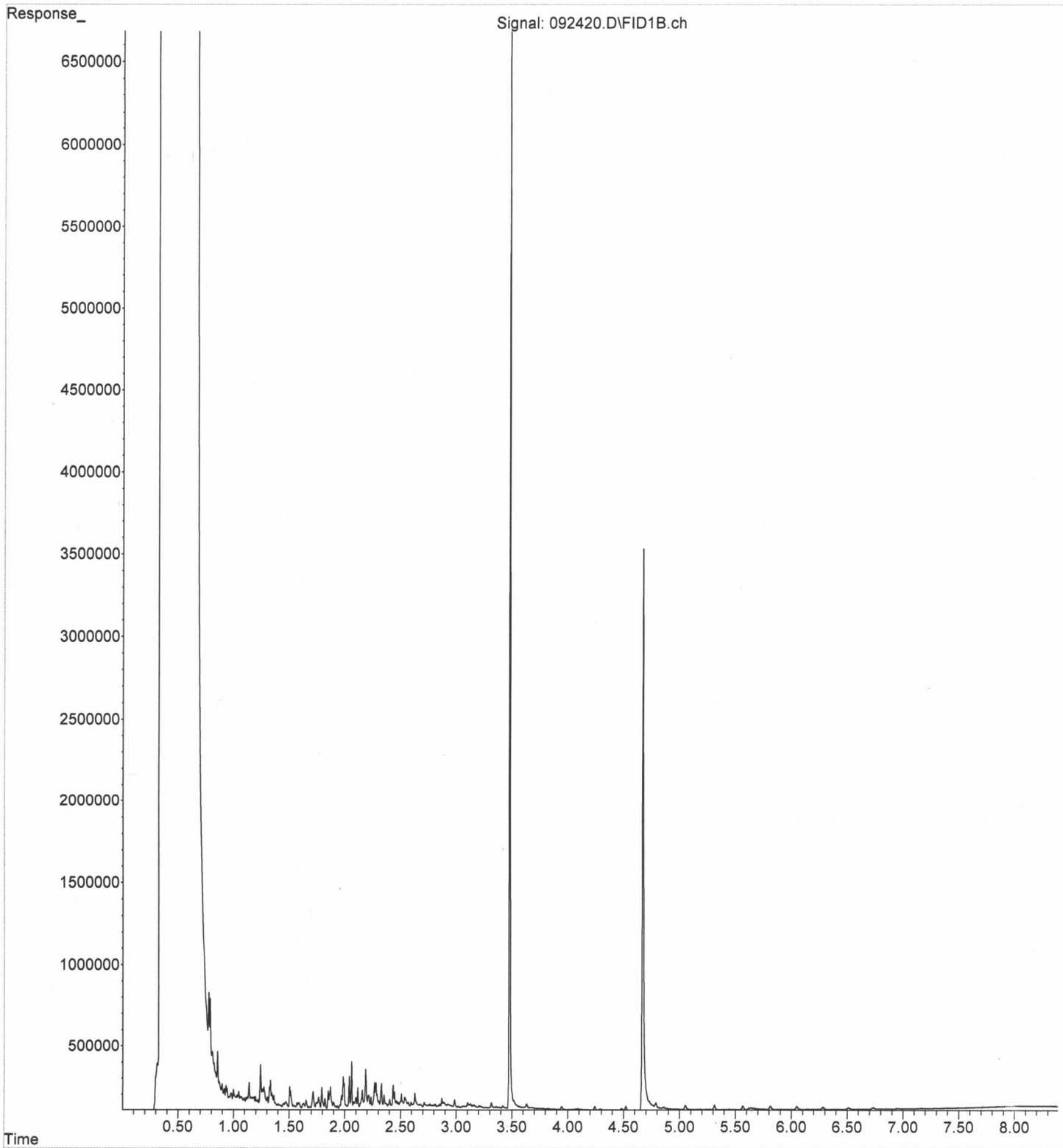
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Operator : TL  
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Instrument : GC14  
Sample Name: 509340-01 sg  
Misc Info :  
Vial Number: 15

ERR



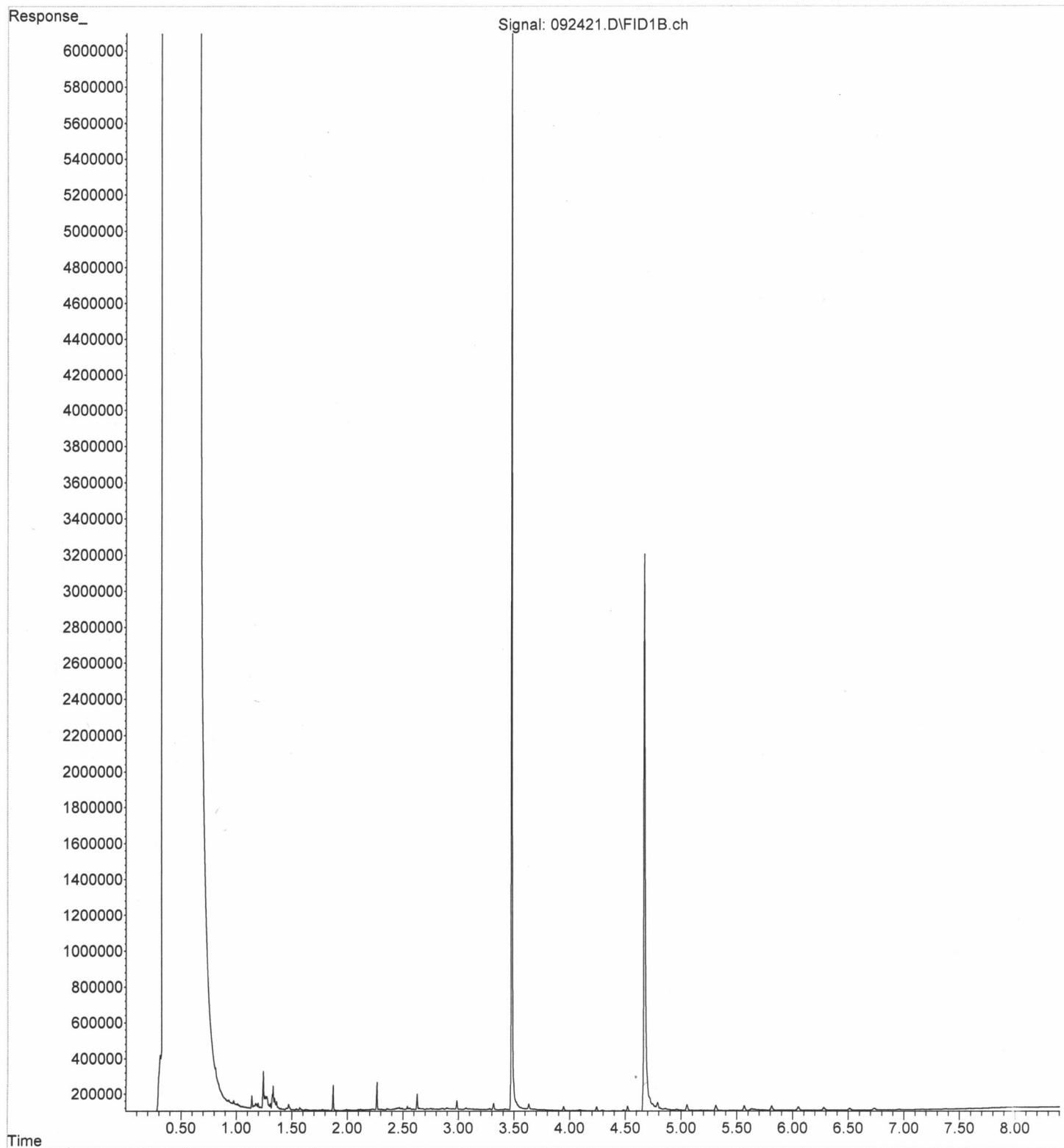
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Instrument : GC14  
Sample Name: 509340-02 sg  
Misc Info :  
Vial Number: 16

ERR



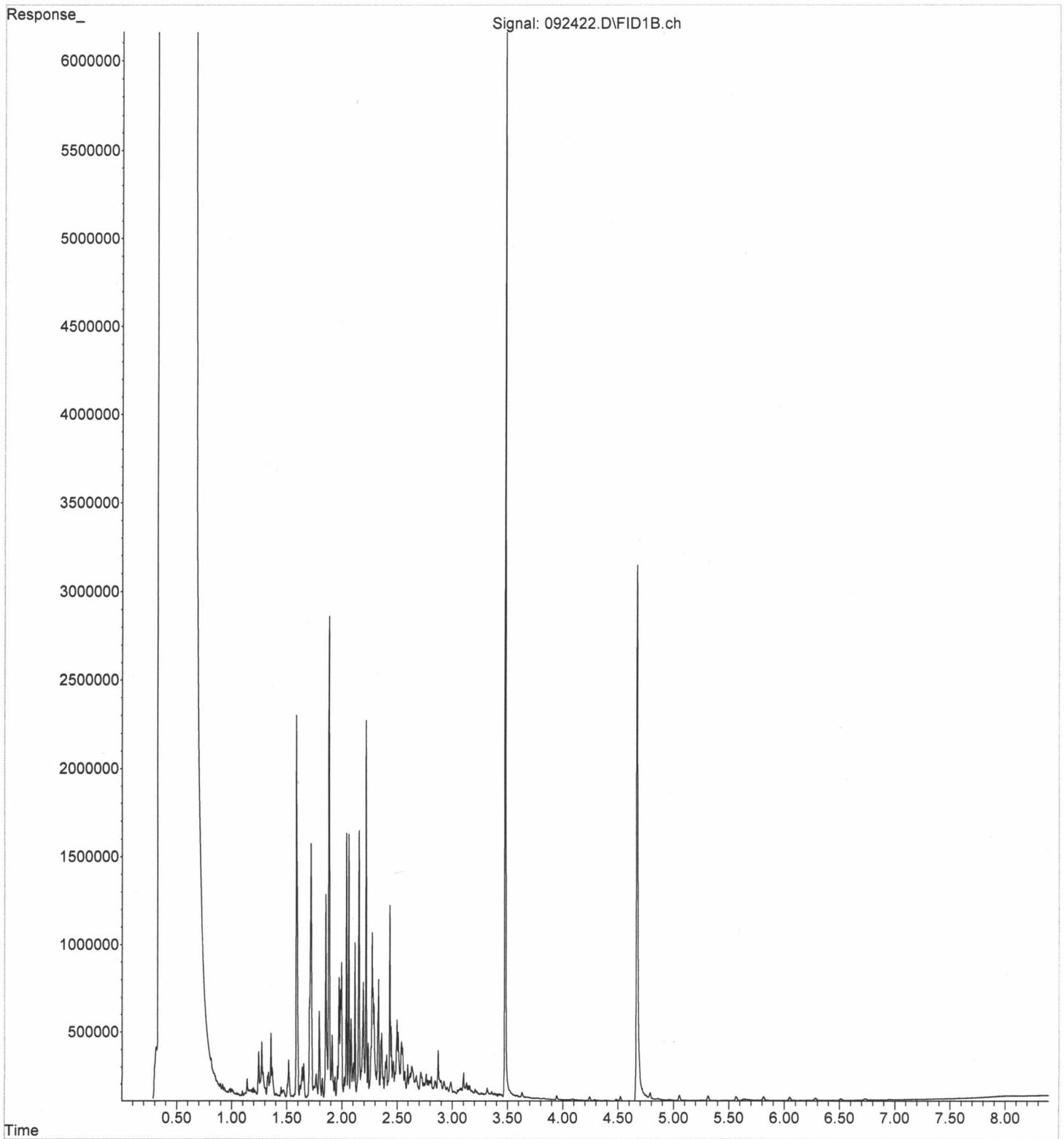
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Operator : TL  
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Instrument : GC14  
Sample Name: 509340-03 sg  
Misc Info :  
Vial Number: 17

ERR



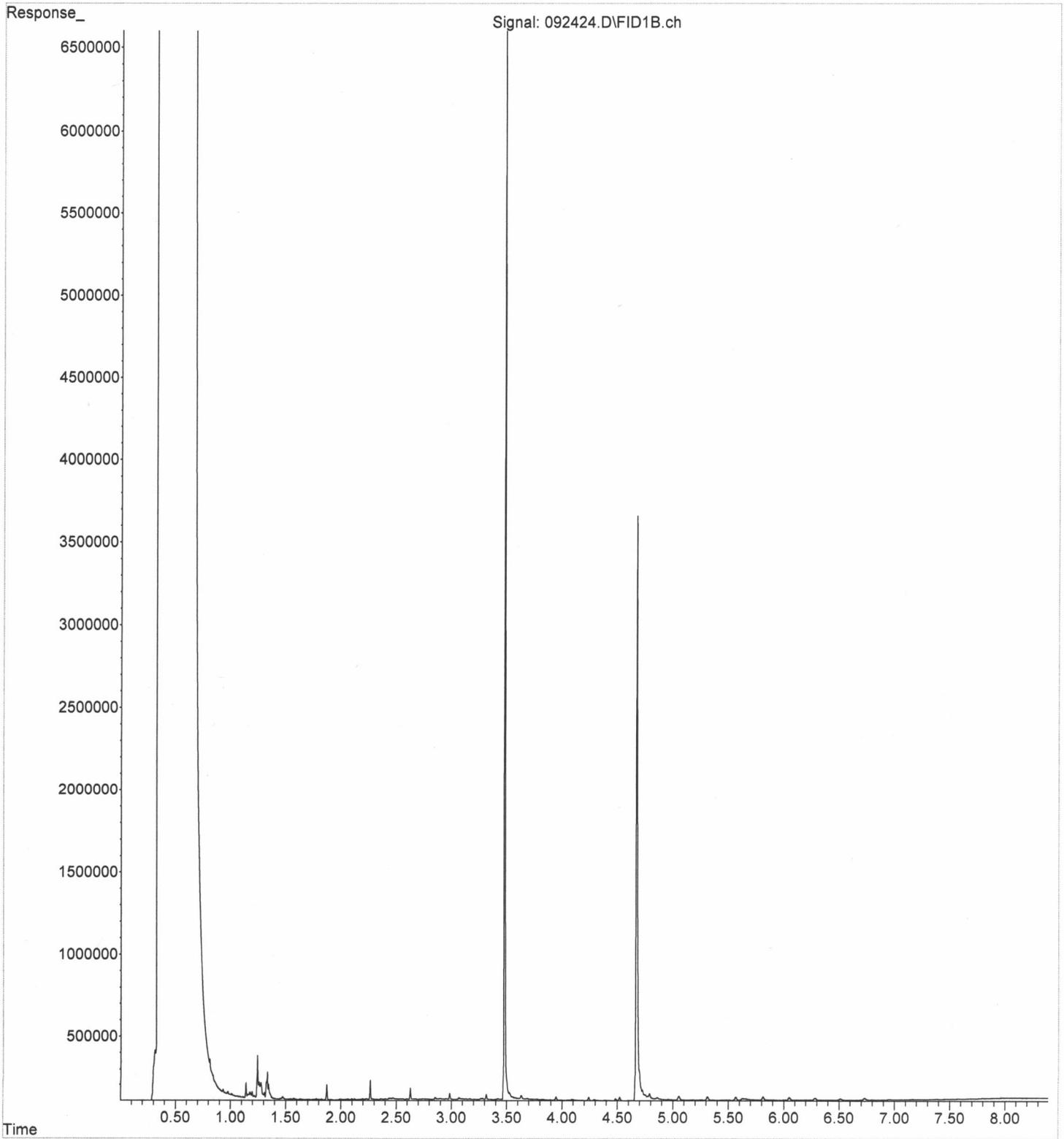
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Operator : TL  
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Instrument : GC14  
Sample Name: 509340-04 sg  
Misc Info :  
Vial Number: 18

ERR



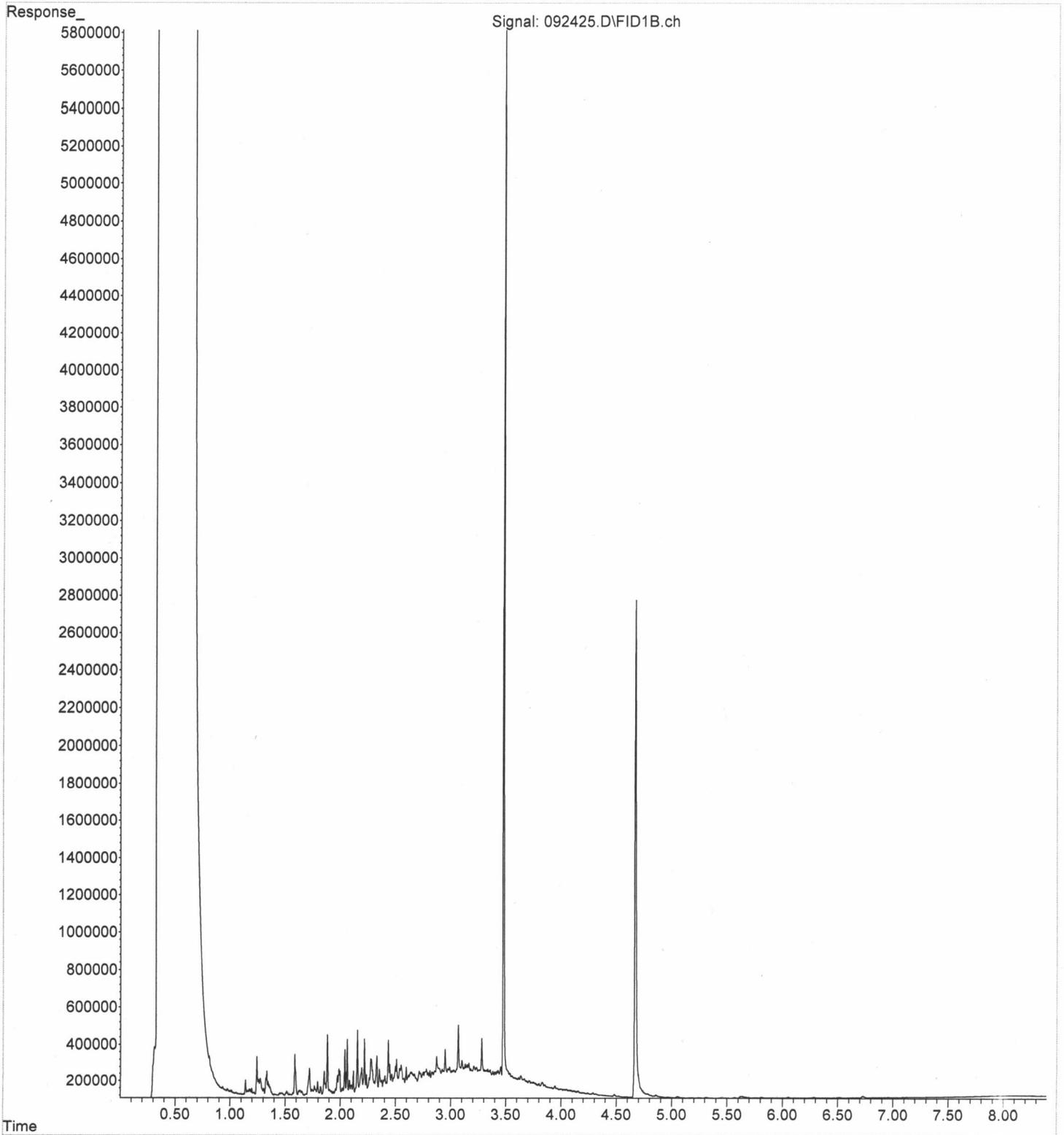
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Instrument : GC14  
Sample Name: 509340-05 sg  
Misc Info :  
Vial Number: 19

ERR



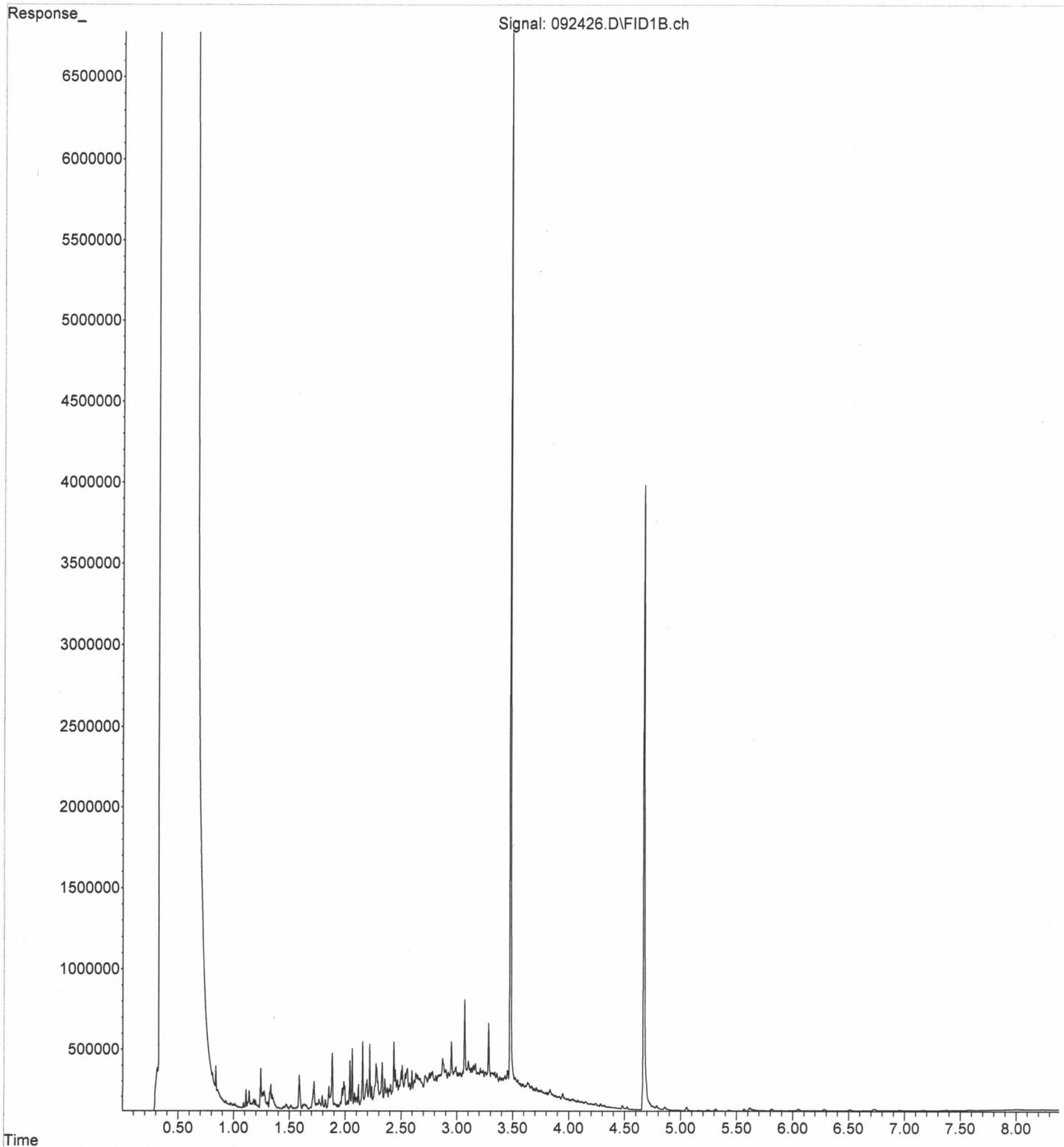
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Operator : TL  
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Instrument : GC14  
Sample Name: 509340-06 sg  
Misc Info :  
Vial Number: 20

ERR



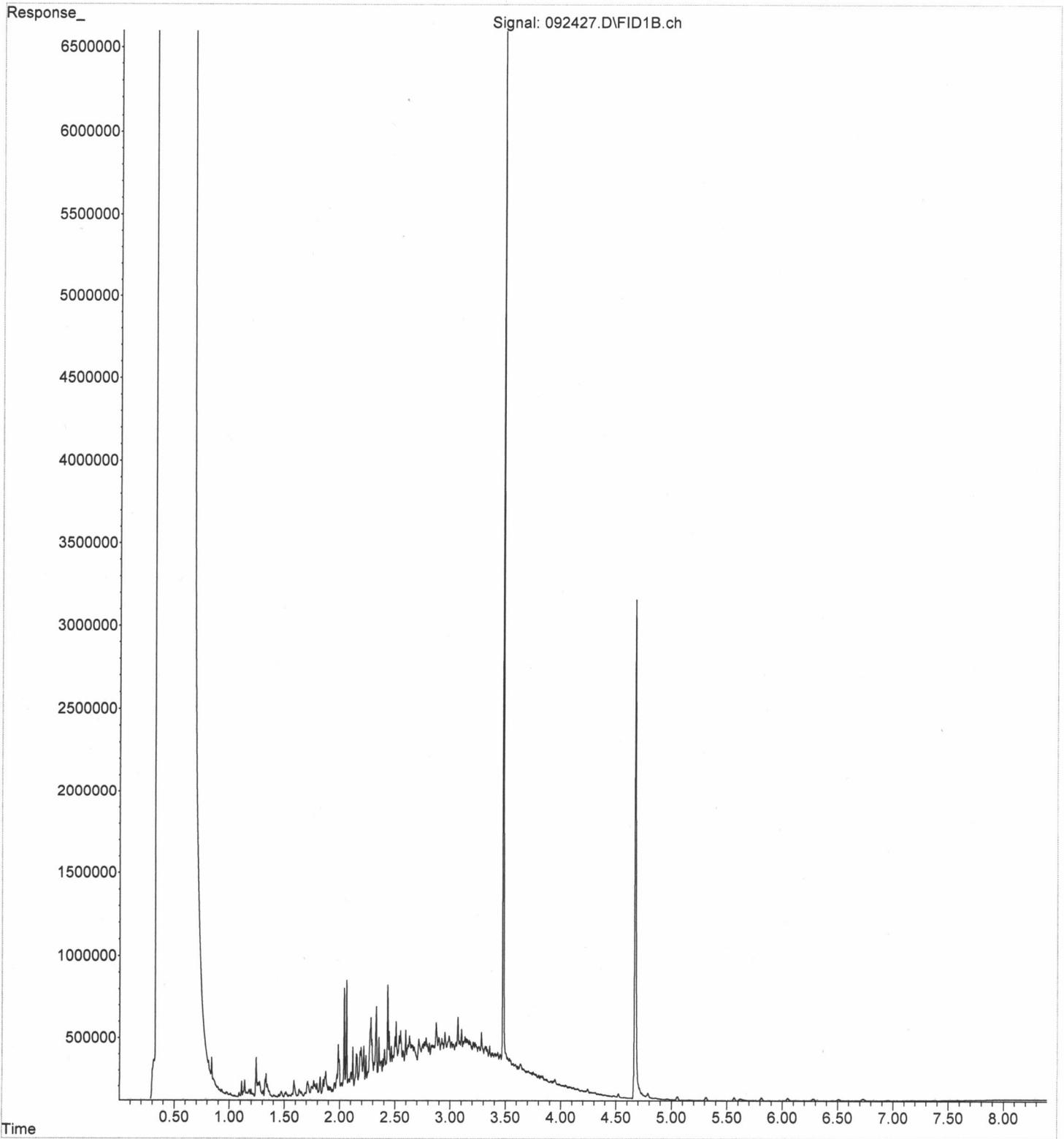
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Instrument : GC14  
Sample Name: 509340-07 sg  
Misc Info :  
Vial Number: 21

ERR



File :P:\Proc\_GC14\09-24-25\092427.D  
Operator : TL  
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Instrument : GC14  
Sample Name: 509340-08 sg  
Misc Info :  
Vial Number: 22

ERR



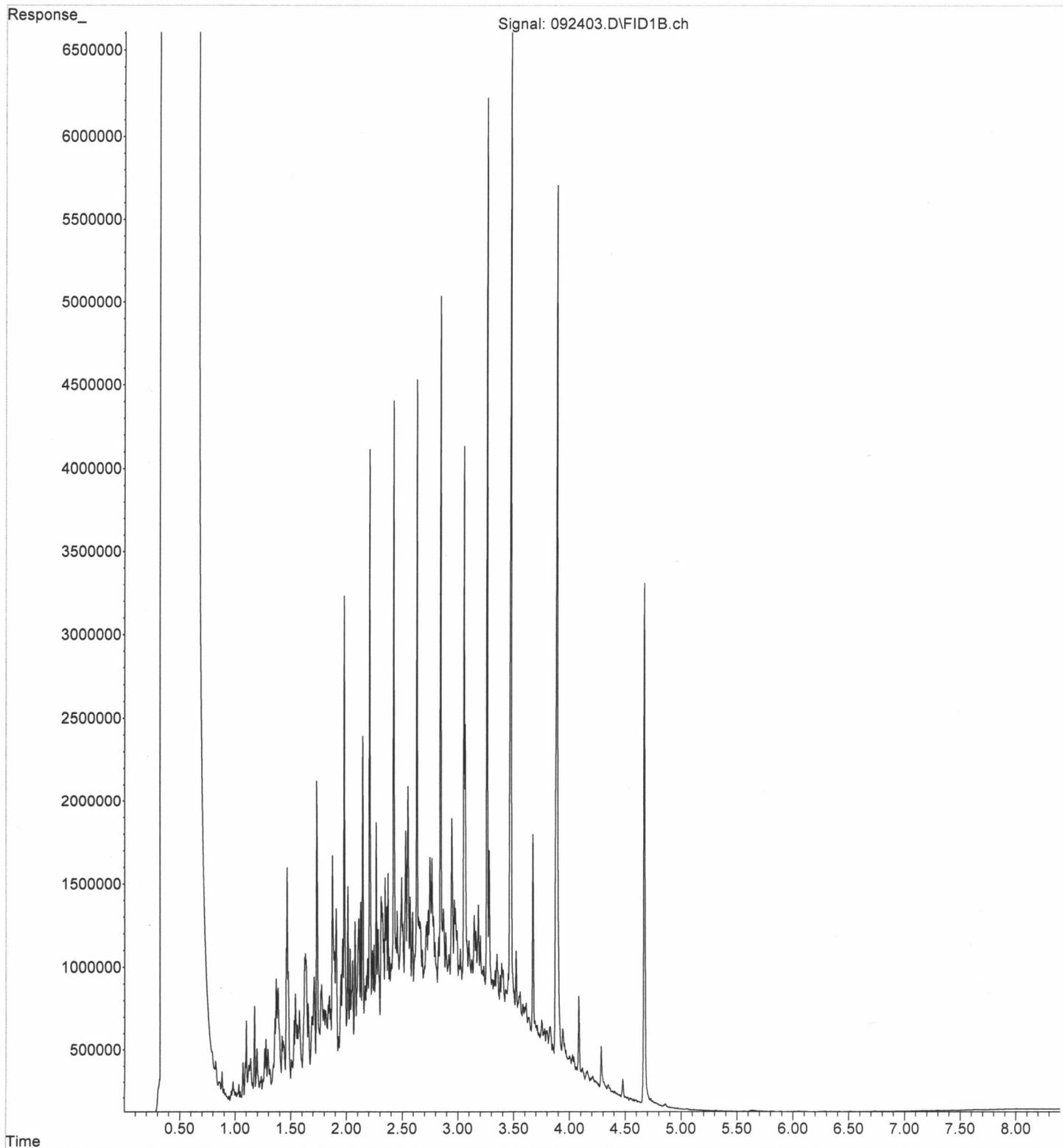
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Sample Name: 05-2375 mb2 sg  
Misc Info :  
Vial Number: 14

ERR

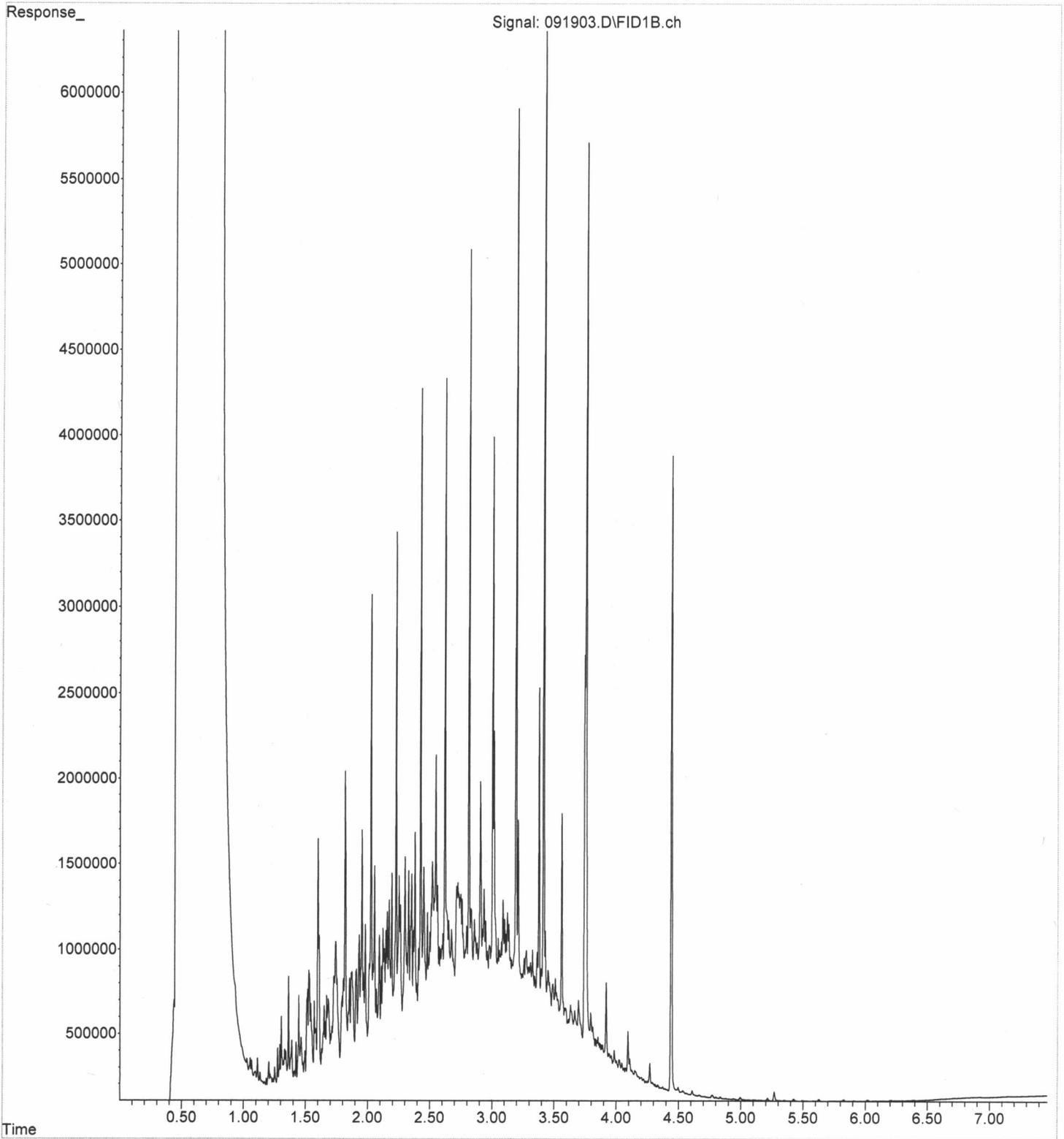


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Operator : TL  
Acquired : 24 Sep 2025 08:36 am using AcqMethod DX.M  
Instrument : GC14  
Sample Name: 500 Dx 76-54I  
Misc Info :  
Vial Number: 3

ERR



File :P:\Proc\_GC10\09-19-25\091903.D  
Operator : TL  
Acquired : 19 Sep 2025 08:17 am using AcqMethod DX.M  
Instrument : GC10  
Sample Name: 500 Dx 76-54I  
Misc Info :  
Vial Number: 3



# Groundwater Sample Form

MW-1

Submitted Time: April 30, 2025 6:28 PM Date of Collection: 04, 30, 2025  
Project/Task: CL-Ellensburg Field Personnel: Danielle, Ainsley  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-1 Weather: Sunny, Windy

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 4.18  
Collection Time: 09:45 Begin Purge: 09:50 Depth to Water After 5 Minutes of Purging: \_\_\_\_\_

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
09:53	4.24	1	6.82	0.51	724	6.11	12	-69.1	
09:58	4.23	2.5	6.82	0.31	705	2.63	11.8	-73.8	
10:03	4.24	3.75	6.83	0.25	701	2.01	11.9	-77.3	
10:07	4.24	4.75	6.81	0.19	690	1.23	11.7	-76.8	
10:12	4.24	6	6.83	1.5	685	1.2	11.9	-78.1	

## Sampling Data

Sample ID: MW-1-043025 Sample Time Collected: 10:15 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 9 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: Rental  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Disposable Tubing  
Sample Description: Clear, light petroleum order

## Sample Analyses and Field Quality Control

Field Duplicate: Yes MS/MSD: No  
Duplicate Sample ID: MW-101-043025 Duplicate Date: April 30, 2025 Duplicate Time: 11:00

# Groundwater Sample Form

MW-1A

Submitted Time: April 30, 2025 6:29 PM Date of Collection: 04, 30, 2025  
Project/Task: CL-Ellensburg Field Personnel: Danielle, Ainsley  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-1A Weather: Sunny

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 4.42  
Collection Time: 11:22 Begin Purge: 11:23 Depth to Water After 5 Minutes of Purging: \_\_\_\_\_

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
11:26	4.42	0.35	6.72	0.85	700	59.5	12.8	83.4	
11:30	4.42	2	6.64	0.57	697	39.8	13.1	95.5	
11:34	4.42	2.5	6.6	0.56	694	17.2	13.3	103.4	
11:37	4.25	3.25	6.61	0.52	695	9.53	13.3	105.9	
11:42	4.45	4	6.59	0.58	697	6.79	13.2	110.9	
11:46	4.4	5	6.58	0.44	697	3.5	13.3	114.2	

## Sampling Data

Sample ID: MW-1A-043025 Sample Time Collected: 11:48 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 10 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: Rental  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Disposable Tubing  
Sample Description: Clear, no odor, with some particulates

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-2

Submitted Time: April 30, 2025 6:28 PM Date of Collection: 04, 30, 2025  
Project/Task: CL-Ellensburg Field Personnel: Danielle, Ainsley  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-2 Weather: Sunny, Windy

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 4.12  
Collection Time: 10:41 Begin Purge: 10:43 Depth to Water After 5 Minutes of Purging: \_\_\_\_\_

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
10:46	4.16	0.8	6.89	0.51	711	3.46	12.4	-80.6	
10:51	4.18	2.1	6.89	0.26	701	1.66	12.4	-85	
10:55	4.18	3.1	6.9	0.23	702	1.53	12.3	-87.5	
10:59	4.17	4.8	6.86	0.18	706	2.08	12.3	-89.5	
11:02	4.18	5.7	6.9	0.25	706	2.08	12.2	-90.7	

## Sampling Data

Sample ID: MW-2-043025 Sample Time Collected: 11:10 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 8 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: Rental  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Disposable Tubing  
Sample Description: 

Clear, no odor
----------------

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-2A

Submitted Time: April 30, 2025 6:31 PM Date of Collection: 04, 30, 2025  
Project/Task: CL-Ellensburg Field Personnel: Danielle  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-2A Weather: Sunny

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 4.69  
Collection Time: 12:28 Begin Purge: 12:30 Depth to Water After 5 Minutes of Purging: 4.69

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
12:33	4.69	0.25	6.87	0.35	839	142	12.6	-1.1	Lots of orange particulates
12:38	4.7	2	6.82	0.29	823	107	12.6	-15.1	
12:43	4.7	3	6.78	0.21	811	48.3	13	-27.6	YSI in shade but warm ambient temperature
12:48	4.7	4	6.76	0.26	805	12.1	12.7	-32.4	
12:53	4.7	5	6.75	0.22	799	9.05	13.1	-36.6	
12:56	4.7	5.5	6.75	0.19	800	9.61	13	-38	
13:00	4.7	6.5	6.75	0.16	794	5.66	12.8	-39.5	

## Sampling Data

Sample ID: MW-2A-043025 Sample Time Collected: 13:05 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 10 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: Rental  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Dedicated silicon and poly tubing  
Sample Description: Clear, petroleum odor, orange particulates

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-3

Submitted Time: April 30, 2025 6:29 PM Date of Collection: 04, 30, 2025  
Project/Task: CL-Ellensburg Field Personnel: Ainsley  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-3 Weather: Sunny

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 6.5  
Collection Time: 12:30 Begin Purge: 12:31 Depth to Water After 5 Minutes of Purging: 4.56

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
12:34	4.56	0.5	6.7	0.69	0.55	5.81	12.5	48	
12:38	4.56	2	6.76	0.6	0.55	6.46	12.6	63.5	
12:42	4.56	3	6.8	0.42	0.54	5.71	12.5	72.2	
12:45	4.56	3.5	6.76	0.32	0.54	6.54	12.3	79.2	
12:48	4.55	4	6.78	0.26	0.54	3.71	12.5	84.1	
12:52	4.55	5	6.78	0.21	0.54	3.82	12.6	89.9	

## Sampling Data

Sample ID: MW-3-043025 Sample Time Collected: 12:58 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 10 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: Rental  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Dedicated silicon and poly tubing

Sample Description: 

Clear, no odor
----------------

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-4B

Submitted Time: April 30, 2025 6:31 PM Date of Collection: 04, 30, 2025  
Project/Task: CL-Ellensburg Field Personnel: Danielle  
Ecology Tag #: BNM659 Location ID: MW-4B Weather: Sunny

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 3.8  
Collection Time: 13:23 Begin Purge: 13:25 Depth to Water After 5 Minutes of Purging: 3.8

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
13:31	3.81	2	6.93	0.36	667	1.71	12.1	-87.8	
13:35	3.82	3	6.93	0.22	654	1.08	12.2	-91	
13:39	3.82	4.5	6.92	0.15	651	1.12	12.2	-94.6	
13:43	3.84	6	6.92	0.12	653	0.98	12	-96.5	
13:47	3.84	8	6.91	0.11	650	1.33	12.1	-98.3	

## Sampling Data

Sample ID: MW-4B-043025 Sample Time Collected: 13:50 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 9 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: Rental  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Dedicated silicon and poly tubing  
Sample Description: 

Clear, petroleum odor
-----------------------

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-9A

Submitted Time: April 30, 2025 6:29 PM Date of Collection: 04, 30, 2025  
Project/Task: CL-Ellensburg Field Personnel: Ainsley  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-9A Weather: Sunny

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 3.85  
Collection Time: 13:18 Begin Purge: 13:21 Depth to Water After 5 Minutes of Purging: 3.83

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
13:24	3.7	3	6.85	0.91	0.72	20.1	12.5	143.5	
13:29	3.78	4	6.85	0.36	0.73	25	12.3	137.7	
13:32	3.78	5.7	6.86	0.33	0.69	15.9	12.4	133.5	
13:35	3.78	6.8	6.83	0.35	0.69	23.7	12.4	126.9	
13:41	3.79	7	6.8	0.25	0.68	17.42	12.6	119	
13:46	3.79	8	6.82	0.16	0.66	1.96	12.5	107.2	Turbidity meter error. Switched device and compared results
13:49	3.79	8.7	6.81	0.15	0.65	2.16	12.7	104.1	Switched turbidity meter. Compared results. Error

## Sampling Data

Sample ID: MW-9A-043025 Sample Time Collected: 13:54 Sample Gear: Peristaltic Pump

Sample Depth (ft bTOC): 10 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: Rental

Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_

Sample Decon Procedure: Dedicated silicon and poly tubing

Sample Description: Clear, no odor

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-1A

Submitted Time: September 18, 2025 3:42 PM Date of Collection: 09, 18, 2025  
Project/Task: CL-Ellensburg Field Personnel: Danielle, Henry  
Ecology Tag #: BJA772 Location ID: MW-1A Weather: Sunny, Windy

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: 4 Screen Interval Lower Depth: 14  
Total Depth: 14 Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 5.8  
Collection Time: 11:37 Begin Purge: 11:42 Depth to Water After 5 Minutes of Purging: 5.8

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
11:45	5.8	0.5	6.47	3	572	56.1	22.6	223.4	
11:50	5.8	2	6.48	2.29	566	12.17	22.8	212.7	
11:55	5.8	3	6.48	2.11	562	3.03	22.9	209.4	
12:00	5.8	4	6.49	2.04	560	1.56	22.9	209.4	
12:05	5.8	6	6.49	2.12	557	0.99	22.9	210.9	

## Sampling Data

Sample ID: MW-1A-091825 Sample Time Collected: 12:10 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 9 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: 0754  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Disposable Tubing  
Sample Description: Brown particulates, no odor

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-2A

Submitted Time: September 18, 2025 3:43 PM Date of Collection: 09, 18, 2025  
Project/Task: CL-Ellensburg Field Personnel: Henry  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-2A Weather: Sunny, Cold (< 70° F), Windy

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 6.03  
Collection Time: 11:00 Begin Purge: 11:00 Depth to Water After 5 Minutes of Purging: 6.03

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
11:05	6.03	1	6.57	0.78	693	0.99	21.5	4.4	
11:10	6.03	2	6.56	0.46	682	0.69	21.6	-36.1	
11:15	6.04	3	6.56	0.39	680	0.5	21.6	-48.3	
11:20	6.03	5	6.55	0.35	678	0.41	21.6	-56.2	
11:25	6.03	5.5	6.55	0.34	677	0.41	21.6	-58.2	

## Sampling Data

Sample ID: MW-2A-091825 Sample Time Collected: 11:25 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 10 Water Quality Instrument: ProDSS Turbidity Meter, YSI YSI Serial No.: 0326  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Dedicated silicon and poly tubing  
Sample Description:

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-3

Submitted Time: September 18, 2025 3:42 PM Date of Collection: 09, 18, 2025  
Project/Task: CL-Ellensburg Field Personnel: Danielle  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-3 Weather: Sunny, Windy

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: 6 Screen Interval Lower Depth: 11  
Total Depth: 10.95 Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 6  
Collection Time: 10:53 Begin Purge: 11:58 Depth to Water After 5 Minutes of Purging: 6

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
11:00	6	0	6.67	2.15	585	6.47	19.9	194.3	
11:05	6	1.5	6.7	0.22	573	3.46	19.5	166.3	
11:10	6	3	6.71	0.02	569	2.92	19.6	153.7	
11:15	6	4.5	6.71	0.05	565	2.12	19.5	145	
11:20	6	7	6.71	0.08	564	2.5	19.5	140.2	

## Sampling Data

Sample ID: MW-3-091825 Sample Time Collected: 11:30 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 8 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: 0754  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Dedicated silicon and poly tubing  
Sample Description: 

Clear, no odor
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## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-4B

Submitted Time: September 18, 2025 3:43 PM Date of Collection: 09, 18, 2025  
Project/Task: CL-Ellensburg Field Personnel: Henry  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-4B Weather: Sunny, Windy, Cold (< 70° F)

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 5.08  
Collection Time: 10:05 Begin Purge: 10:05 Depth to Water After 5 Minutes of Purging: 5.09

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
10:10	5.09	1	6.61	1.33	715	1.05	21.5	-24.3	Clear
10:15	5.08	2	6.62	0.51	715	0.84	21.6	-66.7	
10:20	5.08	3	6.64	0.36	713	0.43	21.5	-86.9	
10:25	5.09	4	6.65	0.32	711	0.54	21.6	-94	
10:30	5.09	5	6.65	0.3	710	0.46	21.6	-97.7	

## Sampling Data

Sample ID: MW-4B-091825 Sample Time Collected: 10:35 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 9 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: 0326  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Dedicated silicon and poly tubing  
Sample Description:

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-9A

Submitted Time: September 18, 2025 3:42 PM Date of Collection: 09, 18, 2025  
Project/Task: CL-Ellensburg Field Personnel: Danielle  
Ecology Tag #: BNM660 Location ID: MW-9A Weather: Sunny, Windy

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: 3 Screen Interval Lower Depth: 13  
Total Depth: 13.08 Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 5.15  
Collection Time: 10:02 Begin Purge: 10:05 Depth to Water After 5 Minutes of Purging: 5.24

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
10:07	5.22	0	6.76	1.6	615	8.4	20.2	51.2	
10:12	5.24	2	6.77	0.37	514	3.84	19.8	38	
10:17	5.24	3.5	6.77	0.24	499	3.22	19.7	33.8	
10:22	5.24	5	6.78	0.06	480.8	1.52	19.8	30	
10:27	5.23	6.5	6.77	0.04	477.4	1.62	19.7	29.4	
10:32	5.23	8	6.77	0.01	472.2	0.88	19.8	26.3	

## Sampling Data

Sample ID: MW-9A-091825 Sample Time Collected: 10:40 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 8 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: 0754  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Dedicated silicon and poly tubing  
Sample Description: Clear with black particulates, no odor

## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

# Groundwater Sample Form

MW-1

Submitted Time: September 18, 2025 3:43 PM Date of Collection: 09, 18, 2025  
Project/Task: CL-Ellensburg Field Personnel: Henry  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-1 Weather: Sunny, Windy, Cold (< 70° F)

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: \_\_\_\_\_ Screen Interval Lower Depth: \_\_\_\_\_  
Total Depth: \_\_\_\_\_ Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 5.68  
Collection Time: 09:15 Begin Purge: 09:20 Depth to Water After 5 Minutes of Purging: 5.71

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
09:25	5.71	1	6.65	1.17	698	1.87	21.7	9.4	Clear
09:30	5.72	2	6.69	0.56	692	0.84	21.2	-49.7	
09:35	5.73	3	6.71	0.42	684	0.77	21.1	-67.1	
09:40	5.74	4	6.71	0.34	673	1.27	21	-77.7	
09:43	5.74	4.5	6.71	0.31	671	0.89	21	-81.8	

## Sampling Data

Sample ID: MW-1-091825 Sample Time Collected: 09:45 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 9 Water Quality Instrument: YSI ProDSS, Turbidity Meter YSI Serial No.: 0326  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Disposable Tubing  
Sample Description:

## Sample Analyses and Field Quality Control

Field Duplicate: Yes MS/MSD: No  
Duplicate Sample ID: MW-101-091825 Duplicate Date: September 18, 2025 Duplicate Time: 09:50

# Groundwater Sample Form

MW-2

Submitted Time: September 18, 2025 3:42 PM Date of Collection: 09, 18, 2025  
Project/Task: CL-Ellensburg Field Personnel: Danielle  
Ecology Tag #: \_\_\_\_\_ Location ID: MW-2 Weather: Sunny, Windy

## Groundwater Monitoring

Depth Units: ft bTOC Screen Interval Upper Depth: 5 Screen Interval Lower Depth: 15  
Total Depth: 14.19 Casing Diameter: 2

## General Purge Information

Depth Units: ft bTOC Depth Sounder Decontaminated: Yes Depth to Water: 5.47  
Collection Time: 09:07 Begin Purge: 09:14 Depth to Water After 5 Minutes of Purging: 5.49

## Stabilization Inputs

Start Time	Depth to Water (ft bTOC)	Volume Purged (L)	pH (s.u.)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	Turbidity (NTU)	Temperature (°C)	ORP (mV)	Comments
09:17	5.49	0	6.75	3.41	723	15.89	21.3	-74.2	
09:22	5.49	1.5	6.76	0.9	715	7.39	21.2	-92.2	
09:27	5.5	2.75	6.76	0.27	711	5.17	21.1	-103	
09:32	5.49	4	6.76	0.05	711	4.83	21.1	-110.4	
09:37	5.5	5.5	6.76	0.02	707	5.08	21.1	-113.9	

## Sampling Data

Sample ID: MW-2-091825 Sample Time Collected: 09:40 Sample Gear: Peristaltic Pump  
Sample Depth (ft bTOC): 10 Water Quality Instrument: ProDSS Turbidity Meter, YSI YSI Serial No.: 0754  
Filter: Unfiltered Filter Size: N/A Other Instrument Type: \_\_\_\_\_  
Sample Decon Procedure: Disposable Tubing  
Sample Description: 

Clear, no odor
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## Sample Analyses and Field Quality Control

Field Duplicate: No MS/MSD: No

**Attachment 2**  
**Ecology Analytical List Change Approval**  
**(May 27, 2025)**



STATE OF WASHINGTON  
**DEPARTMENT OF ECOLOGY**

Central Region Office

1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

May 27, 2025

**Sent via email**

Attn: Manique Talaia-Murray  
Floyd | Snider  
601 Union Street, Suite 600  
Seattle, WA 98101

RE: Approval of change in analyte list for groundwater monitoring in Cleanup Action Plan Agreed Order

- Site Name: Big B Mini Mart
- Site Address: 1611 Canyon Road, Ellensburg, Kittitas County
- Facility Site ID: 386
- Cleanup Site ID: 4901
- Agreed Order: DE 18243

Dear Manique Talaia-Murray:

Ecology concurs with your proposal to modify the groundwater analyte list during performance monitoring. This change proposed in Floyd Snider's *2024 Data Summary Memorandum*, dated December 13, 2024, entails dropping analytical methods, NWTPH-Gx and EPA Method 8260. The time series of groundwater data supports this decision.

Note, the confirmation sampling to demonstrate attainment of the cleanup standards will not be affected. The final confirmation sampling will include NWTPH-Gx and Method 8260.

Sincerely,

**John Mefford**

John Mefford  
Cleanup Project Manager/Hydrogeologist  
Toxics Cleanup Program  
Central Region Office

 Digitally signed by John Mefford  
Date: 2025.05.27 10:48:19 -07'00'

cc: Scott MacDonald, BNSF Railway Company

