



2753 West 31st Street | Chicago, IL 60608  
Tel: 773-722-9200 | Fax: 773-722-9201 | pioneerEES.com

Transmitted via Electronic Mail

January 10, 2024

Ms. Tena Seeds  
Washington State Department of Ecology  
Toxics Cleanup Program  
15700 Dayton Ave N., Shoreline, WA 98133

RE: **Quarterly Progress Report: October 1 through December 31, 2023**  
**Time Oil Bulk Terminal Site, Cleanup Site ID #14604**  
**Prospective Purchaser Consent Decree No. 20-2-15215-3 SEA**

Dear Ms. Seeds:

Pioneer Engineering & Environmental Services, LLC on behalf of TOC Seattle Terminal 1, LLC submits the attached Quarterly Progress Report for the Time Oil Bulk Terminal Site per Section XII of the Prospective Purchaser Consent Decree between the Washington State Department of Ecology and TOC Seattle Terminal 1, LLC. The quarterly progress report consists of a brief narrative summary of notable activities that occurred during the reporting period and that are anticipated for the upcoming reporting period.

If you have any questions about this report, please contact me at 773-435-3725.

Sincerely,

A handwritten signature in black ink that reads "Kim Hempel". The signature is written in a cursive, flowing style.

Kim Hempel  
Project Coordinator  
Pioneer Engineering & Environmental Services, LLC

Distribution List:  
Doug Ciserella and Mike Ciserella, TOC Seattle Terminal 1, LLC  
Bill Joyce, Hillis Clark Martin & Peterson P.S.  
Jamie Stevens, CRETE Consulting  
Kristin Anderson, Floyd|Snider

**TIME OIL BULK TERMINAL SITE  
PROSPECTIVE PURCHASER CONSENT DECREE NO. 20-2-15215-3 SEA  
QUARTERLY PROGRESS REPORT: OCTOBER 1 THROUGH DECEMBER 31, 2023**

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This report has been prepared in accordance with the requirements of the Time Oil Bulk Terminal Site Prospective Purchaser Consent Decree (PPCD) between the Washington State Department of Ecology (Ecology) and TOC Seattle Terminal 1, LLC. This progress report provides details on the following: 1) all on site activities; 2) any deviations from required tasks; 3) anticipated problems in meeting schedule or objectives and associated solutions 4) sampling, testing, or other data received; 5) work planned for the upcoming 3-month period; and, 6) deliverables planned for the upcoming 3-month period.

**Summary of On-Site Activities Performed During the Reporting Period (PPCD Section XII.A)**

- A visual check of the site was conducted on October 10 and November 7, 2023. Construction was underway on Parcel F in November, and all interim surfaces on remaining portions of the Site remain in good condition and no other concerns were noted during the site visits.
- Floyd|Snider (F|S) personnel collected the fourth round of post-remediation groundwater samples per the approved Groundwater Monitoring Plan (GMP) on October 10, 2023, and continued groundwater collection at contingency well 01MW107 based on elevated indicator hazardous substances (IHSs) at 01MW53 and/or 01MW85 in the first three quarters of 2023.
- A passive flux meter (PFM) sampler was placed in 01MW85 to assess flux of chlorinated volatile organic compounds (CVOCs) through the PlumeStop in situ groundwater treatment barrier. The PFM was installed after compliance monitoring sampling on October 10, 2023 and sampled on November 7, 2023.
- Water samples were collected from the ASKO Property permeable reactive barrier vault and gravity well on October 10 and November 7, 2023 for operation and maintenance (O&M) assessment purposes. The O&M data were collected to coincide with remedial investigation groundwater sampling on the upgradient BNSF Property and O&M assessment will continue in Q1 2024 when the BNSF data become available.
- Construction on Lot F began on October 30, 2023.
- Stained soils were observed during construction of the stormwater vault on Lot F; these soils were segregated, stockpiled, and sampled by CRETE for total petroleum hydrocarbon (TPH) analysis, as discussed in an email to Ecology on November 6, 2023. All TPH results were below the remediation levels (RELS), as discussed in an email with Ecology on November 15, 2023. During construction, all site soils have been managed on site per the June 8, 2023 Notification of Construction Activities (approved on June 21, 2023).

**Deliverables**

Deliverables during this reporting period included the following:

- The Quarterly Progress Report for the third quarter of 2023 was submitted to Ecology on October 13, 2023.

**Deviations from Required Tasks (PPCD Section XII.B)**

- None.

**Anticipated Problems in Meeting Schedule or Objectives and Associated Solutions (PPCD Section XII.C and XII.D)**

- There are no anticipated problems in meeting the schedule of deliverables specified in Exhibit D of the PPCD. The schedule of deliverables and activities specified in Table 8.1 of the Cleanup Action Plan (Exhibit C of the PPCD) are currently on track or ahead of schedule.

### **Raw Data Received (PPCD Section XII.E)**

- Groundwater sampling results for the 4<sup>th</sup> Quarter 2023 were received from Friedman & Bruya, Inc. on October 19, 2023. Results were received in one sample delivery group (F&BI 310168);
- Samples collected for O&M purposes from the ASKO property permeable reactive barrier vault and gravity well were received on October 16 and November 16, 2023. Results were received in two sample delivery groups (F&BI 310169 and 3111159); and
- TPH soil sampling results for the stained soils observed during construction on Lot F were received from Friedman & Bruya, Inc. on November 10, 2023 (F&BI 311100).
- Copies of the laboratory reports discussed herein are provided as an attachment to this Progress Report.

### **Work Planned During the Upcoming Reporting Period (PPCD Section XII.F)**

The following work is planned for the 1<sup>st</sup> Quarter 2024:

- Fifth round of groundwater sampling is scheduled for February 7 and 8, 2024;
- Construction on Lot F continues; and
- Site checks will be conducted periodically on all interim surfaces outside of Lot F to ensure that conditions remain stable during the interim period prior to site development.

### **Deliverables Planned During the Upcoming Reporting Period (PPCD Section XII.G)**

The following deliverables are anticipated to be completed during the next quarterly reporting period of January through March 2024:

- Transmittal of a summary of 4<sup>th</sup> Quarter 2023 and 1<sup>st</sup> Quarter 2024 groundwater sampling results and associated groundwater contour maps to Ecology via email;
- Submittal of the Quarterly Progress Report for the 4<sup>th</sup> Quarter 2023; and
- Submittal of the first Annual Report on March 1, 2024.

### **Other Pertinent Information, Including Changes in Key Personnel**

- None.

### **Attachments**

- Attachment 1 – Laboratory Analytical Reports

**END QUARTERLY PROGRESS REPORT**

**ATTACHMENT 1**

**Laboratory Analytical Reports**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

October 16, 2023

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

Dear Ms Osterhout:

Included are the results from the testing of material submitted on October 10, 2023 from the Cantera-TOC, F&BI 310169 project. There are 5 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  
FDS1016R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 10, 2023 by Friedman & Bruya, Inc. from the Floyd-Snider Cantera-TOC, F&BI 310169 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID

310169 -01

Floyd-Snider

GRAVITY-101023

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	GRAVITY-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310169
Date Extracted:	10/11/23	Lab ID:	310169-01 1/10
Date Analyzed:	10/11/23	Data File:	101118.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	97	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	11
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	130
1,2-Dichloroethane (EDC)	<2
1,1,1-Trichloroethane	<10
Trichloroethene	490
Tetrachloroethene	<5 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Cantera-TOC, F&BI 310169
Date Extracted:	10/11/23	Lab ID:	03-2327 mb
Date Analyzed:	10/11/23	Data File:	101108.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	106	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<0.5 j



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/16/23

Date Received: 10/10/23

Project: Cantera-TOC, F&BI 310169

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

Laboratory Code: 310172-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	92	50-150
Chloroethane	ug/L (ppb)	10	<1	98	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	91	50-150
Methylene chloride	ug/L (ppb)	10	<5	83	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	97	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	90	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	96	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	87	50-150
Trichloroethene	ug/L (ppb)	10	1.8	95	35-149
Tetrachloroethene	ug/L (ppb)	10	15	101 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Vinyl chloride	ug/L (ppb)	10	91	93	64-142	2
Chloroethane	ug/L (ppb)	10	100	102	70-130	2
1,1-Dichloroethene	ug/L (ppb)	10	90	91	64-140	1
Methylene chloride	ug/L (ppb)	10	85	88	43-134	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	97	100	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	90	93	70-130	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	99	104	70-130	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	98	100	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	91	94	70-130	3
Trichloroethene	ug/L (ppb)	10	98	100	70-130	2
Tetrachloroethene	ug/L (ppb)	10	103	107	70-130	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 below the standard reporting limit. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

310169

**SAMPLE CHAIN OF CUSTODY**

10/10/23

UWI

Report To PAM OSTERHOUT / labdata@floydsnider.com

SAMPLERS (signature)  
OO, PU

Page # 1 of 1

Company FLOYD SNIDER

PROJECT NAME

PO #

Address 601 UNION ST

Cantera-TOC

City, State, ZIP SEATTLE, WA 98107

REMARKS

INVOICE TO

Phone 206 292-2078 Email labdata@floydsnider.com

Project specific RLs? - Yes / No

**TURNAROUND TIME**


- Standard turnaround
  - RUSH
- Rush charges authorized by: \_\_\_\_\_

**SAMPLE DISPOSAL**

- Archive samples
  - Other \_\_\_\_\_
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082						
GRAVITY-101023	01A-C	10/10/23	0815	WATER	3						X							

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	C. OZIERO	FLOYD SNIDER	10/10/23	1727
Received by: _____	JOE MOHAMMED	FBI	10/10/23	1717
Relinquished by: _____		Samples received at <u>2</u> °C		
Received by: _____				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

October 19, 2023

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

Dear Ms Osterhout:

Included are the results from the testing of material submitted on October 10, 2023 from the Cantera-TOC, F&BI 310168 project. There are 24 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Floyd Snider Lab Data  
FDS1019R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 10, 2023 by Friedman & Bruya, Inc. from the Floyd-Snider Cantera-TOC, F&BI 310168 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Floyd-Snider</u>
310168 -01	01MW46-101023
310168 -02	01MW19R-101023
310168 -03	01MW53-101023
310168 -04	01MW85-101023
310168 -05	01MW107-101023
310168 -06	01MW35-101023
310168 -07	01MW84-101023
310168 -08	02MW04R-101023
310168 -09	02MW19-101023
310168 -10	02MW07-101023
310168 -11	01MW19R-D-101023
310168 -12	TB-101023

Sample 01MW85-101023 was sent to Onsite Environmental for RSK dissolved gases analysis. The report is enclosed.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/19/23  
Date Received: 10/10/23  
Project: Cantera-TOC, F&BI 310168  
Date Extracted: 10/12/23  
Date Analyzed: 10/12/23

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

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
01MW19R-101023 310168-02	1,200	124
01MW35-101023 310168-06	<100	102
01MW84-101023 310168-07	3,500	105
02MW04R-101023 310168-08	<100	100
02MW19-101023 310168-09	<100	93
02MW07-101023 310168-10	<100	94
01MW19R-D-101023 310168-11	1,200	119
Method Blank 03-2235 MB	<100	102

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/19/23  
Date Received: 10/10/23  
Project: Cantera-TOC, F&BI 310168  
Date Extracted: 10/12/23  
Date Analyzed: 10/17/23

**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)
01MW19R-101023 310168-02	890 x	<250	118
01MW35-101023 310168-06	56 x	<250	139
01MW84-101023 310168-07	1,500 x	<250	126
02MW04R-101023 310168-08	<50	<250	132
02MW19-101023 310168-09	81 x	<250	136
02MW07-101023 310168-10	73 x	<250	139
01MW19R-D-101023 310168-11	920 x	<250	131
Method Blank 03-2400 MB	<50	<250	121

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	02MW19-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/11/23	Lab ID:	310168-09
Date Analyzed:	10/11/23	Data File:	310168-09.151
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	3.13
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	02MW07-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/11/23	Lab ID:	310168-10
Date Analyzed:	10/11/23	Data File:	310168-10.152
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	1.24
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/11/23	Lab ID:	I3-804 mb
Date Analyzed:	10/11/23	Data File:	I3-804 mb.086
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	01MW46-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-01 1/10
Date Analyzed:	10/12/23	Data File:	101221.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	71	132
Toluene-d8	109	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	36
cis-1,2-Dichloroethene	400
Trichloroethene	300
Benzene	4.8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	01MW19R-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-02
Date Analyzed:	10/12/23	Data File:	101223.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	104	84	115
4-Bromofluorobenzene	108	72	130

Compounds:	Concentration ug/L (ppb)
Benzene	1.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	01MW53-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-03
Date Analyzed:	10/12/23	Data File:	101213.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	71	132
Toluene-d8	110	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.59
cis-1,2-Dichloroethene	2.4
Trichloroethene	1.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	01MW85-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-04 1/10
Date Analyzed:	10/12/23	Data File:	101222.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	71	132
Toluene-d8	116	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	18
cis-1,2-Dichloroethene	1,100
Trichloroethene	13

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	01MW107-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-05
Date Analyzed:	10/12/23	Data File:	101214.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
cis-1,2-Dichloroethene	<1
Trichloroethene	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	01MW35-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-06
Date Analyzed:	10/12/23	Data File:	101215.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	112	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	01MW84-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-07
Date Analyzed:	10/12/23	Data File:	101216.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	113	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	02MW04R-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-08
Date Analyzed:	10/12/23	Data File:	101217.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	71	132
Toluene-d8	110	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	02MW19-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-09
Date Analyzed:	10/12/23	Data File:	101218.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	110	71	132
Toluene-d8	111	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	02MW07-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-10
Date Analyzed:	10/12/23	Data File:	101219.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	71	132
Toluene-d8	113	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	01MW19R-D-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-11
Date Analyzed:	10/12/23	Data File:	101220.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	118	68	139
4-Bromofluorobenzene	102	62	136

Compounds:	Concentration ug/L (ppb)
Benzene	1.8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TB-101023	Client:	Floyd-Snider
Date Received:	10/10/23	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	310168-12
Date Analyzed:	10/12/23	Data File:	101212.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	71	132
Toluene-d8	113	68	139
4-Bromofluorobenzene	102	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
cis-1,2-Dichloroethene	<1
Trichloroethene	<0.5
Benzene	<0.35

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Cantera-TOC, F&BI 310168
Date Extracted:	10/12/23	Lab ID:	03-2330 mb
Date Analyzed:	10/12/23	Data File:	101208.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	78	126
Toluene-d8	92	84	115
4-Bromofluorobenzene	99	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
cis-1,2-Dichloroethene	<1
Trichloroethene	<0.5
Benzene	<0.35

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/19/23

Date Received: 10/10/23

Project: Cantera-TOC, F&BI 310168

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 310168-06 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	110	70-130



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/19/23

Date Received: 10/10/23

Project: Cantera-TOC, F&BI 310168

**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	120	65-151	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/19/23

Date Received: 10/10/23

Project: Cantera-TOC, F&BI 310168

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

Laboratory Code: 310160-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	37.8	102 b	90 b	75-125	12 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	91	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/19/23

Date Received: 10/10/23

Project: Cantera-TOC, F&BI 310168

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

Laboratory Code: 310168-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Vinyl chloride	ug/L (ppb)	10	0.41	95	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	2.8	105 b	10-211
Benzene	ug/L (ppb)	10	1.6	104	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	102	35-149

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Vinyl chloride	ug/L (ppb)	10	91	91	64-142	0
cis-1,2-Dichloroethene	ug/L (ppb)	10	99	100	70-130	1
Benzene	ug/L (ppb)	10	103	103	70-130	0
Trichloroethene	ug/L (ppb)	10	98	98	70-130	0

# 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 below the standard reporting limit. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

**SAMPLE CHAIN OF CUSTODY** 10/10/23 WWS/CZ/JF of 2

310168

Report To Pam Osterhout / labdata@floyd  
Snider.com

Company Floyd Snider

Address 601 Union St

City, State, ZIP Seattle, WA 98101

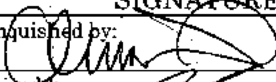
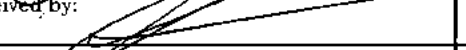
Phone 206-292-2578 Email labdata@floydsnider.com

SAMPLERS (signature) <u>CO, P.O.</u>	
PROJECT NAME <u>Cantera - TOC</u>	PO #
REMARKS <u>Sub RSK-175 to Onsite for methane, ethane + ethene Project specific RLs? - Yes / No</u>	INVOICE TO <u>Pioneer</u>

<b>TURNAROUND TIME</b> <input checked="" type="checkbox"/> Standard turnaround <input type="checkbox"/> RUSH Rush charges authorized by: _____
<b>SAMPLE DISPOSAL</b> <input type="checkbox"/> Archive samples <input type="checkbox"/> Other _____ Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes		
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	SVOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BENZENE (BZL)	DISSOLVED GASES RSK 175	ARSENIC 10208			
<del>01mw46-101023</del>																		<u>LYUG + TCE, VC</u>
01mw46-101023	01 A-F	10/10/23	0930	WATER	6					X				X				<u>dis 1,2 DCE per PO 10/11/23</u>
01mw19R-101023	02 A-G		0945		7	X	X							X				<u>AS</u>
01mw53-101023	03 A-C		1022		3					X				X				<u>cVOCs only</u>
01mw85-101023	04 A-F		11:11		6					X				X				<u>Sub to onsite for low RL's (diss. gases) onl</u>
01mw107-101023	05 A-L		1112		3					X								
01mw35-101023	06 A-G		1243		7	X	X							X				
01mw84-101023	07 A-G		1244		7	X	X							X				
<del>01mw02mw04R-101023</del>	08 A-G		1356		7	X	X							X				
02mw19-101023	09 A-L		1402		8	X	X							X		X		
02mw07-101023	10 A-H		1513		8	X	X							X		X		

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	<u>F. GABEIRO</u>	<u>FLOYD SNIDER</u>	<u>10/10/23</u>	<u>1727</u>
Received by: 	<u>JOE MOHAMMED</u>	<u>FBI</u>	<u>10/10/23</u>	<u>1727</u>
Relinquished by:		<u>Samples received at <u>2</u> °C</u>		
Received by:				

310168

SAMPLE CHAIN OF CUSTODY

10/10/23 VW5/C2/J1 Page # 2 of 2

Report To PAM OSTERHOUT labdata@floydsnider.com

SAMPLERS (signature)  
PO, CO

Company FLOYD SNIDER

PROJECT NAME

PO #

Address 601 UNION ST

Cantera - TOC

City, State, ZIP SEATTLE, WA 98101

REMARKS

INVOICE TO

Phone 206-292-2070 Email labdata@floydsnider.com

Project specific RLs? - Yes / No

Pioneer

TURNAROUND TIME

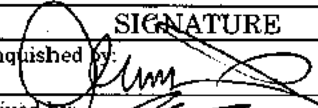

Standard turnaround  
 RUSH  
Rush charges authorized by:

SAMPLE DISPOSAL

Archive samples  
 Other  
 Default: Dispose after 30 days

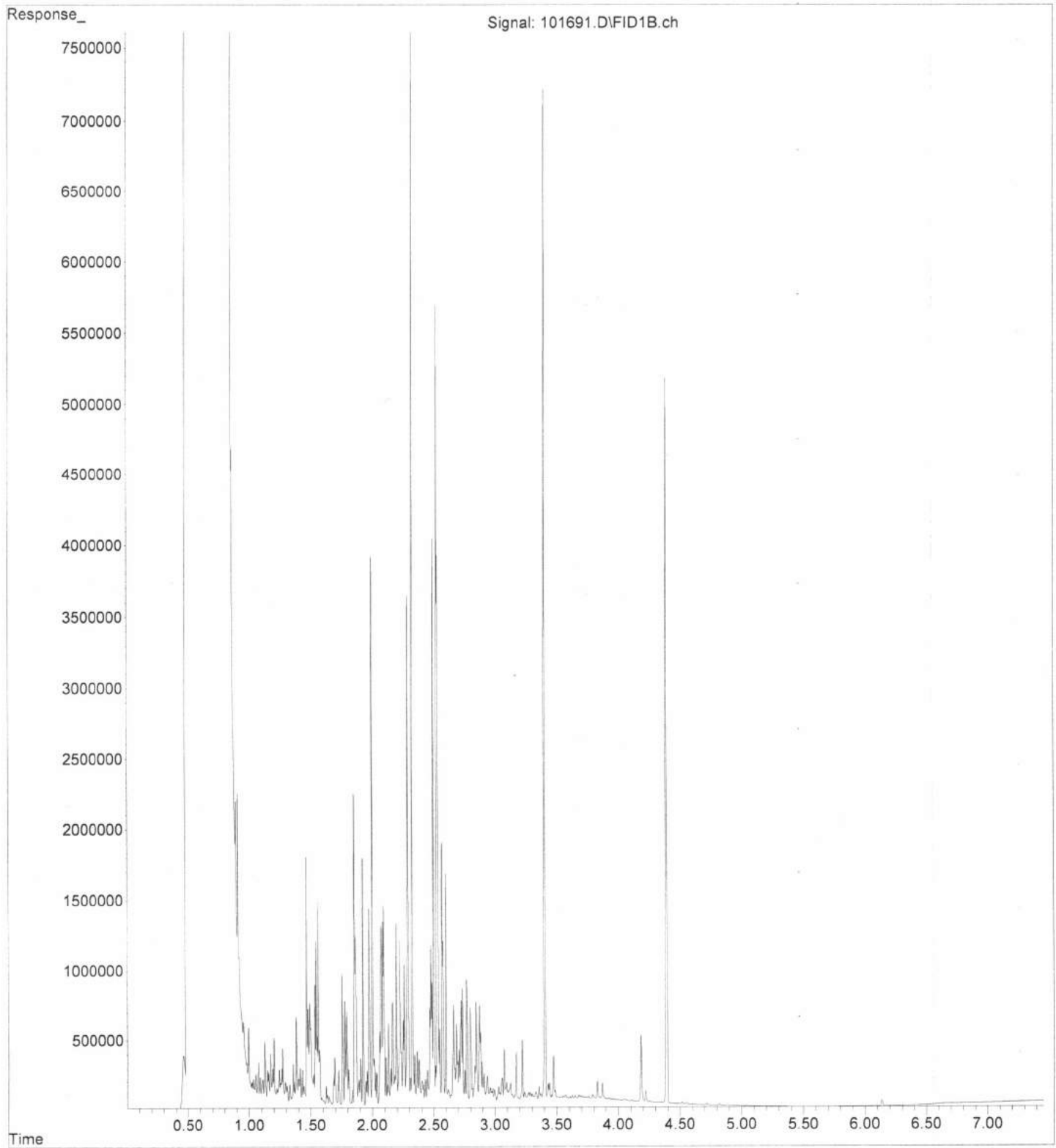
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED								Notes		
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	BENZENE (B260)			
01MW19R-D-101023	11 A-D	10/10/23	1010	WATER	4	X	X									
TB-101023	12 A,B	10/10/23	1700	WATER	2					X			X			

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	C. OBEIRO	FLOYD SNIDER	10/10/23	1727
Received by: 	JOE MOHAMED	FBI	10/10/23	1727
Relinquished by:		Samples received at 2 °C		
Received by:				

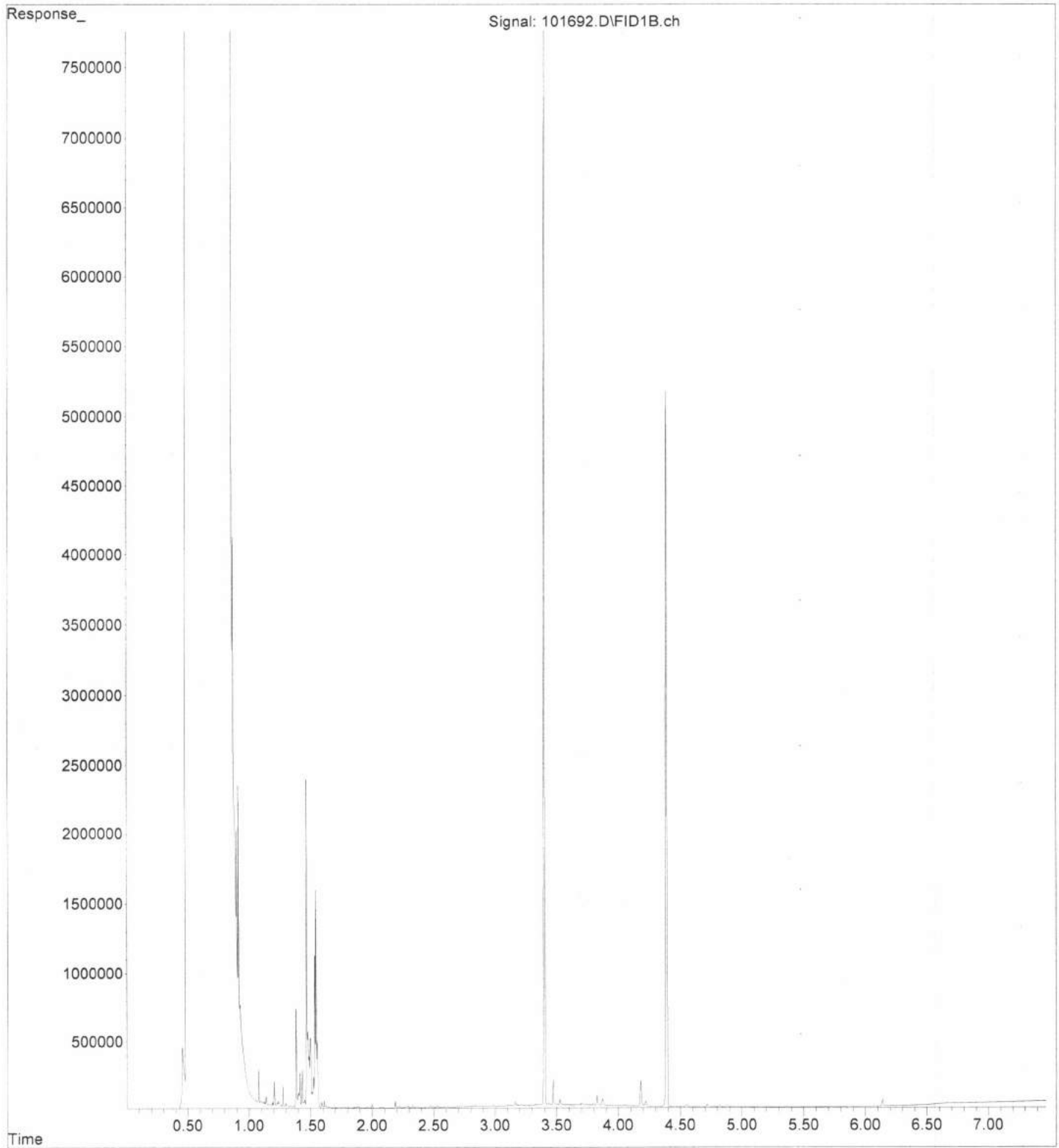
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Operator : TL  
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Instrument : GC14  
Sample Name: 310168-02 rr  
Misc Info :  
Vial Number: 75

ERR



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Operator : TL  
Acquired : 17 Oct 2023 03:49 am using AcqMethod DX.M  
Instrument : GC14  
Sample Name: 310168-06 rr  
Misc Info :  
Vial Number: 76

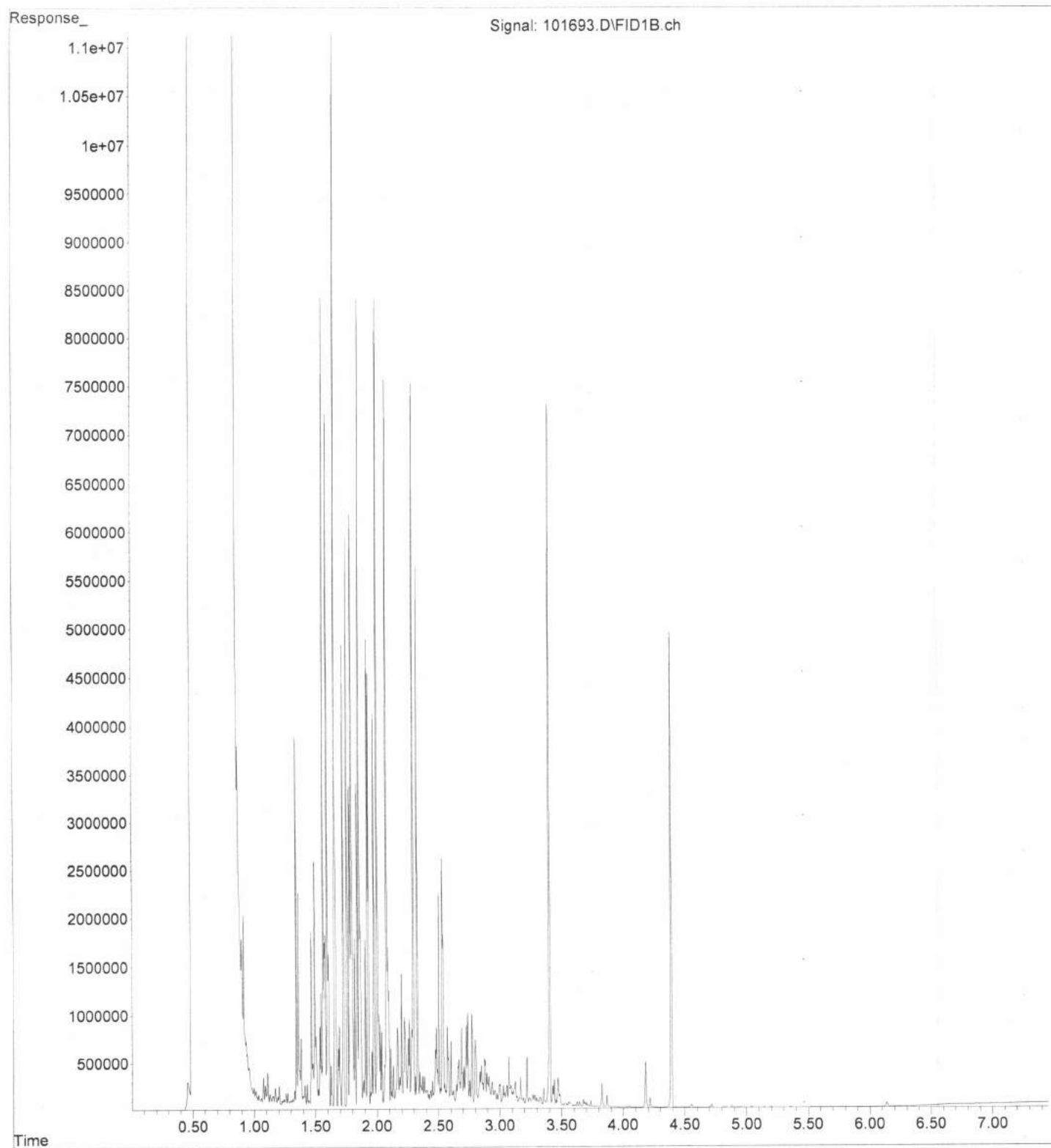
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Sample Name: 310168-07 rr  
Misc Info :  
Vial Number: 77

ERR



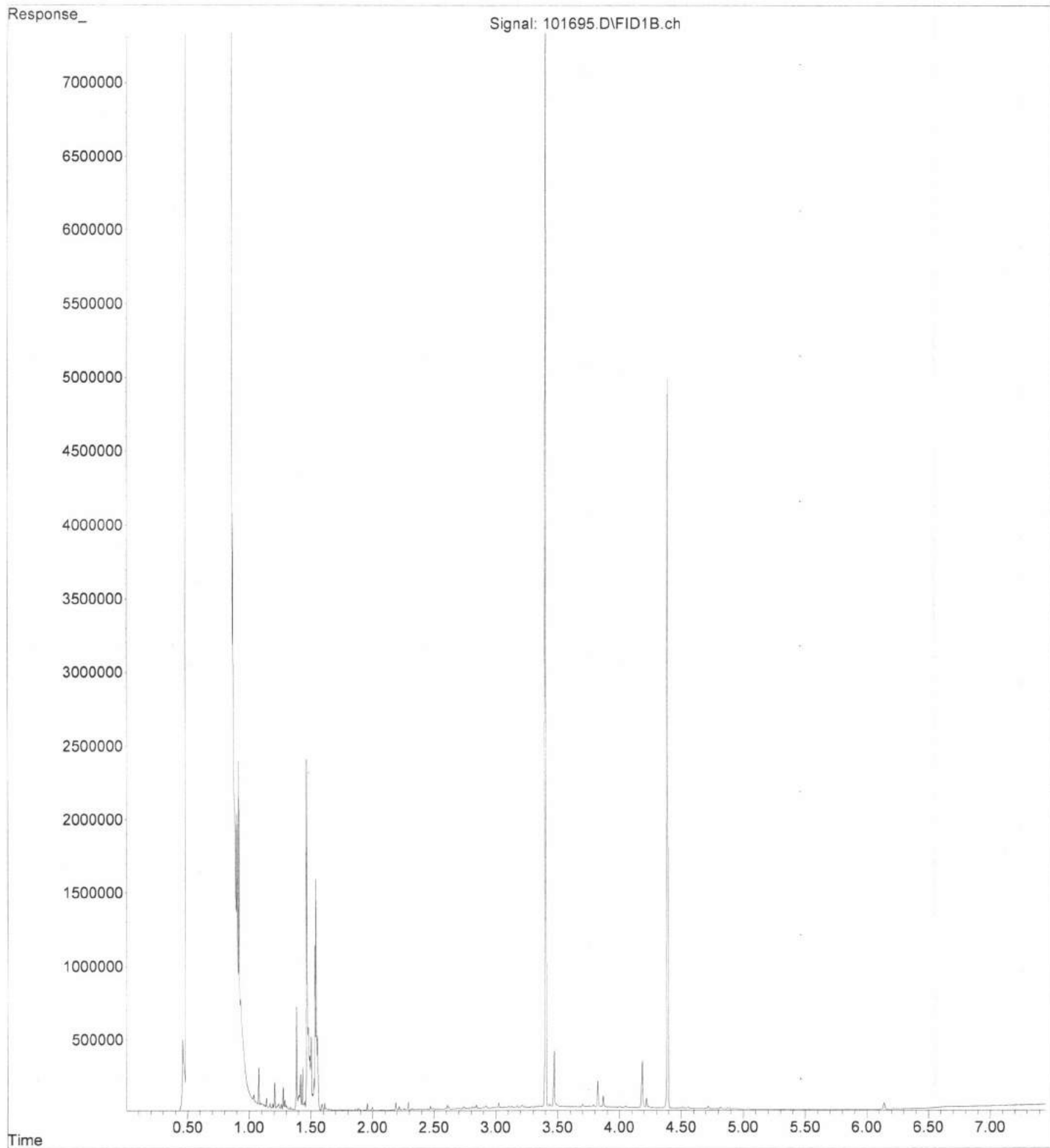
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Sample Name: 310168-08 rr  
Misc Info :  
Vial Number: 78

ERR



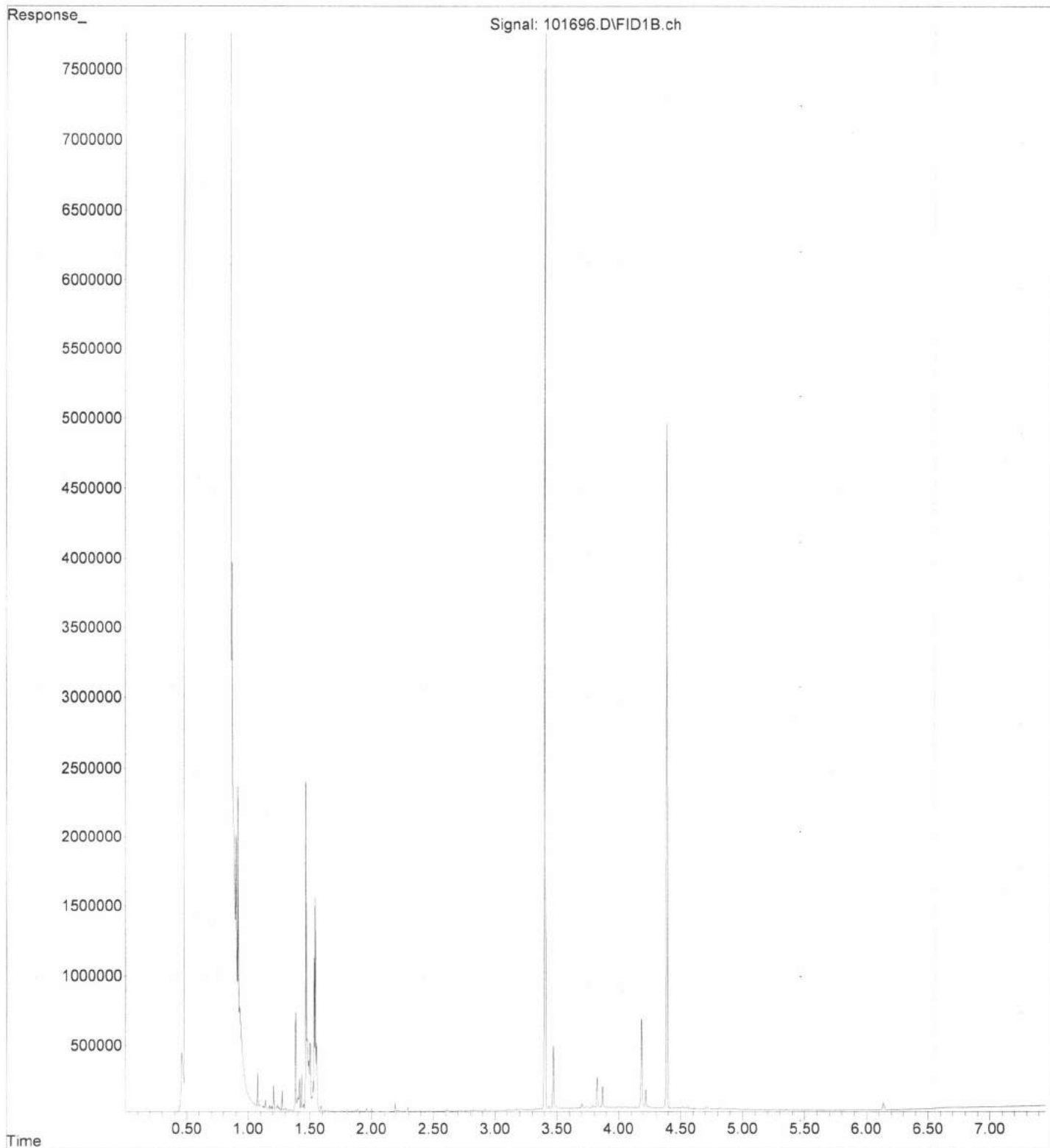
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Instrument : GC14  
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Misc Info :  
Vial Number: 79

ERR



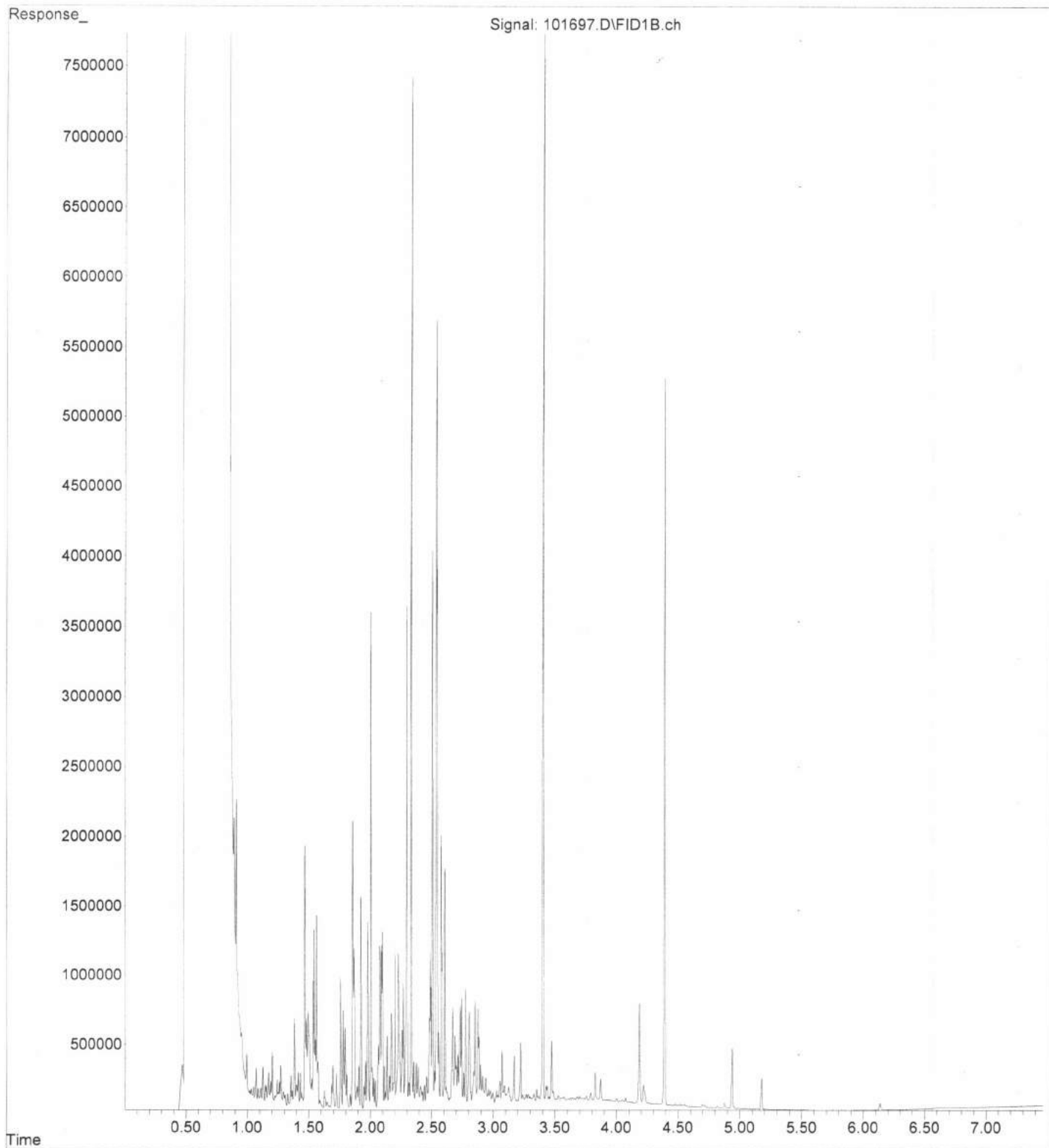
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Sample Name: 310168-10 rr  
Misc Info :  
Vial Number: 80

ERR



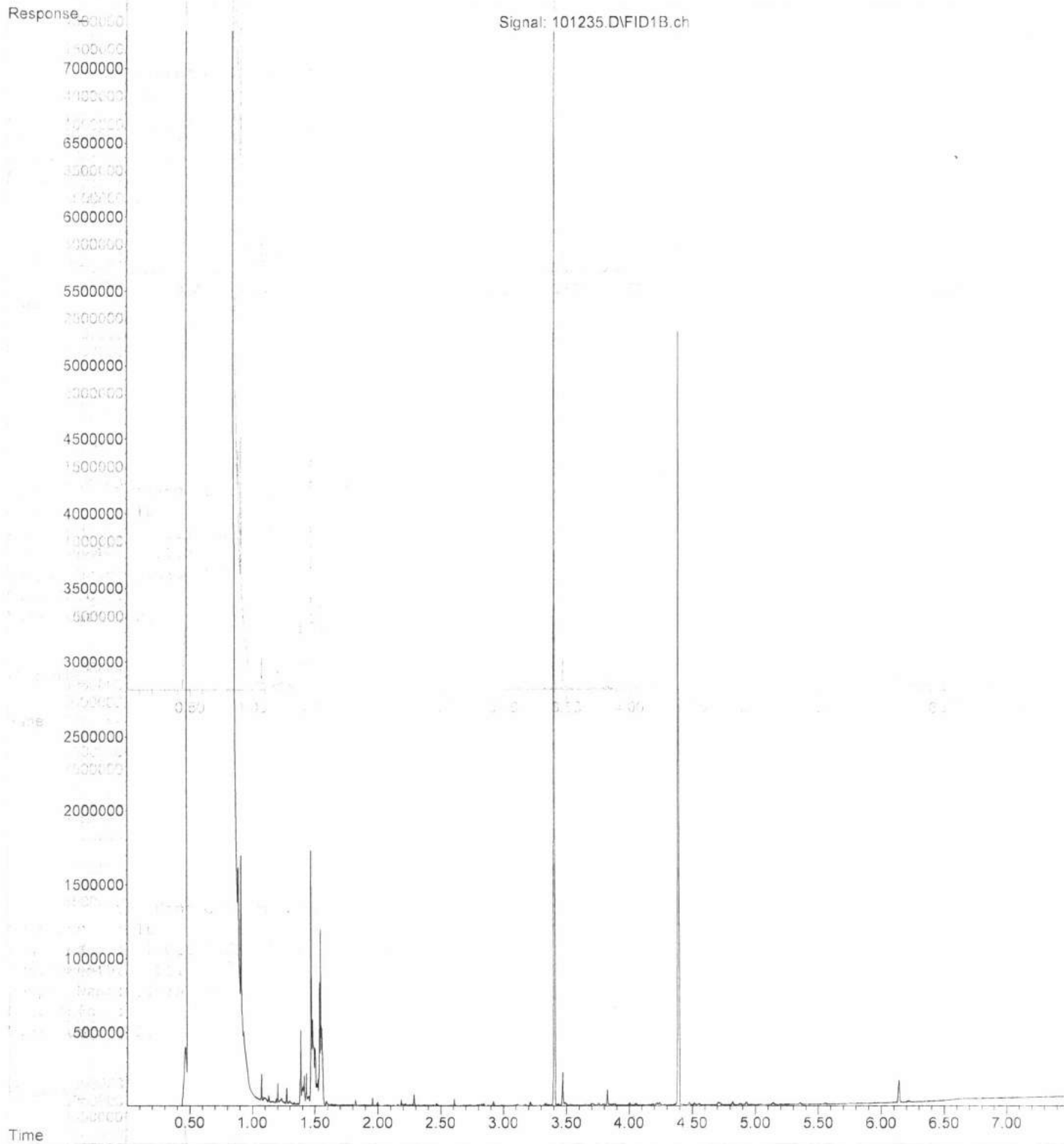
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Sample Name: 310168-11 rr  
Misc Info :  
Vial Number: 81

ERR



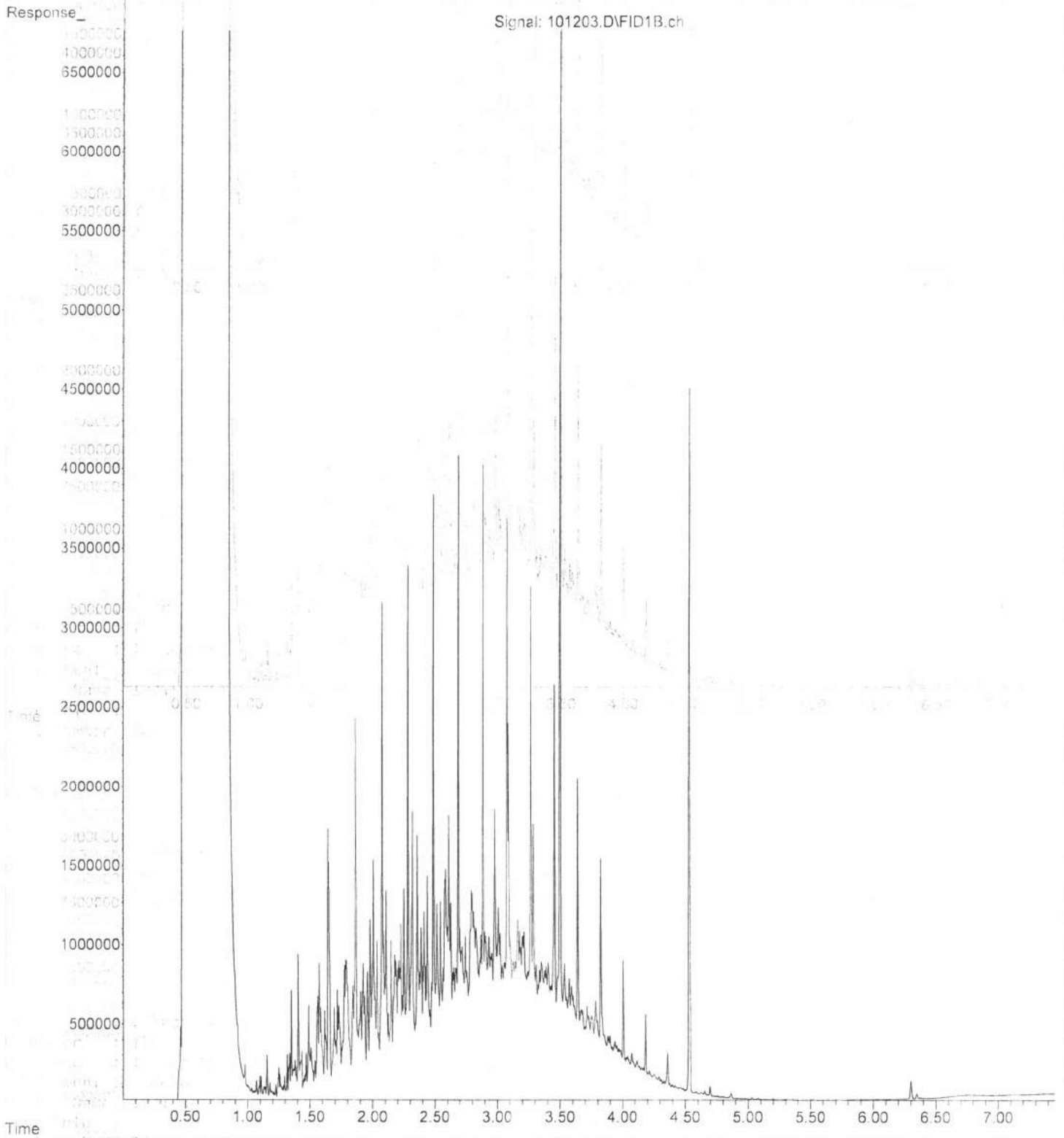
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Operator : TL  
Acquired : 12 Oct 2023 04:44 pm using AcqMethod DX.M  
Instrument : GC14  
Sample Name: 03-2400 mb  
Misc Info :  
Vial Number: 29

ERR



File : P:\Proc\_GC14\10-12-23\101203.D  
Operator : TL  
Acquired : 12 Oct 2023 08:54 am using AcqMethod DX.M  
Instrument: GC14  
Sample Name: 500 Dx 69-104J  
Misc Info :  
Vial Number: 3

ERR





14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

October 17, 2023

Michael Erdahl  
Friedman & Bruya, Inc.  
5500 4th Avenue South  
Seattle, WA 98108

Re: Analytical Data for Project 310168  
Laboratory Reference No. 2310-150

Dear Michael:

Enclosed are the analytical results and associated quality control data for samples submitted on October 11, 2023.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister  
Project Manager

Enclosures





Date of Report: October 17, 2023  
Samples Submitted: October 11, 2023  
Laboratory Reference: 2310-150  
Project: 310168

### Case Narrative

Samples were collected on October 10, 2023 and received by the laboratory on October 11, 2023. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

#### Dissolved Gases RSK 175 Analysis

Sample 01MW85-101023 had a surrogate recovery outside control limits believed to be caused by sample matrix interference. Sample was re-run with similar results. All other quality control parameters were in control, no further action was taken.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



Date of Report: October 17, 2023  
 Samples Submitted: October 11, 2023  
 Laboratory Reference: 2310-150  
 Project: 310168

**DISSOLVED GASES**  
**RSK 175**

Matrix: Water  
 Units: ug/L (ppb)

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>Method</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Flags</b>
<b>Client ID:</b>	<b>01MW85-101023</b>					
Laboratory ID:	10-150-01					
Methane	<b>320</b>	2.2	RSK 175	10-16-23	10-16-23	
Ethane	<b>ND</b>	0.22	RSK 175	10-16-23	10-16-23	
Ethene	<b>2.7</b>	0.29	RSK 175	10-16-23	10-16-23	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
1-Butene	152	50-150				Q



Date of Report: October 17, 2023  
 Samples Submitted: October 11, 2023  
 Laboratory Reference: 2310-150  
 Project: 310168

**DISSOLVED GASES  
 RSK 175  
 QUALITY CONTROL**

Matrix: Water  
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>METHOD BLANK</b>						
Laboratory ID:	MB1016W1					
Methane	<b>ND</b>	0.55	RSK 175	10-16-23	10-16-23	
Ethane	<b>ND</b>	0.22	RSK 175	10-16-23	10-16-23	
Ethene	<b>ND</b>	0.29	RSK 175	10-16-23	10-16-23	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
1-Butene	102	50-150				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits		RPD	RPD Limit	Flags
<b>SPIKE BLANK</b>											
Laboratory ID:	SB1016W1										
	SB	SBD	SB	SBD	SB	SBD					
Methane	<b>44.2</b>	<b>44.2</b>	44.2	44.2	100	100	75-125	0	25		
Ethane	<b>82.5</b>	<b>83.4</b>	83.2	83.2	99	100	75-125	1	25		
Ethene	<b>76.6</b>	<b>77.1</b>	77.7	77.7	99	99	75-125	1	25		
<i>Surrogate:</i>											
1-Butene					99	99	50-150				





### Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
  - B - The analyte indicated was also found in the blank sample.
  - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
  - E - The value reported exceeds the quantitation range and is an estimate.
  - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
  - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
  - I - Compound recovery is outside of the control limits.
  - J - The value reported was below the practical quantitation limit. The value is an estimate.
  - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
  - L - The RPD is outside of the control limits.
  - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
  - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
  - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
  - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
  - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
  - P - The RPD of the detected concentrations between the two columns is greater than 40.
  - Q - Surrogate recovery is outside of the control limits.
  - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
  - T - The sample chromatogram is not similar to a typical \_\_\_\_\_.
  - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
  - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
  - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
  - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
  - X - Sample extract treated with a mercury cleanup procedure.
  - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
  - X2 - Sample extract treated with a silica gel cleanup procedure.
  - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
  - Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.
  - Z -
- ND - Not Detected at PQL  
 PQL - Practical Quantitation Limit  
 RPD - Relative Percent Difference



## SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4<sup>th</sup> Ave S

City, State, ZIP Seattle, WA 98108

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

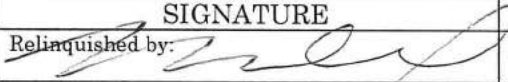
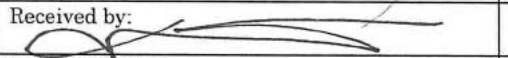

SUBCONTRACTER Onsite		<b>10-150</b>
PROJECT NAME/NO.  310168	PO #  D-489	
REMARKS  Floyd Snider RDD—Report to MDL		

Page # 1 of 1

TURNAROUND TIME
<input checked="" type="checkbox"/> Standard TAT RUSH _____
Rush charges authorized by: _____
SAMPLE DISPOSAL
Dispose after 30 days Return samples Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED										Notes		
						DISSOLVED GASES RSK, MEE *												
01MW85-101023	/	10/10/2023	1111	water	3	x												* Methane, Ethane, Ethene.

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Michael Erdahl	Friedman & Bruya	10/11/23	0830
Received by: 	M. VOUN		10/11/23	1315
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

November 10, 2023

Rusty Jones, Project Manager  
Crete Consulting  
16300 Christensen Road, Suite 214  
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on November 6, 2023 from the TOCST1 InSite, F&BI 311100 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: Jamie Stevens  
CTC1110R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 6, 2023 by Friedman & Bruya, Inc. from the Crete Consulting TOCST1 InSite, F&BI 311100 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
311100 -01	NSP-SE
311100 -02	NSP-SW
311100 -03	NSP-NW
311100 -04	NSP-NE
311100 -05	MSP-MS
311100 -06	MSP-SS
311100 -07	MSP-NS
311100 -08	SSP-WS
311100 -09	SSP-ES
311100 -10	SSP-SE

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/10/23  
Date Received: 11/06/23  
Project: TOCST1 InSite, F&BI 311100  
Date Extracted: 11/06/23  
Date Analyzed: 11/07/23

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
NSP-SE 311100-01 1/5	470	120
NSP-SW 311100-02	360	ip
NSP-NW 311100-03	110	124
MSP-MS 311100-05	33	101
MSP-SS 311100-06	38	109
MSP-NS 311100-07	38	100
SSP-WS 311100-08	33	99
SSP-ES 311100-09	8.5	95
SSP-SE 311100-10	11	90
Method Blank 03-2494 MB	<5	80



FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/10/23  
Date Received: 11/06/23  
Project: TOCST1 InSite, F&BI 311100  
Date Extracted: 11/07/23  
Date Analyzed: 11/07/23

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

Results Reported on a Dry Weight Basis  
Results Reported as mg/kg (ppm)

<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 50-150)
NSP-SE 311100-01	310	<250	88
NSP-SW 311100-02	650	<250	86
NSP-NW 311100-03	180	<250	88
MSP-MS 311100-05	510	<250	88
MSP-SS 311100-06	<50	<250	88
MSP-NS 311100-07	370	<250	87
SSP-WS 311100-08	620	<250	87
SSP-ES 311100-09	580	<250	87
SSP-SE 311100-10	780	<250	90
Method Blank 03-2678 MB2	<50	<250	85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/10/23

Date Received: 11/06/23

Project: TOCST1 InSite, F&BI 311100

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

Laboratory Code: 311080-05 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	107	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/10/23

Date Received: 11/06/23

Project: TOCST1 InSite, F&BI 311100

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

Laboratory Code: 311086-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	90	96	63-146	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	88	77-123

# 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 below the standard reporting limit. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

311100

SAMPLE CHAIN OF CUSTODY

11/06/23

VSC2/02

Report To Jones, Stevens  
 Company Crete Consulting, Inc.  
 Address \_\_\_\_\_  
 City, State, ZIP \_\_\_\_\_  
 Phone 832.370.1359 Email \_\_\_\_\_

SAMPLERS (signature) <u>Rusty Jones</u> <u>R. Jones</u>	
PROJECT NAME <u>TOCST1 InSite</u>	PO # <u>InSite</u>
REMARKS	INVOICE TO <u>CRETE</u>
Project specific RLs? - Yes / No	

Page # 1 of 1

TURNAROUND TIME  
 Standard turnaround  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
 Archive samples  
 Other \_\_\_\_\_  
 Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Hold TCE per JS 11/7/23 ME Notes	
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	TCE				
NSP-SE	01AE	11/6/2023	0930	SOIL/COMP.	1	X	X										2-Day TAT
NSP-SW	02		0945		1	X	X										2-Day TAT
NSP-NW	03		1000		1	X	X										2-Day TAT
NSP-NE	04		1015		1												Hold
MSP-MC	05		1030		1	X	X										5-Day TAT
<del>MSP-NS</del> MSP-SS	06		1045		1	X	X										
MSP-NS	07		1100		1	X	X										
SSP-WS	08		1145		1	X	X										
SSP-ES	09		1200		1	X	X										
SSP-W <sup>#</sup> SSP-SE	10		1215		1	X	X										

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>R. Jones</u>	<u>Rusty Jones</u>	<u>CRETE</u>	<u>11.6.23</u>	<u>1430</u>
Received by: <u>AN</u>	<u>AN H PHAN</u>	<u>ESB</u>	<u>11/06/23</u>	<u>14:30</u>
Relinquished by:				
Received by:				
Samples received at <u>4</u> °C				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

November 16, 2023

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

Dear Ms Anderson:

Included are the results from the testing of material submitted on November 9, 2023 from the Cantera-TOC, F&BI 311159 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  
FDS1116R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 9, 2023 by Friedman & Bruya, Inc. from the Floyd-Snider Cantera-TOC, F&BI 311159 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID

311159 -01

311159 -02

Floyd-Snider

Vault-110923

Gravity-110923

All quality control requirements were acceptable.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Vault-110923	Client:	Floyd-Snider
Date Received:	11/09/23	Project:	Cantera-TOC, F&BI 311159
Date Extracted:	11/13/23	Lab ID:	311159-01
Date Analyzed:	11/13/23	Data File:	111321.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	114	78	126
Toluene-d8	96	84	115
4-Bromofluorobenzene	96	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.058
cis-1,2-Dichloroethene	1.4
Trichloroethene	31

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Gravity-110923	Client:	Floyd-Snider
Date Received:	11/09/23	Project:	Cantera-TOC, F&BI 311159
Date Extracted:	11/13/23	Lab ID:	311159-02 1/10
Date Analyzed:	11/13/23	Data File:	111327.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	97	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	21
cis-1,2-Dichloroethene	98
Trichloroethene	370

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Cantera-TOC, F&BI 311159
Date Extracted:	11/13/23	Lab ID:	03-2638 mb
Date Analyzed:	11/13/23	Data File:	111308.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	94	84	115
4-Bromofluorobenzene	95	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
cis-1,2-Dichloroethene	<1
Trichloroethene	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/16/23

Date Received: 11/09/23

Project: Cantera-TOC, F&BI 311159

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

Laboratory Code: 311154-39 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Vinyl chloride	ug/L (ppb)	10	<0.02	113	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	95	10-211
Trichloroethene	ug/L (ppb)	10	<0.5	106	35-149

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Vinyl chloride	ug/L (ppb)	10	107	103	64-142	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	95	101	70-130	6
Trichloroethene	ug/L (ppb)	10	105	106	70-130	1

# 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 below the standard reporting limit. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

311159

Chain of Custody Record & Laboratory Analysis Request

11/09/23 VWI

Friedman & Bruylant Inc.  
**Analytical Resources, Incorporated**  
 Analytical Chemists and Consultants  
 4611 South 134th Place, Suite 100  
 Tukwila, WA 98168  
 206-695-6200 206-695-6201 (fax)  
 www.arilabs.com



ARI Assigned Number:	Turn-around Requested: Standard TAT	Page: 1 of 1
ARI Client Company: FIS	Phone:	Date: 11/09/23 Ice Present?
Client Contact: Pamela Osterhout		No. of Coolers: 1 Cooler Temps:

Client Project Name: Cantera-TOC	Analysis Requested						Notes/Comments
Client Project #:	Samplers: M. Steen / P. Osterhout						

Sample ID	Date	Time	Matrix	No. Containers	cVOCs	Lab ID							
Vault													
<del>Tank</del> -110923	11/9/23	0850	GW	3	X	O1A-C							Short list cVOCs
Gravity-110923	11/9/23	0915	GW	3	X	O2 ↓							*refer to project list.

Samples received at 14 °C

Comments/Special Instructions Bill to Pioneer	Relinquished by: <i>[Signature]</i> (Signature)	Received by: <i>[Signature]</i> (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: P. Osterhout	Printed Name: ANHPHANI	Printed Name:	Printed Name:
	Company: FIS	Company: FSA	Company:	Company:
	Date & Time: 11/9/23 @ 10:05	Date & Time: 11/09/23 @ 10:05	Date & Time:	Date & Time:

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.