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M E M O R A N D U M

TO: Washington State Department of Ecology **DATE**: September 30, 2019

FROM: Logan Schumacher, LG, SoundEarth Strategies, Inc.
Thomas Cammarata, LG, LHG, SoundEarth Strategies, Inc.

SUBJECT: **Troy Laundry Seattle Site—PPCD Third Quarter 2019 Progress Report**

SoundEarth Strategies, Inc. (SoundEarth) has prepared this Progress Report to summarize activities completed during the Third Quarter of 2019 at the Troy Laundry Seattle Site (Site), Cleanup Site ID No. 11690 which encompasses the property located at 300 Boren Avenue North and 399 Fairview Avenue North in Seattle, Washington (Property). The location of the Property is shown on Figure 1. The work summarized below was conducted under Prospective Purchaser Consent Decree No. 19-2-07344-6 SEA (PPCD) between the Washington State Department of Ecology (Ecology) and Ponte Gadea Seattle LLC. This Progress Report is provided pursuant to Section IV.H. of the PPCD.

In addition, this Progress Report will update Ecology regarding further work completed and planned under Agreed Order No. DE 8996, as amended, (Agreed Order).

SITE ACTIVITIES—THIRD QUARTER 2019

The following sections summarize activities completed at the Site during the Third Quarter 2019.

Second Quarter 2019 Groundwater Monitoring Results

The Second Quarter 2019 semiannual groundwater monitoring event was completed between June 13 and 15, 2019. The groundwater monitoring event was conducted pursuant to Exhibit A (Scope of Work and Schedule) to the PPCD.[1] At the time the PPCD Second Quarter 2019 Progress Report was prepared, analytical results from the Second Quarter 2019 groundwater monitoring event had not yet been received, but are now available and reported in this Third Quarter 2019 Progress Report.

Groundwater elevation measurements from the Second Quarter 2019 groundwater monitoring event are shown in Table 1, and a groundwater elevation contour map of measurements collected on June 13, 2019, is shown on Figure 2. Laboratory analytical results are shown in Table 2 and on Figure 3, and a summary of trends in chlorinated volatile organic compounds (CVOCs) results is shown on Table 2A.

The following section summarizes activities completed at the Site during the Third Quarter 2019 under the Agreed Order.

[1] As set forth in Exhibit A to the PPCD, the groundwater monitoring results will be used to evaluate the effectiveness of the groundwater treatment program that has been implemented as part of the Interim Action Plan (SoundEarth 2013) for the Site, which was approved by Ecology on October 10, 2013.

2019 Supplemental Vapor Intrusion Assessment Report

The 2019 Supplemental Vapor Intrusion Assessment Report (SoundEarth 2019) summarizing the results of the 2019 supplemental indoor air vapor intrusion assessment was previously submitted to Ecology on May 21, 2019.

On July 8, 2019, Ecology issued an opinion letter on the Supplemental Vapor Intrusion Assessment Report, indicating that the primary and supplemental sampling events demonstrate compliance with Washington State Model Toxics Control Act indoor air cleanup levels, and that no further assessment of the indoor air quality is necessary.

DEVIATIONS FROM SAMPLING RESULTS NORMS

No deviations from the sampling results were noted for samples collected during the Second Quarter 2019 groundwater monitoring event, reported during the Third Quarter 2019.

DEVIATIONS FROM REQUIRED TASKS, SCOPE OF WORK, OR SCHEDULE

No deviations from the scope, schedule, or required tasks outlined in the PPCD were noted for the Third Quarter 2019.

DATA AND DESCRIPTION OF UNDERLYING SAMPLES COLLECTED

Laboratory analytical reports (raw data) from the Second Quarter 2019 groundwater monitoring event are included as Attachment A. Laboratory analytical results are summarized on Figure 4 and in Tables 2 and 2A. Samples from all compliance wells and select Site wells were submitted for analysis for CVOCs, including tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride by US Environmental Protection Agency (EPA) Method 8260C. Select groundwater samples were additionally analyzed for petroleum hydrocarbons and/or one or more of the following geochemical parameters:

- Gasoline-range petroleum hydrocarbons by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Gx
- Diesel-range petroleum hydrocarbons and oil-range petroleum hydrocarbons by Method NWTPH-Dx
- Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8021B
- Sulfate and nitrate by EPA Method 300.0
- Alkalinity by EPA Method SM 2320B
- Ferrous iron by EPA Method SM3500-Fe B
- Methane, ethene, and ethane by EPA Method RSK 175
- Total organic carbon by EPA Method 415.1
- Volatile fatty acids by EPA Methods 300.0 and 300.0 Modified

PLANNED ACTIVITES—FOURTH QUARTER 2019

The following section summarizes activities planned at the Site for the Fourth Quarter 2019 under the PPCD.

Fourth Quarter 2019 Groundwater Monitoring Event

The Fourth Quarter 2019 semiannual groundwater monitoring event is scheduled for December 2019 pursuant to Exhibit A (Scope of Work and Schedule) to the PPCD.

Data Tabulation and Review

Once data from the Fourth Quarter 2019 groundwater monitoring event are delivered and reviewed, updated groundwater data tables and figures will be prepared. Results of the Fourth Quarter 2019 groundwater monitoring event will be communicated to Ecology and presented in the First Quarter 2020 Annual Groundwater Monitoring Report.

The following sections summarize activities planned at the Site for the Fourth Quarter 2019 under the Agreed Order.

Remedial Investigation—ROW Well Installation

The installation of five additional groundwater monitoring wells (MW29 through MW33; Figure 2) in the Thomas Street, Harrison Street, and Boren Avenue North rights-of-way (ROWs) and on the south-adjacent property is currently scheduled to be completed in September 2019. The work includes soil sampling, well installation and development, installation of dedicated sampling pumps, and surveying of the well casing elevations. Ecology approved well locations MW29 through MW33 are shown on Figure 4.

Supplemental ROW Well Groundwater Sampling

Following installation of the five additional groundwater monitoring wells, a supplemental groundwater sampling event will be conducted at wells MW29 through MW33 to determine baseline groundwater conditions. Groundwater elevations will also be measured from all Site wells to aid in mapping groundwater flow in the vicinity of the Site. Results from the supplemental groundwater sampling will be included in the PPCD Fourth Quarter 2019 Progress Report. The timing for the supplemental groundwater sampling will be determined once all well installations have been completed.

Attachments: Figure 1, Property Location Map
Figure 2, Groundwater Contour Map with Rose Diagram (June 13, 2019)
Figure 3, Groundwater Analytical Results for CVOCs
Figure 4, Proposed Exploration Location Plan
Table 1, Summary of Groundwater Elevations
Table 2, Groundwater Analytical Results for CVOCs
Table 2A, Groundwater CVOCs Results Summary
A, Laboratory Analytical Reports
Friedman & Bruya, Inc. #906291
Friedman & Bruya, Inc. #906323
Friedman & Bruya, Inc. #906324
Fremont Analytical #1906179
SiREM Laboratory #S-5382

REFERENCES

SoundEarth Strategies, Inc. (SoundEarth). 2013. *Interim Action Plan, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington.* August 21.

_____. 2019. *Supplemental Vapor Intrusion Assessment Report, Troy Laundry Property, 300 Boren Avenue North and 399 Fairview Avenue North, Seattle, Washington*. May 21.

LDS/TJC:hsb/dnm

FIGURES

9/20/2019

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\FIGURE 1\0731-004-08_FIG 1_F.DWG

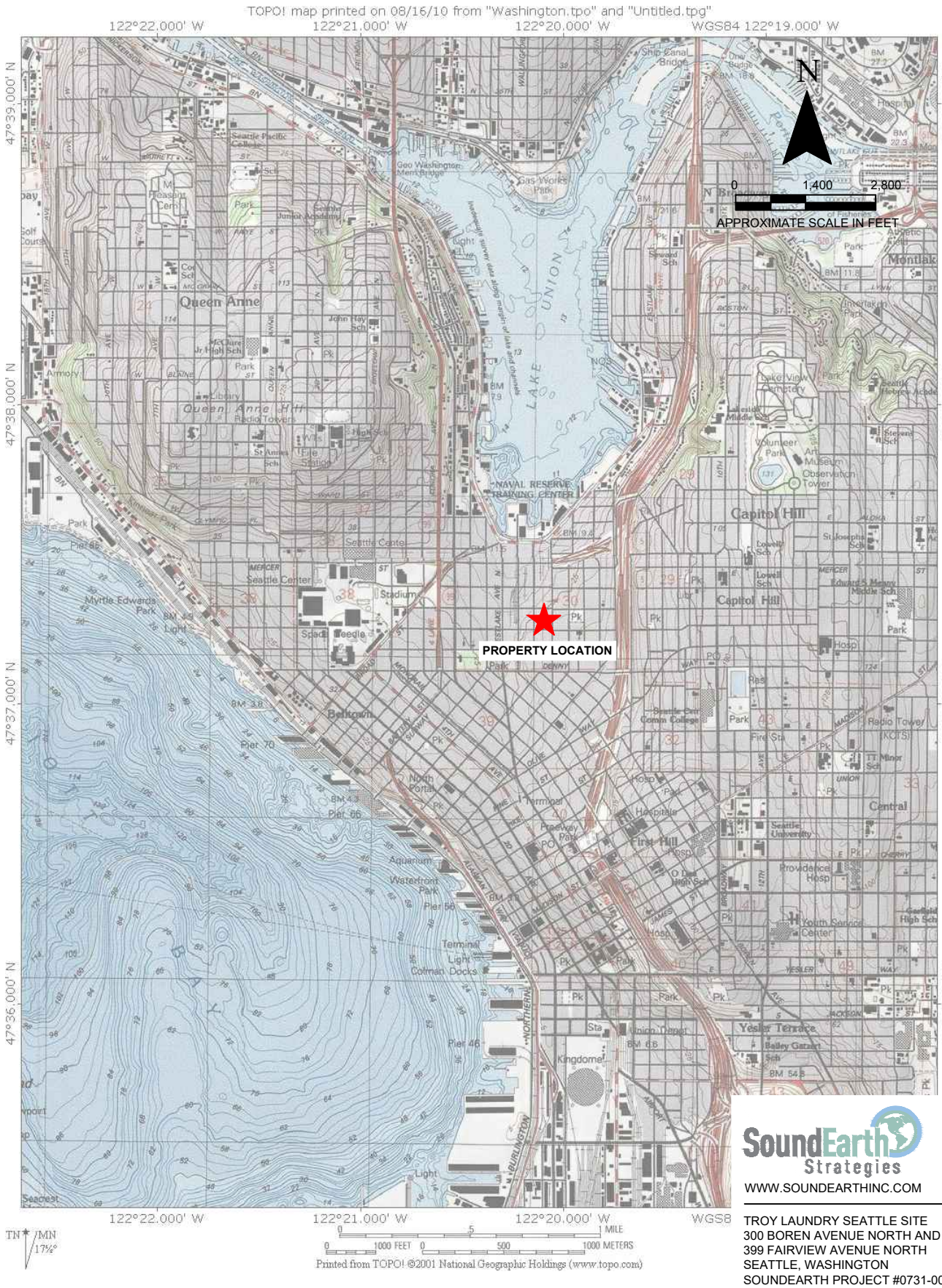

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FIGURE 1
PROPERTY LOCATION MAP

9/20/2019

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR
- *(17.29')* GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (JUNE 13, 2019)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

TERRY AVENUE NORTH

FAIRVIEW AVENUE

BOREN AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

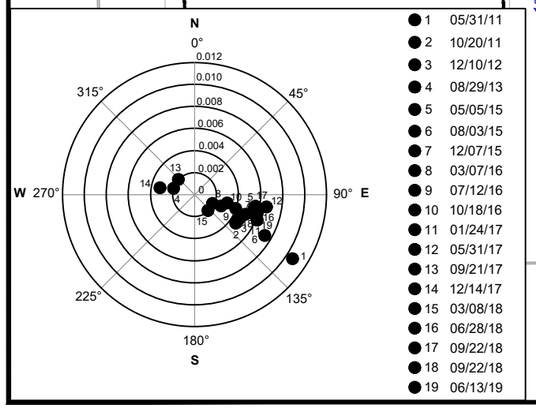
BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B08/ MW01 *(16.31')*
B09/ MW02
B10/ MW03
MW26 *(14.75')*
B11/ MW04 *(17.29')*
B15/ MW07 *(16.75')*
B49/ MW15 *(17.24')*
MW27 *(14.63')*
B12/ MW05
MW25 *(14.74')*
MW17 *(14.79')*
MW18 *(14.72')*
B31/ MW12
B13/ MW06
MW19 *(14.74')*
MW20 *(14.68')*
MW24 *(14.70')*
B30/ MW11
B28/ MW10
B26/ MW08
MW21
MW22
MW23 *(14.63')*
B27/ MW09
B37/ MW13 *(14.86')*
B50/ MW16
MW28
IW91 *(14.59')*
B38/ MW14

16.00 15.50 15.00 16.50 17.00 17.50 16.00 15.50 15.50



1	05/31/11
2	10/20/11
3	12/10/12
4	08/29/13
5	05/05/15
6	08/03/15
7	12/07/15
8	03/07/16
9	07/12/16
10	10/18/16
11	01/24/17
12	05/31/17
13	09/21/17
14	12/14/17
15	03/08/18
16	06/28/18
17	09/22/18
18	09/22/18
19	06/13/19

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FIGURE 2

GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (JUNE 13, 2019)

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9/20/2019

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2019\GW\0731-004_2019Q2_CVOC.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- DCE DICHLOROETHENE
- PCE TETRACHLOROETHENE
- TCE TRICHLOROETHENE
- MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
- < NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
- RED DENOTES CONCENTRATIONS EXCEEDING THE MTCA METHOD CLEANUP LEVEL FOR GROUNDWATER

	Analytical Results (micrograms per liter)				
	PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MTCA Method A	5	5	160	16	0.2

BRAVEHORSE TAVERN

SOUTH LAKE UNION HOTEL LLC

TERRY AVENUE NORTH

BOREN AVENUE NORTH

FAIRVIEW AVENUE

THOMAS STREET

HISTORICAL BUILDING FACADE

B08/ MW01 · MW26 · B09/ IW02 · B10/ MW03 · B11/ MW04 · B15/ MW07 · MW19 · B31/ MW12 · B13/ MW06 · MW25 · MW27 · B12/ MW05 · B49/ MW15 · MW17 · MW18 · MW20 · MW24 · B30/ MW11 · B26/ MW08 · MW21 · MW22 · B27/ MW09 · MW23 · B28/ MW10 · B37/ MW13 · B50/ MW16 · MW28 · B38/ MW14 · IW91

N

0 25 50

APPROXIMATE SCALE IN FEET

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW04	06/30/18	<1	<1	5.3	<1	0.68
	09/22/18	<1	<1	<1	<1	<0.2
	12/15/18	<1	<1	1.9	<1	1.6
	06/15/19	<1	<1	1.7	<1	1.0

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW06	03/10/18	<1	<1	1.6	<1	<0.2
	06/30/18	<1	<1	<1	<1	<0.2
	12/15/18	1.0	<1	<1	<1	<0.2
	06/15/19	1.7	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW04	06/29/18	<1	9.4	<1	<1	<0.2
	09/20/18	<1	9.4	<1	<1	<0.2
	12/14/18	<1	10	<1	<1	<0.2
	06/14/19	<1	11	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW07	06/29/18	3.3	7.3	<1	<1	<0.2
	09/20/18	2.8	6.0	<1	<1	<0.2
	12/14/18	3.3	6.7	<1	<1	<0.2
	06/14/19	3.9	5.9	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW19	03/10/18	<1	<1	12	<1	0.78
	06/30/18	<1	<1	12	<1	0.96
	09/22/18	<1	<1	16	<1	0.86
	06/15/19	<1	<1	27	<1	0.79

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW25	06/30/18	<1	<1	31	<1	0.52
	09/22/18	<1	<1	37	<1	0.46
	12/15/18	<1	<1	40	<1	0.60
	06/15/19	<1	<1	45	<1	0.54

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW27	06/28/18	<1	37	3.4	<1	<0.2
	09/20/18	<1	21	3.7	<1	<0.2
	12/14/18	<1	17	4.3	<1	<0.2
	06/14/19	<1	14	2.3	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW61	06/30/18	16	2.5	67	<1	1.7
	09/22/18	13	2.1	63	<1	1.8
	12/15/18	15	2.1	58	<1	2.0
	06/15/19	13	2.4	71	<1	2.9

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW13	06/29/18	4.4	<1	<1	<1	<0.2
	09/20/18	6.5	1.3	<1	<1	<0.2
	12/14/18	7.8	1.4	<1	<1	<0.2
	06/14/19	7.0	1.1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW16	09/22/17	5.4	5.2	78	<1	0.40
	12/29/17	7.2	6.4	150	<1	0.89
	03/09/18	7.3	5.5	80	<1	0.35
	Well Destroyed 2018					

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW28	06/13/19	9.0	5.7	80	<1	0.35

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW15	06/29/18	<1	5.1	<1	<1	<0.2
	09/20/18	<1	6.9	<1	<1	<0.2
	12/14/18	<1	7.0	<1	<1	<0.2
	06/13/19	<1	6.8	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW01	06/28/18	<1	1.1	<1	<1	<0.2
	09/20/18	<1	<1	<1	<1	<0.2
	12/14/18	<1	1.1	<1	<1	<0.2
	06/14/19	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW26	06/28/18	<1	18	<1	<1	<0.2
	09/20/18	<1	18	<1	<1	<0.2
	12/14/18	<1	20	<1	<1	<0.2
	06/14/19	<1	20	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW17	06/30/18	<1	2.8	2.2	<1	<0.2
	09/22/18	<1	2.7	2.0	<1	<0.2
	12/15/18	<1	2.9	2.2	<1	<0.2
	06/15/19	<1	3.4	2.2	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW18	06/30/18	<1	<1	27	<1	0.43
	09/22/18	<1	<1	21	<1	0.42
	12/15/18	<1	<1	24	<1	0.49
	06/15/19	<1	<1	28	<1	0.44

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW24	06/30/18	1.5	1.9	41	<1	2.1
	09/22/18	<1	<1	35	<1	0.37
	12/15/18	<1	<1	43	<1	0.51
	06/15/19	<1	<1	84	<1	1.0

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW20	06/30/18	<1	<1	7	<1	<0.2
	09/22/18	<1	<1	5.3	<1	<0.2
	12/15/18	<1	<1	4.4	<1	<0.2
	06/15/19	<1	<1	3.8	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW50	06/30/18	<1	<1	4.5	<1	2.5
	09/22/18	<1	<1	5.1	<1	2.9
	12/15/18	1.6	<1	15	<1	4.5
	06/15/19	5.2	2.0	54	<1	7.1

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW21	06/30/18	<1	<1	6.0	<1	0.29
	09/22/18	<1	<1	6.9	<1	0.30
	12/15/18	<1	<1	16	<1	0.96
	06/15/19	<1	<1	29	<1	1.1

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW22	06/30/18	<1	<1	28	<1	1.2
	09/22/18	<1	<1	33	<1	0.90
	12/15/18	<1	<1	37	<1	1.2
	06/15/19	1.1	1.1	49	<1	1.0

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW23	06/30/18	<1	<1	14	<1	0.53
	09/22/18	<1	<1	16	<1	0.53
	12/15/18	<1	<1	17	<1	<0.2
	06/15/19	<1	<1	25	<1	0.72

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW91	06/30/18	<1	<1	<1	<1	<0.2
	09/22/18	<1	<1	<1	<1	<0.2
	12/15/18	<1	<1	<1	<1	<0.2
	06/15/19	<1	<1	<1	<1	<0.2

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FIGURE 3

GROUNDWATER ANALYTICAL RESULTS FOR CHLORINATED VOLATILE ORGANIC COMPOUNDS

9/20/2019

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\SUPPLEMENT R1\0731-004_2018_PEL_6THWELL_REV2.DWG

N

0 30 60

APPROXIMATE SCALE IN FEET

MW33

MW31

MW32

B08/ MW01

MW26

B09/ MW02

B10/ MW03

HARRISON STREET

HISTORICAL BUILDING FACADE

AIW01

IW08 IW07 IW06 IW05 IW04 IW03 IW02 IW01

IW09

IW10

IW11

AIW02

IW12

IW13

AIW03

IW14

IW16

IW15

AIW04

IW26

IW27

IW28

AIW05

IW29

IW30

IW31

AIW06

IW32

IW33

IW34

IW45

IW46

IW47

IW48

AIW07

IW52

IW53

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AIW08

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B11/ MW04

B15/ MW07

B31/ MW12

B13/ MW06

B37/ MW13

B27/ MW09

B12/ MW05

B49/ MW15

B28/ MW10

B30/ MW11

B26/ MW08

B38/ MW14

B50/ MW16

MW17

MW18

MW19

MW20

MW24

MW25

MW21

MW22

MW23

MW28

MW30

MW29

BOREN AVENUE NORTH

TERRY AVENUE NORTH

FAIRVIEW AVENUE NORTH

THOMAS STREET

AIW10

AIW11

AIW12

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

LEGEND

- PROPERTY BOUNDARY
- PROPOSED MONITORING WELL
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL USED AS MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS

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FIGURE 4
PROPOSED EXPLORATION LOCATION PLAN

TABLES

Table 1
Summary of Groundwater Elevations
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Well	TOC Elevation[(1)] (feet)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Top of Well Screen Elevation (feet NAVD88 approximate)	Bottom of Well Screen Elevation (feet NAVD88 approximate)	Date	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet NAVD88)
Troy Laundry Property								
MW06	74.78	60	75	15	0	05/31/11	58.70	16.08
						10/20/11	58.91	15.87
						12/13/12	58.71	16.07
						08/29/13	60.30	14.48
	DECOMMISSIONED 2013							
MW08	92.88	105	110	-12	-17	10/20/11	77.18	15.70
						08/29/13	78.10	14.78
	DECOMMISSIONED 2013							
MW09	92.92	105	110	-12	-17	10/20/11	77.24	15.68
						08/29/13	78.51	14.41
	DECOMMISSIONED 2013							
MW10	92.73	75	90	18	3	10/20/11	77.14	15.59
						12/13/12	77.01	15.72
						08/29/13	78.28	14.45
	DECOMMISSIONED 2013							
MW11	88.23	68	83	20	5	10/20/11	72.43	15.80
						12/13/12	72.29	15.94
						08/29/13	73.78	14.45
	DECOMMISSIONED 2013							
MW12	74.44	95	100	-21	-26	10/20/11	58.71	15.73
						08/29/13	59.99	14.45
	DECOMMISSIONED 2013							
MW17	35.72	22	37	14	-1	05/05/15	25.26	10.46
						08/03/15	24.82	10.90
						12/07/15	25.49	10.23
						03/07/16	24.98	10.74
						07/12/16	24.61	11.11
						10/18/16	23.14	12.58
						01/24/17	20.84	14.88
						05/31/17	22.75	12.97
						09/21/17	25.73	9.99
						12/14/17	25.14	10.58
						03/08/18	23.04	12.68
						06/28/18	22.00	13.72
						09/19/18	21.64	14.08
						12/13/18	21.42	14.30
						06/13/19	20.93	14.79

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MW18	35.34	35	55	0	-20	05/05/15	24.92	10.42
						08/03/15	24.49	10.85
						12/07/15	25.21	10.13
						03/07/16	24.64	10.70
						07/12/16	24.23	11.11
						10/18/16	22.81	12.53
						01/24/17	20.98	14.36
						05/31/17	22.49	12.85
						09/21/17	25.36	9.98
						12/14/17	24.70	10.64
						03/08/18	22.60	12.74
						06/28/18	21.70	13.64
						09/19/18	21.34	14.00
						12/13/18	21.12	14.22
						06/13/19	20.62	14.72
MW19	37.69	35	55	3	-17	05/05/15	27.24	10.45
						08/03/15	26.82	10.87
						12/07/15	27.51	10.18
						03/07/16	26.97	10.72
						07/12/16	26.57	11.12
						10/18/16	25.12	12.57
						01/24/17	22.97	14.72
						05/31/17	24.74	12.95
						09/21/17	27.60	10.09
						12/14/17	26.97	10.72
						03/08/18	24.89	12.80
						06/28/18	24.00	13.69
						09/19/18	23.65	14.04
						12/13/18	25.41	12.28
						06/13/19	22.95	14.74
MW20	35.63	35	55	1	-19	05/05/15	25.24	10.39
						08/03/15	24.44	11.19
						12/07/15	25.50	10.13
						03/07/16	24.94	10.69
						07/12/16	24.62	11.01
						10/18/16	23.13	12.50
						01/24/17	21.32	14.31
						05/31/17	22.70	12.93
						09/21/17	25.53	10.10
						12/14/17	24.91	10.72
						03/08/18	22.89	12.74
						06/28/18	22.01	13.62
						09/19/18	21.67	13.96
						12/13/18	21.43	14.20
						06/13/19	20.95	14.68

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Summary of Groundwater Elevations
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Seattle, Washington

Well	TOC Elevation[(1)] (feet)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Top of Well Screen Elevation (feet NAVD88 approximate)	Bottom of Well Screen Elevation (feet NAVD88 approximate)	Date	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet NAVD88)
MW21	35.58	35	55	1	-19	05/05/15	25.21	10.37
						08/03/15	24.82	10.76
						12/07/15	25.49	10.09
						03/07/16	24.90	10.68
						07/12/16	24.56	11.02
						10/18/16	23.00	12.58
						01/24/17	21.54	14.04
						05/31/17	23.37	12.21
						09/21/17	25.96	9.62
						12/14/17	25.20	10.38
						03/08/18	24.10	11.48
						06/28/18	22.89	12.69
						09/19/18	INACCESSIBLE	
						12/13/18	22.59	12.99
						06/13/19	23.70	11.88
MW22	35.47	35	55	0	-20	05/05/15	25.14	10.33
						08/03/15	24.75	10.72
						12/07/15	25.41	10.06
						03/07/16	24.86	10.61
						07/12/16	24.52	10.95
						10/18/16	23.05	12.42
						01/24/17	21.68	13.79
						05/31/17	23.45	12.02
						09/21/17	26.20	9.27
						12/14/17	25.60	9.87
						03/08/18	23.65	11.82
						06/28/18	23.30	12.17
						09/19/18	INACCESSIBLE	
						12/13/18	21.62	13.85
						06/13/19	--	--
MW23	35.43	36	56	-1	-21	05/05/15	25.08	10.35
						08/03/15	24.72	10.71
						12/07/15	25.34	10.09
						03/07/16	24.77	10.66
						07/12/16	24.54	10.89
						10/18/16	22.98	12.45
						01/24/17	21.06	14.37
						05/31/17	22.41	13.02
						09/21/17	25.11	10.32
						12/14/17	24.65	10.78
						03/08/18	22.69	12.74
						06/28/18	21.03	14.40
						09/19/18	21.50	13.93
						12/13/18	21.22	14.21
						06/13/19	20.80	14.63

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Seattle, Washington

Well	TOC Elevation[(1)] (feet)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Top of Well Screen Elevation (feet NAVD88 approximate)	Bottom of Well Screen Elevation (feet NAVD88 approximate)	Date	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet NAVD88)
MW24	34.88	35	55	0	-20	05/05/15	24.47	10.41
						08/03/15	24.06	10.82
						12/07/15	24.72	10.16
						03/07/16	24.12	10.76
						07/12/16	23.76	11.12
						10/18/16	22.19	12.69
						01/24/17	19.95	14.93
						05/31/17	23.29	11.59
						09/21/17	INACCESSIBLE	
						12/14/17	24.22	10.66
						03/08/18	22.10	12.78
						06/28/18	21.98	12.90
						09/19/18	20.81	14.07
						12/13/18	20.65	14.23
						06/13/19	20.18	14.70
MW25	41.38	35.5	55.5	6	-14	05/05/15	30.85	10.53
						08/03/15	30.60	10.78
						12/07/15	31.30	10.08
						03/07/16	30.71	10.67
						07/12/16	30.44	10.94
						10/18/16	28.95	12.43
						01/24/17	27.07	14.31
						05/31/17	28.24	13.14
						09/21/17	31.09	10.29
						12/14/17	30.52	10.86
						03/08/18	28.54	12.84
						06/28/18	27.69	13.69
						09/19/18	27.32	14.06
						12/13/18	27.12	14.26
						06/13/19	26.64	14.74
IW91	35.82	20	55	16	-19	05/05/15	25.56	10.26
						08/03/15	25.19	10.63
						12/07/15	25.84	9.98
						03/07/16	25.24	10.58
						07/12/16	24.90	10.92
						10/18/16	23.41	12.41
						01/24/17	21.61	14.21
						05/31/17	22.79	13.03
						09/21/17	25.42	10.40
						12/14/17	24.96	10.86
						03/08/18	23.08	12.74
						06/28/18	22.30	13.52
						09/19/18	21.95	13.87
						12/13/18	21.69	14.13
						06/13/19	21.23	14.59

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Summary of Groundwater Elevations
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300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Well	TOC Elevation[1] (feet)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Top of Well Screen Elevation (feet NAVD88 approximate)	Bottom of Well Screen Elevation (feet NAVD88 approximate)	Date	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet NAVD88)
Boren Avenue North								
MW04	70.69	50	65	21	6	05/27/11	52.22	18.47
						10/20/11	52.82	17.87
						12/10/12	52.88	17.81
						08/29/13	57.25	13.44
	70.82					05/05/15	58.22	12.60
						08/03/15	56.87	13.95
						12/07/15	58.82	12.00
						03/07/16	59.25	11.57
						07/12/16	58.49	12.33
						10/18/16	57.02	13.80
						01/24/17	54.06	16.76
						05/31/17	55.59	15.23
						09/21/17	62.08	8.74
						12/14/17	62.03	8.79
						03/08/18	57.70	13.12
						06/28/18	54.94	15.88
						09/19/18	54.38	16.44
						12/13/18	54.26	16.56
						06/13/19	53.61	17.21
MW05	84.04	65	80	19	4	05/27/11	67.40	16.64
						10/20/11	67.91	16.13
						12/10/12	68.54	15.50
						08/29/13	69.72	14.32
						05/05/15	INACCESSIBLE	
						08/03/15	INACCESSIBLE	
	DECOMMISSIONED 2015							
MW07	74.55	55	70	20	5	05/31/11	56.33	18.22
						10/20/11	56.87	17.68
						12/10/12	56.96	17.59
						08/29/13	60.95	13.60
	74.68					05/05/15	62.69	11.99
						08/03/15	61.67	13.01
						12/07/15	63.19	11.49
						03/07/16	63.22	11.46
						07/12/16	62.82	11.86
						10/18/16	61.26	13.42
						01/24/17	58.41	16.27
						05/31/17	59.90	14.78
						09/21/17	65.17	9.51
						12/14/17	INACCESSIBLE	
						03/08/18	61.76	12.92
						06/28/18	59.45	15.23
						09/19/18	59.07	15.61
						12/13/18	58.87	15.81
						06/13/19	57.93	16.75

SoundEarth Strategies

Table 1
Summary of Groundwater Elevations
Troy Laundry Seattle Site
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Seattle, Washington

Well	TOC Elevation[1] (feet)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Top of Well Screen Elevation (feet NAVD88 approximate)	Bottom of Well Screen Elevation (feet NAVD88 approximate)	Date	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet NAVD88)
MW13	90.66	70	85	21	-15	10/20/11	74.69	15.97
						12/10/12	75.38	15.28
						08/29/13	76.23	14.43
	90.86					05/05/15	INACCESSIBLE	
						08/03/15	80.07	10.79
						12/07/15	80.73	10.13
						03/07/16	80.07	10.79
						07/12/16	80.03	10.83
						10/18/16	78.16	12.70
						01/24/17	75.56	15.30
						05/31/17	77.40	13.46
						09/21/17	80.46	10.40
						12/14/17	80.19	10.67
						03/08/18	78.13	12.73
						06/28/18	77.01	13.85
						09/19/18	76.68	14.18
						12/13/18	76.52	14.34
						06/13/19	76.00	14.86
MW27	83.82	90	105	-6	-21	12/07/15	73.86	9.96
						03/07/16	73.23	10.59
						07/12/16	73.01	10.81
						10/18/16	71.38	12.44
						01/24/17	69.57	14.25
						05/31/17	70.89	12.93
						09/21/17	73.87	9.95
						12/14/17	73.25	10.57
						03/08/18	71.10	12.72
						06/28/18	70.20	13.62
						09/19/18	69.85	13.97
						12/13/18	69.69	14.13
						06/13/19	69.19	14.63
Terry Avenue North								
MW15	58.79	41	56	18	3	12/10/12	40.78	18.01
						08/29/13	45.37	13.42
	58.89					05/05/15	45.86	13.03
						08/03/15	44.81	14.08
						12/07/15	47.08	11.81
						03/07/16	47.58	11.31
						07/12/16	46.73	12.16
						10/18/16	44.97	13.92
						01/24/17	42.05	16.84
						05/31/17	43.08	15.81
						09/21/17	49.62	9.27
						12/14/17	49.92	8.97
						03/08/18	45.80	13.09
						06/28/18	42.95	15.94
						09/19/18	42.35	16.54
						12/13/18	42.26	16.63
						06/13/19	41.65	17.24

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Thomas Street								
MW14	104.40	90	105	14	-1	10/20/11	88.81	15.59
						12/13/12	88.66	15.74
						08/29/13	89.99	14.41
	DECOMMISSIONED 2013							
MW16	99.02	91	106	8	-7	12/10/12	83.47	15.55
						08/29/13	84.59	14.43
	99.18					05/05/15	88.87	10.31
						08/03/15	88.53	10.65
						12/07/15	89.15	10.03
						03/07/16	88.54	10.64
						07/12/16	88.41	10.77
						10/18/16	86.74	12.44
						01/24/17	84.71	14.47
						05/31/17	86.04	13.14
						09/21/17	88.85	10.33
						12/14/17	88.43	10.75
						03/08/18	86.51	12.67
	WELL DAMAGED 2018							
Fairview Avenue North								
MW-C	107.75	85	100	23	8	08/29/13	93.32	14.43
						05/05/15	97.64	10.11
Harrison Street								
MW01	68.68	45	60	24	9	05/25/11	50.59	18.09
						10/20/11	51.03	17.65
						12/10/12	51.24	17.44
						08/29/13	54.35	14.33
	68.82					05/05/15	58.11	10.71
						08/03/15	INACCESSIBLE	
						12/07/15	58.60	10.22
						03/07/16	57.69	11.13
	68.65					07/12/16	57.42	11.23
						10/18/16	55.65	13.00
						01/24/17	52.27	16.38
						05/31/17	54.69	13.96
						09/21/17	58.91	9.74
						12/14/17	58.14	10.51
						03/08/18	55.84	12.81
						06/28/18	54.20	14.45
						09/19/18	53.93	14.72
						12/13/18	53.05	15.60
						06/13/19	52.34	16.31
MW02	70.92	55	70	16	1	05/25/11	54.84	16.08
						10/20/11	55.08	15.84
						12/10/12	55.27	15.65
						08/29/13	56.48	14.44
						05/05/15	INACCESSIBLE	
						08/03/15	INACCESSIBLE	
	DECOMMISSIONED 2015							

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MW03	84.65	65	80	20	5	05/27/11	68.75	15.90
						10/20/11	68.97	15.68
						12/10/12	69.21	15.44
						08/29/13	70.21	14.44
						05/05/15	INACCESSIBLE	
						08/03/15	INACCESSIBLE	
	DECOMMISSIONED 2015							
MW26	70.57	75	90	-4	-19	12/07/15	60.42	10.15
						03/07/16	59.82	10.75
						07/12/16	59.52	11.05
						10/18/16	58.10	12.47
						01/24/17	56.10	14.47
						05/31/17	57.79	12.78
						09/21/17	60.94	9.63
						12/14/17	60.11	10.46
						03/08/18	57.79	12.78
						06/28/18	56.83	13.74
						09/19/18	56.50	14.07
						12/13/18	56.34	14.23
						06/13/19	55.82	14.75
SMW01	49.45	30	40	19	9	08/29/13	36.78	12.67
SMW02	49.26	30	40	19	9	08/29/13	36.67	12.59
SMW06	48.63	30	40	19	9	08/29/13	36.39	12.24
SMW08	49.30	30	40	19	9	08/29/13	36.69	12.61
Westlake Avenue North								
SMW09	48.25	30	40	18	8	08/29/13	35.84	12.41
North-Adjoining Property								
SLU-MW01[2]	53.43	35	45	18	8	08/29/13	40.00	13.43
	DECOMMISSIONED 2013							
SLU-MW02[2]	52.76	30	40	23	13	08/29/13	Dry	--
	DECOMMISSIONED 2013							

NOTES:

[1]TOC elevations surveyed relative to NAVD88.

[2]Groundwater elevation data compiled from reports on file at the Washington State Department of Ecology.

-- = not analyzed, measured, or calculated

NAVD88 = North American Vertical Datum of 1988

TOC = top of casing

Table 2
Groundwater Analytical Results for CVOCs
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
Troy Laundry Property								
MW06	MW06-20110531	05/31/11	SoundEarth	3.1	8.2	150[ve]	<1	0.76
	MW06-20111012	10/12/11	SoundEarth	3.6	11	120	<1	0.76
	MW06-20130909	09/09/13	SoundEarth	3.8	4.5	150	<1	0.93
	DECOMMISSIONED 2013							
MW08	MW08-20111013	10/13/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW08-20130910	09/10/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW09	MW09-20111013	10/13/11	SoundEarth	<1	16	22	<1	<0.2
	MW09-20130910	09/10/13	SoundEarth	1.6	15	2.0	<1	<0.2
	DECOMMISSIONED 2013							
MW10	MW10-20111012	10/12/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW10-20130909	09/09/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW11	MW11-20111013	10/13/11	SoundEarth	21	2.6	5.6	<1	<0.2
	MW11-20130909	09/09/13	SoundEarth	39	3.8	3.6	<1	<0.2
	DECOMMISSIONED 2013							
MW12	MW12-20111017	10/17/11	SoundEarth	<1	19	1.3	<1	<0.2
	MW12-20130909	09/09/13	SoundEarth	<1	20	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW17	MW17-20150506	05/06/15	SoundEarth	<1	2.2	<1	<1	<0.2
	MW17-20150804	08/07/15	SoundEarth	<1	1.5	<1	<1	<0.2
	MW17-20151207	12/07/15	SoundEarth	<1	1.5	<1	<1	<0.2
	MW17-20160308	03/08/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW17-20160714	07/14/16	SoundEarth	<1	1.2	<1	<1	<0.2
	MW17-20161020	10/20/16	SoundEarth	<1	2.1	<1	<1	<0.2
	MW17-20170126	01/26/17	SoundEarth	<1	1.9	<1	<1	<0.2
	MW17-20170601	06/01/17	SoundEarth	<1	2.5	<1	<1	<0.2
	MW17-20170923	09/23/17	SoundEarth	<1	2.1	1.2	<1	<0.2
	MW17-20171216	12/16/17	SoundEarth	<1	2.5	1.7	<1	<0.2
	MW17-20180310	03/10/18	SoundEarth	<1	2.6	1.5	<1	<0.2
	MW17-20180630	06/30/18	SoundEarth	<1	2.8	2.2	<1	<0.2
	MW17-20180922	09/22/18	SoundEarth	<1	2.7	2.0	<1	<0.2
	MW17-20181215	12/15/18	SoundEarth	<1	2.9	2.2	<1	<0.2
	MW17-20190615	06/15/19	SoundEarth	<1	3.4	2.2	<1	<0.2
MW18	MW18-20150506	05/06/15	SoundEarth	<1	46	5.2	<1	<0.2
	MW18-20150803	08/03/15	SoundEarth	<1	51	4.6	<1	<0.2
	MW18-20151208	12/08/15	SoundEarth	<1	51	9.9	<1	<0.2
	MW18-20160308	03/08/16	SoundEarth	<1	44	8.1	<1	<0.2
	MW18-20160714	07/14/16	SoundEarth	<1	3.3	1.7	<1	<0.2
	MW18-20161020	10/20/16	SoundEarth	<1	6.5	4.0	<1	<0.2
	MW18-20170126	01/26/17	SoundEarth	<1	7.7	14	<1	0.25
	MW18-20170601	06/01/17	SoundEarth	<1	3.3	14	<1	0.31
	MW18-20170923	09/23/17	SoundEarth	<1	<1	22	<1	0.38
	MW18-20171216	12/16/17	SoundEarth	<1	<1	22	<1	0.24
	MW18-20180310	03/10/18	SoundEarth	<1	<1	27	<1	0.40
	MW18-20180630	06/30/18	SoundEarth	<1	<1	27	<1	0.43
	MW18-20180922	09/22/18	SoundEarth	<1	<1	21	<1	0.42
	MW18-20181215	12/15/18	SoundEarth	<1	<1	24	<1	0.49
	MW18-20190615	06/15/19	SoundEarth	<1	<1	28	<1	0.44
MTCA Cleanup Level				5[2]	5[2]	16[3]	160[3]	0.2[2]

SoundEarth Strategies

Table 2
Groundwater Analytical Results for CVOCs
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW19	MW19-20150507	05/07/15	SoundEarth	<1	69	15	<1	<0.2
	MW19-20150803	08/03/15	SoundEarth	<1	61	20	<1	<0.2
	MW19-20151207	12/07/15	SoundEarth	<1	65	23	<1	<0.2
	MW19-20160308	03/08/16	SoundEarth	<1	52	26	<1	<0.2
	MW19-20160713	07/13/16	SoundEarth	<1	4.6	10	<1	<0.2
	MW19-20161021	10/21/16	SoundEarth	<1	10	4.4	<1	0.40
	MW19-20170125	01/25/17	SoundEarth	<1	5.5	3.9	<1	0.30
	MW19-20170601	06/01/17	SoundEarth	<1	5.7	3.5	<1	0.44
	MW19-20170923	09/23/17	SoundEarth	<1	1.7	3.4	<1	0.97
	MW19-20171216	12/16/17	SoundEarth	<1	1.1	13	<1	0.97
	MW19-20180310	03/10/18	SoundEarth	<1	<1	12	<1	0.78
	MW19-20180630	06/30/18	SoundEarth	<1	<1	12	<1	0.96
	MW19-20180922	09/22/18	SoundEarth	<1	<1	16	<1	0.86
	MW19-20190615	06/15/19	SoundEarth	<1	<1	27	<1	0.79
MW20	MW20-20150506	05/06/15	SoundEarth	<1	<1	1.5	<1	<0.2
	MW20-20150803	08/03/15	SoundEarth	<1	<1	1.2	<1	<0.2
	MW20-20151207	12/07/15	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20160309	03/09/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20160715	07/15/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20161020	10/20/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20170125	01/25/17	SoundEarth	<1	<1	4.1	<1	<0.2
	MW20-20170601	06/01/17	SoundEarth	<1	<1	1.2	<1	<0.2
	MW20-20170924	09/24/17	SoundEarth	<1	<1	9.5	<1	<0.2
	MW20-20171216	12/16/17	SoundEarth	<1	1.3	15	<1	0.35
	MW20-20180310	03/10/18	SoundEarth	<1	<1	11	<1	<0.2
	MW20-20180630	06/30/18	SoundEarth	<1	<1	7	<1	<0.2
	MW20-20180922	09/22/18	SoundEarth	<1	<1	5.3	<1	<0.2
	MW20-20181215	12/15/18	SoundEarth	<1	<1	4.4	<1	<0.2
	MW20-20190615	06/15/19	SoundEarth	<1	<1	3.8	<1	<0.2
MW21	MW21-20150506	05/06/15	SoundEarth	5.1	1.6	7.2	<1	<0.2
	MW21-20150804	08/04/15	SoundEarth	4.9	1.4	4.5	<1	<0.2
	MW21-20151208	12/08/15	SoundEarth	7.3	2.0	6.7	<1	<0.2
	MW21-20160309	03/09/16	SoundEarth	5.3	1.4	7.9	<1	<0.2
	MW21-20160713	07/13/16	SoundEarth	<1	<1	1.2	<1	<0.2
	MW21-20161020	10/20/16	SoundEarth	<1	<1	1.7	<1	<0.2
	MW21-20170126	01/26/17	SoundEarth	<1	<1	2.4	<1	<0.2
	MW21-20170601	06/01/17	SoundEarth	<1	<1	2.4	<1	<0.2
	MW21-20170923	09/23/17	SoundEarth	<1	<1	3.7	<1	<0.2
	MW21-20171216	12/16/17	SoundEarth	<1	<1	14	<1	0.49
	MW21-20180310	03/10/18	SoundEarth	<1	<1	14	<1	0.43
	MW21-20180630	06/30/18	SoundEarth	<1	<1	6.0	<1	0.29
	MW21-20180922	09/22/18	SoundEarth	<1	<1	6.9	<1	0.30
	MW21-20181215	12/15/18	SoundEarth	<1	<1	16	<1	0.96
	MW21-20190615	06/15/19	SoundEarth	<1	<1	29	<1	1.1
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

Table 2
Groundwater Analytical Results for CVOCs
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW22	MW22-20150506	05/06/15	SoundEarth	11	2.2	27	<1	<0.2
	MW22-20150804	08/04/15	SoundEarth	17	3.0	34	<1	<0.2
	MW22-20151208	12/08/15	SoundEarth	19	3.7	42	<1	<0.2
	MW22-20160308	03/08/16	SoundEarth	28	4.5	52	<1	0.35
	MW22-20160713	07/13/16	SoundEarth	<1	<1	5.5	<1	<0.2
	MW22-20161020	10/20/16	SoundEarth	<1	<1	6.7	<1	0.65
	MW22-20170126	01/26/17	SoundEarth	<1	<1	8.5	<1	0.51
	MW22-20170601	06/01/17	SoundEarth	<1	<1	10	<1	1.5
	MW22-20170923	09/23/17	SoundEarth	<1	<1	18	<1	1.4
	MW22-20171216	12/16/17	SoundEarth	<1	<1	22	<1	1.2
	MW22-20180310	03/10/18	SoundEarth	<1	<1	22	<1	1.3
	MW22-20180630	06/30/18	SoundEarth	<1	<1	28	<1	1.2
	MW22-20180922	09/22/18	SoundEarth	<1	<1	33	<1	0.90
	MW22-20181215	12/15/18	SoundEarth	<1	<1	37	<1	1.2
	MW22-20190615	06/15/19	SoundEarth	1.1	1.1	49	<1	1.0
MW23	MW23-20150507	05/07/15	SoundEarth	6.1	18	13	<1	<0.2
	MW23-20150804	08/04/15	SoundEarth	6.1	24	20	<1	0.20
	MW23-20151208	12/08/15	SoundEarth	3.8	16	120	<1	0.57
	MW23-20160308	03/08/16	SoundEarth	4.1	14	95	<1	0.64
	MW23-20160714	07/14/16	SoundEarth	<1	1.6	14	<1	2.2
	MW23-20161020	10/20/16	SoundEarth	<1	2.1	9.9	<1	0.48
	MW23-20170126	01/26/17	SoundEarth	<1	2.9	41	<1	1.4
	MW23-20170601	06/01/17	SoundEarth	<1	2.7	23	<1	0.74
	MW23-20170923	09/23/17	SoundEarth	<1	1.7	16	<1	0.50
	MW23-20171216	12/16/17	SoundEarth	<1	1.3	14	<1	0.51
	MW23-20180310	03/10/18	SoundEarth	<1	<1	20	<1	0.52
	MW23-20180630	06/30/18	SoundEarth	<1	<1	14	<1	0.53
	MW23-20180922	09/22/18	SoundEarth	<1	<1	16	<1	0.53
	MW23-20181215	12/15/18	SoundEarth	<1	<1	17	<1	<0.2
	MW23-20190615	06/15/19	SoundEarth	<1	<1	25	<1	0.72
MW24	MW24-20150506	05/06/15	SoundEarth	2.5	31	72	<1	0.26
	MW24-20150804	08/04/15	SoundEarth	5.5	28	75	<1	<0.2
	MW24-20151208	12/08/15	SoundEarth	11	28	54	<1	<0.2
	MW24-20160309	03/09/16	SoundEarth	11	23	45	<1	<0.2
	MW24-20160715	07/15/16	SoundEarth	<1	1.7	12	<1	<0.2
	MW98-20160715 (DUP)			<1	1.8	12	<1	<0.2
	MW24-20161020	10/20/16	SoundEarth	<1	2.7	12	<1	0.26
	MW24-20170125	01/25/17	SoundEarth	<1	3.5	20	<1	0.81
	MW24-20170601	06/01/17	SoundEarth	1.1	4.8	35	<1	1.0
	MW24-20170924	09/24/17	SoundEarth	<1	1.8	33	<1	0.36
	MW24-20171216	12/16/17	SoundEarth	<1	1.3	30	<1	0.38
	MW24-20180310	03/10/18	SoundEarth	<1	<1	25	<1	0.36
	MW24-20180630	06/30/18	SoundEarth	1.5	1.9	41	<1	2.1
	MW24-20180922	09/22/18	SoundEarth	<1	<1	35	<1	0.37
	MW24-20181215	12/15/18	SoundEarth	<1	<1	43	<1	0.51
	MW24-20190615	06/15/19	SoundEarth	<1	<1	84	<1	1.0
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

Table 2
Groundwater Analytical Results for CVOCs
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW25	MW25-20150507	05/07/15	SoundEarth	<1	68	5.2	<1	<0.2
	MW99-20150507 (DUP)			<1	69	5.3	<1	<0.2
	MW25-20150805	08/05/15	SoundEarth	3.0	75	7.9	<1	<0.2
	MW99-20150805 (DUP)			2.9	73	7.8	<1	<0.2
	MW25-20151209	12/09/15	SoundEarth	11	71	8.4	<1	<0.2
	MW99-20151209 (DUP)			11	72	8.3	<1	<0.2
	MW25-20160308	03/08/16	SoundEarth	24	50	12	<1	<0.2
	MW99-20160308(DUP)			25	50	12	<1	<0.2
	MW25-20160713	07/13/16	SoundEarth	6.1	4.8	23	<1	0.70
	MW25-20161019	10/19/16	SoundEarth	1.8	5.1	15	<1	0.96
	MW99-20161019 (DUP)			1.7	5.0	16	<1	1.0
	MW25-20170125	01/25/17	SoundEarth	1.0	3.6	44	<1	0.89
	MW99-20170125 (DUP)			1.1	3.7	44	<1	0.92
	MW25-20170601	06/01/17	SoundEarth	<1	1.2	15	<1	0.31
	MW99-20170601 (DUP)			<1	1.3	15	<1	0.41
	MW25-20170923	09/23/17	SoundEarth	<1	<1	15	<1	0.40
	MW99-20170923 (DUP)			<1	<1	15	<1	0.34
	MW25-20171216	12/16/17	SoundEarth	<1	<1	23	<1	0.41
	MW99-20171216 (DUP)			<1	<1	23	<1	0.40
	MW25-20180310	03/10/18	SoundEarth	<1	<1	25	<1	0.32
	MW99-20180310 (DUP)			<1	<1	25	<1	0.30
	MW25-20180630	06/30/18	SoundEarth	<1	<1	31	<1	0.52
	MW99-20180630 (DUP)			<1	<1	32	<1	0.49
	MW25-20180922	09/22/18	SoundEarth	<1	<1	37	<1	0.46
	MW99-20180922 (DUP)			<1	<1	36	<1	0.51
	MW25-20181215	12/15/18	SoundEarth	<1	<1	40	<1	0.60
	MW99-20181215 (DUP)			<1	<1	39	<1	0.57
	MW25-20190615	06/15/19	SoundEarth	<1	<1	45	<1	0.54
	MW99-20190615 (DUP)			<1	<1	43	<1	0.50
IW04	IW04-20150508	05/08/15	SoundEarth	<1	15	1.9	<1	<0.2
	IW04-20160309	03/09/16	SoundEarth	<1	2.5	11	<1	<0.2
	IW04-20160714	07/14/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW04-20161021	10/21/16	SoundEarth	<1	<1	1.8	<1	<0.2
	IW04-20170126	01/26/17	SoundEarth	<1	1.1	4.8	<1	<0.2
	IW04-20170601	06/01/17	SoundEarth	<1	1.2	12	<1	0.21
	IW04-20170923	09/23/17	SoundEarth	<1	<1	14	<1	0.22
	IW04-20171216	12/16/17	SoundEarth	<1	<1	19	<1	0.54
	IW04-20180310	03/10/18	SoundEarth	<1	<1	9.0	<1	0.65
	IW04-20180630	06/30/18	SoundEarth	<1	<1	5.3	<1	0.68
	IW04-20180922	09/22/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW04-20181215	12/15/18	SoundEarth	<1	<1	1.9	<1	1.6
	IW04-20190615	06/15/19	SoundEarth	<1	<1	1.7	<1	1.0
IW06	IW06-20150507	05/07/15	SoundEarth	6.3	13	<1	<1	<0.2
	IW06-20180310	03/10/18	SoundEarth	<1	<1	1.6	<1	<0.2
	IW06-20180630	06/30/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW06-20181215	12/15/18	SoundEarth	1.0	<1	<1	<1	<0.2
	IW06-20190615	06/15/19	SoundEarth	1.7	<1	<1	<1	<0.2
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

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Groundwater Analytical Results for CVOCs
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
IW50	IW50-20150803	08/03/15	SoundEarth	4.1	8.1	**44**	<1	<0.2
	IW50-20151208	12/08/15	SoundEarth	<1	<1	**140**	<1	**1.8**
	IW50-20160309	03/09/16	SoundEarth	<1	<1	**110**	<1	**1.9**
	IW50-20160715	07/15/16	SoundEarth	3.7	<1	**38**	<1	**2.5**
	IW50-20161021	10/21/16	SoundEarth	3.7	<1	**23**	<1	**1.0**
	IW50-20170126	01/26/17	SoundEarth	**13**	2.1	**34**	<1	**0.74**
	IW50-20170602	06/02/17	SoundEarth	<1	<1	**81**	<1	**0.95**
	IW50-20170924	09/24/17	SoundEarth	<1	<1	**26**	<1	**2.6**
	IW50-20171216	12/16/17	SoundEarth	<1	<1	15	<1	**2.2**
	IW50-20180310	03/10/18	SoundEarth	<1	<1	8.0	<1	**3.6**
	IW50-20180630	06/30/18	SoundEarth	<1	<1	4.5	<1	**2.5**
	IW50-20180922	09/22/18	SoundEarth	<1	<1	5.1	<1	**2.9**
	IW50-20181215	12/15/18	SoundEarth	1.6	<1	15	<1	**4.5**
	IW50-20190615	06/15/19	SoundEarth	**5.2**	2.0	**54**	<1	**7.1**
IW61	IW61-20151208	12/08/15	SoundEarth	**10**	2.8	**120**	<1	**0.86**
	IW61-20160309	03/09/16	SoundEarth	**23**	4.2	**140**	<1	**1.7**
	IW61-20160714	07/14/16	SoundEarth	**8.3**	1.6	**24**	<1	**1.6**
	IW61-20161021	10/21/16	SoundEarth	**9.5**	2.8	**34**	<1	**0.96**
	IW61-20170126	01/26/17	SoundEarth	**8.3**	2.9	**32**	<1	**0.96**
	IW61-20170602	06/02/17	SoundEarth	**9.9**	3.4	**41**	<1	**1.3**
	IW61-20170923	09/23/17	SoundEarth	**12**	3.2	**45**	<1	**1.2**
	IW61-20171216	12/16/17	SoundEarth	**15**	3.2	**65**	<1	**1.2**
	IW61-20180310	03/10/18	SoundEarth	**15**	2.7	**71**	<1	**1.1**
	IW61-20180323*	03/23/18	SoundEarth	**15**	2.9	**82**	<1	**1.3**
	IW61-20180630	06/30/18	SoundEarth	**16**	2.5	**67**	<1	**1.7**
	IW61-20180922	09/22/18	SoundEarth	**13**	2.1	**63**	<1	**1.8**
	IW61-20181215	12/15/18	SoundEarth	**15**	2.1	**58**	<1	**2.0**
	IW61-20190615	06/15/19	SoundEarth	**13**	2.4	**71**	<1	**2.9**
IW91	IW91-20150506	05/06/15	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20150804	08/04/15	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20151208	12/08/15	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20160309	03/09/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20160714	07/14/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20161020	10/20/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20170126	01/26/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20170601	06/01/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20170923	09/23/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20171216	12/16/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20180310	03/10/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20180630	06/30/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20180922	09/22/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20181215	12/15/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20190615	06/15/19	SoundEarth	<1	<1	<1	<1	<0.2
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

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Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
Boren Avenue North								
MW04	MW04-20110527	05/27/11	SoundEarth	<1	15	<1	<1	<0.2
	MW04-20111012	10/12/11	SoundEarth	<1	15	<1	<1	<0.2
	MW04-20130909	09/09/13	SoundEarth	<1	22	15	<1	<0.2
	MW04-20150508	05/08/15	SoundEarth	1.4	13	4.2	<1	<0.2
	MW04-20150806	08/06/15	SoundEarth	<1	6.9	1.0	<1	<0.2
	MW04-20151209	12/09/15	SoundEarth	<1	9.2	<1	<1	<0.2
	MW04-20160308	03/08/16	SoundEarth	<1	9.6	1.1	<1	<0.2
	MW04-20160713	07/13/16	SoundEarth	1.0	8.9	1.3	<1	<0.2
	MW04-20161019	10/19/16	SoundEarth	<1	5.5	<1	<1	<0.2
	MW04-20170124	01/24/17	SoundEarth	<1	9.4	<1	<1	<0.2
	MW04-20170531	05/31/17	SoundEarth	<1	9.3	<1	<1	<0.2
	MW04-20170921	09/21/17	SoundEarth	<1	5.7	3.2	<1	<0.2
	MW04-20171214	12/14/17	SoundEarth	<1	8.0	2.4	<1	<0.2
	MW04-20180309	03/09/18	SoundEarth	<1	8.6	<1	<1	<0.2
	MW04-20180629	06/29/18	SoundEarth	<1	9.4	<1	<1	<0.2
	MW04-20180920	09/20/18	SoundEarth	<1	9.4	<1	<1	<0.2
	MW04-20181214	12/14/18	SoundEarth	<1	10	<1	<1	<0.2
	MW04-20190614	06/14/19	SoundEarth	<1	11	<1	<1	<0.2
MW05	MW05-20110527	05/27/11	SoundEarth	39	16	1.8	<1	<0.2
	MW05-20111012	10/12/11	SoundEarth	29	14	1.5	<1	<0.2
	MW05-20130910	09/10/13	SoundEarth	21	13	1.9	<1	<0.2
	DECOMMISSIONED 2015							
MW07	MW07-20110531	05/31/11	SoundEarth	1.4	12	2.3	<1	<0.2
	MW07-20111012	10/12/11	SoundEarth	2.2	11	1.8	<1	<0.2
	MW07-20130909	09/09/13	SoundEarth	1.5	33	5.4	<1	<0.2
	MW07-20150508	05/08/15	SoundEarth	2.5	15	4.8	<1	<0.2
	MW07-20150805	08/05/15	SoundEarth	1.8	12	3.2	<1	<0.2
	MW07-20151209	12/09/15	SoundEarth	2.3	14	4.1	<1	<0.2
	MW07-20160308	03/08/16	SoundEarth	2.6	13	3.8	<1	<0.2
	MW07-20160713	07/13/16	SoundEarth	3.0	18	5.7	<1	<0.2
	MW07-20161019	10/19/16	SoundEarth	3.5	13	2.3	<1	<0.2
	MW07-20170124	01/24/17	SoundEarth	4.8	8.1	<1	<1	<0.2
	MW07-20170531	05/31/17	SoundEarth	4.7	8.6	<1	<1	<0.2
	MW07-20180308	03/08/18	SoundEarth	2.6	11	1.1	<1	<0.2
	MW07-20180629	06/29/18	SoundEarth	3.3	7.3	<1	<1	<0.2
	MW07-20180920	09/20/18	SoundEarth	2.8	6.0	<1	<1	<0.2
	MW07-20181214	12/14/18	SoundEarth	3.3	6.7	<1	<1	<0.2
	MW07-20190614	06/14/19	SoundEarth	3.9	5.9	<1	<1	<0.2
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

Table 2
Groundwater Analytical Results for CVOCs
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW13	MW13-20111020	10/20/11	SoundEarth	5.1	1.2	<1	<1	<0.2
	MW13-20130910	09/10/13	SoundEarth	11	1.4	<1	<1	<0.2
	MW13-20150511	05/11/15	SoundEarth	4.6[cf]	1.7[cf]	<1[cf]	<1[cf]	<0.2[cf]
	MW13-20150805	08/05/15	SoundEarth	5.4	2.3	<1	<1	<0.2
	MW13-20151215	12/15/15	SoundEarth	5.6	1.6	<1	<1	<0.2
	MW13-20160307	03/07/16	SoundEarth	6.6	1.6	<1	<1	<0.2
	MW13-20160712	07/12/16	SoundEarth	6.5	1.6	<1	<1	<0.2
	MW13-20161019	10/19/16	SoundEarth	10	2.2	<1	<1	<0.2
	MW13-20170124	01/24/17	SoundEarth	6.4	1.0	<1	<1	<0.2
	MW13-20170531	05/31/17	SoundEarth	10	1.5	<1	<1	<0.2
	MW13-20170921	09/21/17	SoundEarth	8.4	1.8	<1	<1	<0.2
	MW13-20171214	12/14/17	SoundEarth	5.2	1.4	<1	<1	<0.2
	MW13-20180308	03/08/18	SoundEarth	8.0	1.4	<1	<1	<0.2
	MW13-20180629	06/29/18	SoundEarth	4.4	<1	<1	<1	<0.2
	MW13-20180920	09/20/18	SoundEarth	6.5	1.3	<1	<1	<0.2
	MW13-20181214	12/14/18	SoundEarth	7.8	1.4	<1	<1	<0.2
	MW13-20190614	06/14/19	SoundEarth	7.0	1.1	<1	<1	<0.2
MW27	MW27-20151210	12/10/15	SoundEarth	<1	21	2.5	<1	<0.2
	MW27-20160307	03/07/16	SoundEarth	<1	21	3.8	<1	<0.2
	MW27-20160713	07/13/16	SoundEarth	<1	18	4.5	<1	<0.2
	MW27-20161019	10/19/16	SoundEarth	<1	23	4.8	<1	<0.2
	MW27-20170124	01/24/17	SoundEarth	<1	33	13	<1	<0.2
	MW27-20170531	05/31/17	SoundEarth	<1	18	5.5	<1	<0.2
	MW27-20170921	09/21/17	SoundEarth	<1	16	4.0	<1	<0.2
	MW27-20171214	12/14/17	SoundEarth	<1	81	4.4	<1	<0.2
	MW27-20171229	12/29/17	SoundEarth	<1	60	3.5	<1	<0.2
	MW27-20180308	03/08/18	SoundEarth	<1	13	<1	<1	<0.2
	MW27-20180628	06/28/18	SoundEarth	<1	37	3.4	<1	<0.2
	MW27-20180920	09/20/18	SoundEarth	<1	21	3.7	<1	<0.2
	MW27-20181214	12/14/18	SoundEarth	<1	17	4.3	<1	<0.2
	MW27-20190614	06/14/19	SoundEarth	<1	14	2.3	<1	<0.2
Terry Avenue North								
MW15	MW15-20121211	12/11/12	SoundEarth	<1	8.2	<1	<1	<0.2
	MW15-20121221	12/21/12	SoundEarth	<1	7.2	<1	<1	<0.2
	MW15-20130910	09/10/13	SoundEarth	<1	8.6	<1	<1	<0.2
	MW15-20150508	05/08/15	SoundEarth	<1	6.5	<1	<1	<0.2
	MW15-20150805	08/05/15	SoundEarth	<1	5.3	<1	<1	<0.2
	MW15-20151209	12/09/15	SoundEarth	<1	6.8	<1	<1	<0.2
	MW15-20160308	03/08/16	SoundEarth	<1	6.7	<1	<1	<0.2
	MW15-20160713	07/13/16	SoundEarth	<1	5.8	<1	<1	<0.2
	MW15-20161018	10/18/16	SoundEarth	<1	5.3	<1	<1	<0.2
	MW15-20170125	01/25/17	SoundEarth	<1	7.4	<1	<1	<0.2
	MW15-20170531	05/31/17	SoundEarth	<1	7.9	<1	<1	<0.2
	MW15-20170922	09/22/17	SoundEarth	<1	3.9	<1	<1	<0.2
	MW15-20171215	12/15/17	SoundEarth	<1	3.0	<1	<1	<0.2
	MW15-20180309	03/09/18	SoundEarth	<1	3.3	<1	<1	<0.2
	MW15-20180629	06/29/18	SoundEarth	<1	5.1	<1	<1	<0.2
	MW15-20180920	09/20/18	SoundEarth	<1	6.9	<1	<1	<0.2
	MW15-20181214	12/14/18	SoundEarth	<1	7.0	<1	<1	<0.2
	MW15-20190613	06/13/19	SoundEarth	<1	6.8	<1	<1	<0.2
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

Table 2
Groundwater Analytical Results for CVOCs
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
Thomas Street								
MW14	MW14-20111020	10/20/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW14-20130911	09/11/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW16	MW16-20121211	12/11/12	SoundEarth	**16**	**12**	**220**	<1	**0.69**
	MW16-20130911	09/11/13	SoundEarth	**6.4**	**5.0**	**610**	<1	**1.9**
	MW16-20150508	05/08/15	SoundEarth	**7.5**	**7.6**	**640**	<1	**2.8**
	MW16-20150805	08/05/15	SoundEarth	**7.8**	**7.3**	**550**	<1	**2.4**
	MW16-20151210	12/10/15	SoundEarth	**5.3**	4.5	**510**	<1	**3.2**
	MW16-20160308	03/08/16	SoundEarth	3.7	2.0	**190**	<1	**1.3**
	MW16-20160712	07/12/16	SoundEarth	<1	<1	**160**	<1	**2.0**
	MW16-20161019	10/19/16	SoundEarth	5.0	**5.4**	**170**	<1	**1.2**
	MW16-20170125	01/25/17	SoundEarth	**6.4**	**6.8**	**220**	<1	**0.98**
	MW16-20170531	05/31/17	SoundEarth	**5.7**	4.4	**100**	<1	**0.49**
	MW16-20170922	09/22/17	SoundEarth	**5.4**	**5.2**	**78**	<1	**0.40**
	MW16-20171229	12/29/17	SoundEarth	**7.2**	**6.4**	**150**	<1	**0.89**
	MW16-20180309	03/09/18	SoundEarth	**7.3**	**5.5**	**80**	<1	**0.35**
	WELL DAMAGED 2018							
MW28	MW28-20190613	06/13/19	SoundEarth	**9.0**	**5.7**	**80**	<1	**0.35**
Fairview Avenue North								
MW-C	MW-C-20130911	09/11/13	SoundEarth	<1	<1	<1	<1	<0.2
Harrison Street								
MW01	MW01-20110525	05/25/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20111011	10/11/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20130910	09/10/13	SoundEarth	<1	1.4	<1	<1	<0.2
	MW01-20150806	08/06/15	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20160308	03/08/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20160712	07/12/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20161018	10/18/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20170124	01/24/17	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20170531	05/31/17	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20171214	12/14/17	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20180309	03/09/18	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20180628	06/28/18	SoundEarth	<1	1.1	<1	<1	<0.2
	MW01-20180920	09/20/18	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20181214	12/14/18	SoundEarth	<1	1.1	<1	<1	<0.2
	MW01-20190614	06/14/19	SoundEarth	<1	<1	<1	<1	<0.2
MW02	MW02-20110525	05/25/11	SoundEarth	<1	**5.2**	<1	<1	<0.2
	MW02-20111011	10/11/11	SoundEarth	<1	3.0	<1	<1	<0.2
	MW02-20130911	09/11/13	SoundEarth	<1	3.6	<1	<1	<0.2
	DECOMMISSIONED 2015							
MW03	MW03-20110527	05/27/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW03-20111011	10/11/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW03-20130911	09/11/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2015							
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

Table 2
Groundwater Analytical Results for CVOCs
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW26	MW26-20151210	12/10/15	SoundEarth	<1	11	<1	<1	<0.2
	MW26-20160307	03/07/16	SoundEarth	<1	10	<1	<1	<0.2
	MW26-20160712	07/12/16	SoundEarth	<1	12	<1	<1	<0.2
	MW26-20161018	10/18/16	SoundEarth	<1	12	<1	<1	<0.2
	MW26-20170124	01/24/17	SoundEarth	<1	13	<1	<1	<0.2
	MW26-20170531	05/31/17	SoundEarth	<1	7.9	<1	<1	<0.2
	MW26-20170921	09/21/17	SoundEarth	<1	7.1	<1	<1	<0.2
	MW26-20171214	12/14/17	SoundEarth	<1	15	1.4	<1	<0.2
	MW26-20180309	03/09/18	SoundEarth	<1	6.0	<1	<1	<0.2
	MW26-20180628	06/28/18	SoundEarth	<1	18	<1	<1	<0.2
	MW26-20180920	09/20/18	SoundEarth	<1	18	<1	<1	<0.2
	MW26-20181214	12/14/18	SoundEarth	<1	20	<1	<1	<0.2
	MW26-20190614	06/14/19	SoundEarth	<1	20	<1	<1	<0.2
SMW06	SMW06-20130910	09/10/13	SoundEarth	<1	<1	<1	<1	<0.2
Westlake Avenue North								
SMW09	SMW09-20130910	09/10/13	SoundEarth	<1	<1	<1	<1	<0.2
North-Adjoining Property								
SLU-MW01	MW01-20120229	02/29/12[4]	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
SLU-MW02	MW02-20120229	02/29/12[4]	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

NOTES:

Red denotes concentrations exceeding the MTCA Method cleanup level for groundwater.

[1]Analyzed by US Environmental Protection Agency Method 8260C, 8021B, or 8240.

[2]MTCA Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of WAC, revised November 2007.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Groundwater, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[4]Sample data compiled from reports on file at the Washington State Department of Ecology.

Laboratory Notes:

[cf]The sample was centrifuged prior to analysis.

[ve]Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

*The sample was collected with a passive diffusion bag.

< = not detected at a concentration exceeding laboratory reporting limit

µg/L = micrograms per liter

CLARC = Cleanup Levels and Risk Calculations

CVOC = chlorinated volatile organic compound

DCE = dichloroethene

MTCA = Washington State Model Toxics Control Act

PCE = tetrachloroethene

SoundEarth = SoundEarth Strategies, Inc.

TCE = trichloroethene

WAC = Washington Administrative Code

Table 2A
Groundwater CVOCs Results Summary
Troy Laundry Seattle Site
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington

Groundwater CVOCs Analytical Results[1]

Sampling Event		On-Property Wells																																																						
		MW17				MW18				MW19				MW20				MW21				MW22				MW23				MW24				MW25				IW04				IW06				IW50				IW61				IW91			
Year	Quarter	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC
2015	2																																																								
	3																																																								
	4																																																								
2016	1																																																								
	3																																																								
	4																																																								
2017	1																																																								
	2																																																								
	3																																																								
	4																																																								
2018	1																																																								
	2																																																								
	3																																																								
	4																																																								
2019	2																																																								

Sampling Event		Boren Avenue North																Terry Avenue North				Thomas Street								Harrison Street							
		MW04				MW07				MW13				MW27				MW15				MW16[3]				MW28[3]				MW01				MW26			
Year	Quarter	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC	PCE	TCE	DCE[2]	VC
2015	2																																				
	3																																				
	4																																				
2016	1																																				
	3																																				
	4																																				
2017	1																																				
	2																																				
	3																																				
	4																																				
2018	1																																				
	2																																				
	3																																				
	4																																				
2019	2																																				

NOTES:

Denotes CVOC concentration does not exceed the Applicable MTCA cleanup level.

Denotes CVOC concentration exceeds the applicable MTCA cleanup level.

Denotes well not sampled and/or inaccessible.

Sample analyses conducted by Friedman & Bruya, Inc. of Seattle, Washington.

No trans-1,2-DCE has been detected above the reporting limit for samples collected at this site.

(1)Samples analyzed by EPA Method 8260C.

(2)DCE refers to the greater concentration of cis-1,2-DCE.

(3)Monitoring well MW16 destroyed during ROW construction in 2018, and replacement well MW28 installed.

CVOC = chlorinated volatile organic compound

DCE = dichloroethene

EPA = US Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

PCE = tetrachloroethene

ROW = right-of-way

TCE = trichloroethene

VC = vinyl chloride

VOC = volatile organic compound

ATTACHMENT A
LABORATORY ANALYTICAL REPORTS

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
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June 26, 2019

Tom Cammarata, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

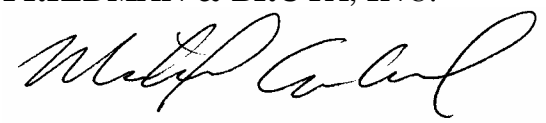
Dear Mr Cammarata:

Included are the results from the testing of material submitted on June 14, 2019 from the SOU_0731-004-05_ 20190614, F&BI 906291 project. There are 22 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: Logan Schumacher
SOU0626R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 14, 2019 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0731-004-05_ 20190614, F&BI 906291 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
906291 -01	MW28-20190913
906291 -02	MW15-20190913
906291 -03	MW27-20190914
906291 -04	MW13-20190914
906291 -05	MW01-20190914
906291 -06	MW26-20190914
906291 -07	MW07-20190914
906291 -08	MW04-20190914

Samples MW28-20190913, MW26-20190914, MW07-20190914, and MW04-20190914 were sent to Fremont Analytical for nitrate, sulfate, alkalinity, dissolved gasses, and ferrous iron analysis. In addition, samples MW26-20190914 and MW07-20190914 were sent to Fremont for TOC analysis. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 06/26/19
Date Received: 06/14/19
Project: SOU_0731-004-05_ 20190614, F&BI 906291
Date Extracted: 06/17/19
Date Analyzed: 06/17/19

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
MW28-20190913 906291-01	<1	<1	<1	<3	160	104
MW15-20190913 906291-02	<1	<1	<1	<3	<100	100
MW27-20190914 906291-03	<1	<1	<1	<3	<100	101
MW13-20190914 906291-04	<1	<1	<1	<3	<100	101
MW01-20190914 906291-05	<1	<1	<1	<3	<100	101
MW26-20190914 906291-06	<1	<1	<1	<3	<100	102
MW07-20190914 906291-07	<1	<1	<1	<3	<100	104
MW04-20190914 906291-08	<1	<1	<1	<3	<100	103
Method Blank 09-1404 MB	<1	<1	<1	<3	<100	113

Date of Report: 06/26/19
Date Received: 06/14/19
Project: SOU_0731-004-05_ 20190614, F&BI 906291
Date Extracted: 06/17/19
Date Analyzed: 06/17/19

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW28-20190913 906291-01	140 x	<250	104
MW15-20190913 906291-02	<50	<250	93
MW27-20190914 906291-03	<50	<250	93
MW13-20190914 906291-04	<50	<250	89
MW01-20190914 906291-05	<50	<250	95
MW26-20190914 906291-06	<50	<250	101
MW07-20190914 906291-07	<50	<250	110
MW04-20190914 906291-08	<50	<250	102
Method Blank 09-1421 MB	<50	<250	98

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW28-20190913	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/18/19	Lab ID:	906291-01 x10
Date Analyzed:	06/18/19	Data File:	906291-01 x10.123
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	1,100
Manganese	1,140

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW26-20190914	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/18/19	Lab ID:	906291-06
Date Analyzed:	06/19/19	Data File:	906291-06.056
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	290
Manganese	62.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW07-20190914	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/18/19	Lab ID:	906291-07
Date Analyzed:	06/19/19	Data File:	906291-07.045
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	225
Manganese	9.26

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW04-20190914	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/18/19	Lab ID:	906291-08
Date Analyzed:	06/19/19	Data File:	906291-08.057
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	327
Manganese	15.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/18/19	Lab ID:	I9-375 mb
Date Analyzed:	06/18/19	Data File:	I9-375 mb.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<50
Manganese	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW28-20190913	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/19/19	Lab ID:	906291-01
Date Analyzed:	06/19/19	Data File:	061929.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.35
Chloroethane	<1
1,1-Dichloroethene	1.5
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	80
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	5.7
Tetrachloroethene	9.0

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW15-20190913	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/19/19	Lab ID:	906291-02
Date Analyzed:	06/19/19	Data File:	061930.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	6.8
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW27-20190914	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/19/19	Lab ID:	906291-03
Date Analyzed:	06/19/19	Data File:	061931.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.3
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	14
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW13-20190914	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/19/19	Lab ID:	906291-04
Date Analyzed:	06/19/19	Data File:	061932.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1.1
Tetrachloroethene	7.0

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW01-20190914	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/19/19	Lab ID:	906291-05
Date Analyzed:	06/19/19	Data File:	061933.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW26-20190914	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/19/19	Lab ID:	906291-06
Date Analyzed:	06/19/19	Data File:	061934.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	20
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW07-20190914	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/19/19	Lab ID:	906291-07
Date Analyzed:	06/19/19	Data File:	061935.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	5.9
Tetrachloroethene	3.9

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW04-20190914	Client:	SoundEarth Strategies
Date Received:	06/14/19	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/19/19	Lab ID:	906291-08
Date Analyzed:	06/19/19	Data File:	061936.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	11
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0731-004-05_ 20190614
Date Extracted:	06/19/19	Lab ID:	09-1432 mb
Date Analyzed:	06/19/19	Data File:	061928.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 06/26/19
Date Received: 06/14/19
Project: SOU_0731-004-05_ 20190614, F&BI 906291

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 906291-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	160	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	108	65-118
Toluene	ug/L (ppb)	50	114	72-122
Ethylbenzene	ug/L (ppb)	50	112	73-126
Xylenes	ug/L (ppb)	150	110	74-118
Gasoline	ug/L (ppb)	1,000	82	69-134

Date of Report: 06/26/19
Date Received: 06/14/19
Project: SOU_0731-004-05_ 20190614, F&BI 906291

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	100	63-142	13

Date of Report: 06/26/19
Date Received: 06/14/19
Project: SOU_0731-004-05_ 20190614, F&BI 906291

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 906321-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Iron	ug/L (ppb)	100	152	89	85	70-130	5
Manganese	ug/L (ppb)	20	30.6	101	95	70-130	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	99	85-115
Manganese	ug/L (ppb)	20	95	85-115

Date of Report: 06/26/19
Date Received: 06/14/19
Project: SOU_0731-004-05_ 20190614, F&BI 906291

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

Laboratory Code: 906291-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	0.35	119	36-166
Chloroethane	ug/L (ppb)	50	<1	110	46-160
1,1-Dichloroethene	ug/L (ppb)	50	1.5	108	60-136
Methylene chloride	ug/L (ppb)	50	<5	109	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	110	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	105	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	80	119 b	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	96	48-149
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	110	60-146
Trichloroethene	ug/L (ppb)	50	5.7	98	66-135
Tetrachloroethene	ug/L (ppb)	50	9.0	101	10-226

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	113	107	50-154	5
Chloroethane	ug/L (ppb)	50	105	100	58-146	5
1,1-Dichloroethene	ug/L (ppb)	50	103	102	67-136	1
Methylene chloride	ug/L (ppb)	50	102	100	39-148	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	106	101	68-128	5
1,1-Dichloroethane	ug/L (ppb)	50	102	100	79-121	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	107	105	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	96	100	73-132	4
1,1,1-Trichloroethane	ug/L (ppb)	50	106	104	81-125	2
Trichloroethene	ug/L (ppb)	50	98	98	79-113	0
Tetrachloroethene	ug/L (ppb)	50	104	103	76-121	1

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. 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 lowest calibration standard. 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.

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.

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info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
3012 16th Ave. W.
Seattle, WA 98119

RE: 906291
Work Order Number: 1906196

June 24, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 1 sample(s) on 6/17/2019 for the analyses presented in the following report.

Dissolved Gases by RSK-175
Ferrous Iron by SM3500-Fe B
Ion Chromatography by EPA Method 300.0
Total Alkalinity by SM 2320B

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *06/24/2019*

CLIENT: Friedman & Bruya
Project: 906291
Work Order: 1906196

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1906196-001	MW28-20190613	06/13/2019 3:35 PM	06/17/2019 1:45 PM

Case Narrative

WO#: **1906196**

Date: **6/24/2019**

CLIENT: Friedman & Bruya
Project: 906291

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

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

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

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

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

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

Analytical Report

Work Order: **1906196**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/13/2019 3:35:00 PM
Project: 906291
Lab ID: 1906196-001
Matrix: Water
Client Sample ID: **MW28-20190613**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	0.0153	0.00863		mg/L	1	6/19/2019 2:27:00 PM
Ethene	ND	0.0151		mg/L	1	6/19/2019 2:27:00 PM
Ethane	ND	0.0162		mg/L	1	6/19/2019 2:27:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.500	DH	mg/L	5	6/18/2019 2:57:00 PM
Sulfate	2.10	1.50	D	mg/L	5	6/18/2019 2:57:00 PM
NOTES: Diluted due to matrix.						
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	424	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	1.02	0.0500	H	mg/L	1	6/19/2019 5:00:00 PM

Work Order: 1906196
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Total Alkalinity by SM 2320B

Sample ID: **MB-R52247**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **6/21/2019**			RunNo: **52247**	
Client ID: **MBLKW**	Batch ID: **R52247**					Analysis Date: **6/21/2019**			SeqNo: **1031932**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID: **LCS-R52247**	SampType: **LCS**			Units: **mg/L**		Prep Date: **6/21/2019**			RunNo: **52247**	
Client ID: **LCSW**	Batch ID: **R52247**					Analysis Date: **6/21/2019**			SeqNo: **1031933**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	104	2.50	100.0	0	104	80	120				

Sample ID: **1906195-001BDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/21/2019**			RunNo: **52247**	
Client ID: **BATCH**	Batch ID: **R52247**					Analysis Date: **6/21/2019**			SeqNo: **1031935**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	618	2.50						611.0	1.06	20	

Work Order: 1906196
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Ferrous Iron by SM3500-Fe B

Sample ID: **MB-R52165** SampType: **MBLK** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **MBLKW** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1029999**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	ND	0.0500									

Sample ID: **LCS-R52165** SampType: **LCS** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **LCSW** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030000**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.406	0.0500	0.4000	0	101	80	120				

Sample ID: **1906196-001ADUP** SampType: **DUP** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **MW28-20190613** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030007**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.922	0.0500						1.023	10.4	20	H

Sample ID: **1906196-001AMS** SampType: **MS** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **MW28-20190613** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030008**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	1.29	0.0500	0.4000	1.023	66.9	80	120				SH

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **1906196-001AMSD** SampType: **MSD** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **MW28-20190613** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030009**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	1.29	0.0500	0.4000	1.023	67.5	80	120	1.291	0.182	20	SH

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 1906196
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **MB-24947** SampType: **MBLK** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **MBLKW** Batch ID: **24947** Analysis Date: **6/17/2019** SeqNo: **1029908**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									

Sample ID: **LCS1-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/17/2019** SeqNo: **1029909**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.739	0.100	0.7500	0	98.5	90	110				
Sulfate	3.65	0.300	3.750	0	97.4	90	110				

Sample ID: **LCS2-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029925**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.725	0.100	0.7500	0	96.7	90	110				
Sulfate	3.57	0.300	3.750	0	95.2	90	110				

Sample ID: **LCS3-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029926**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.725	0.100	0.7500	0	96.7	90	110				
Sulfate	3.55	0.300	3.750	0	94.6	90	110				

Sample ID: **LCS4-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029927**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.732	0.100	0.7500	0	97.6	90	110				

Work Order: 1906196
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **LCS4-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029927**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.73	0.300	3.750	0	99.4	90	110				

Sample ID: **1906195-001BDUP** SampType: **DUP** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **BATCH** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029933**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100						0		20	H
Sulfate	0.749	0.300						0.7590	1.33	20	

Sample ID: **1906195-001BMS** SampType: **MS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **BATCH** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029934**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.787	0.100	0.7500	0.09000	92.9	80	120				H
Sulfate	4.20	0.300	3.750	0.7590	91.8	80	120				

Sample ID: **1906195-001BMSD** SampType: **MSD** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **BATCH** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029935**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.784	0.100	0.7500	0.09000	92.5	80	120	0.7870	0.382	20	H
Sulfate	4.18	0.300	3.750	0.7590	91.3	80	120	4.203	0.525	20	

Work Order: 1906196
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R52203** SampType: **LCS** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52203**
Client ID: **LCSW** Batch ID: **R52203** Analysis Date: **6/19/2019** SeqNo: **1030678**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,020	0.00863	1,000	0	102	70	130				
Ethene	976	0.0151	1,000	0	97.6	70	130				
Ethane	973	0.0162	1,000	0	97.3	70	130				

Sample ID: **MB-R52203** SampType: **MBLK** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52203**
Client ID: **MBLKW** Batch ID: **R52203** Analysis Date: **6/19/2019** SeqNo: **1030679**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00863									
Ethene	ND	0.0151									
Ethane	ND	0.0162									

Sample ID: **1906152-001AREP** SampType: **REP** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52203**
Client ID: **BATCH** Batch ID: **R52203** Analysis Date: **6/19/2019** SeqNo: **1030653**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	4.81	0.173						4.601	4.43	30	DE
Ethene	ND	0.303						0		30	D
Ethane	ND	0.324						0		30	D

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**1906196**
Logged by:	**Clare Griggs**	Date Received:	**6/17/2019 1:45:00 PM**

Chain of Custody

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

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	☐	No ☑	Not Required	☐
6.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
7.	Were all items received at a temperature of >0°C to 10.0°C *	Yes	☑	No ☐	NA	☐
8.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
10.	Are samples properly preserved?	Yes	☑	No ☐		
11.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
12.	Is there headspace in the VOA vials?	Yes	☐	No ☑	NA	☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No ☐		
14.	Does paperwork match bottle labels?	Yes	☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
16.	Is it clear what analyses were requested?	Yes	☑	No ☐		
17.	Were all holding times able to be met?	Yes	☐	No ☑		

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	9.6
Sample	8.7

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

cg 6/17/19

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 1906197 1906196

Page 12 of 12

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Fremont

PROJECT NAME/NO.	PO #
906291	B-297

REMARKS

Please Email Results

Page # 1 of 1

TURNAROUND TIME

☐ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

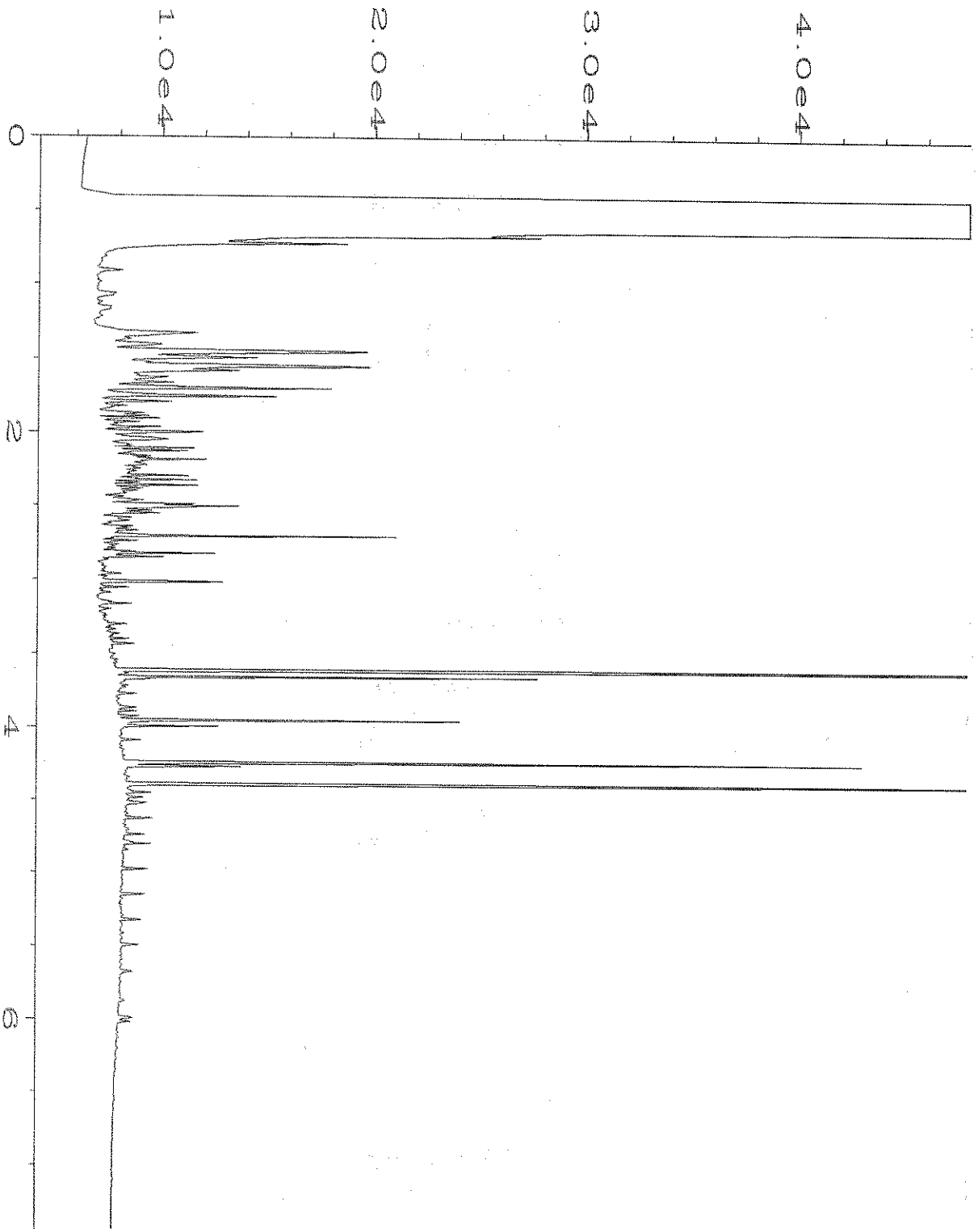
☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Dioxins/Furans	EPH	VPH	Sulfate	Nitrate	Alkalinity	Ferrous Iron	Methane, Ethane, Ethene RSK			Notes
MW28-20190613		6/13/19	1535	H_2O	5				X	X	X	X	X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	6/17/19	
Received by:		FAT	6/17/19	1345
Relinquished by:				
Received by:				

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



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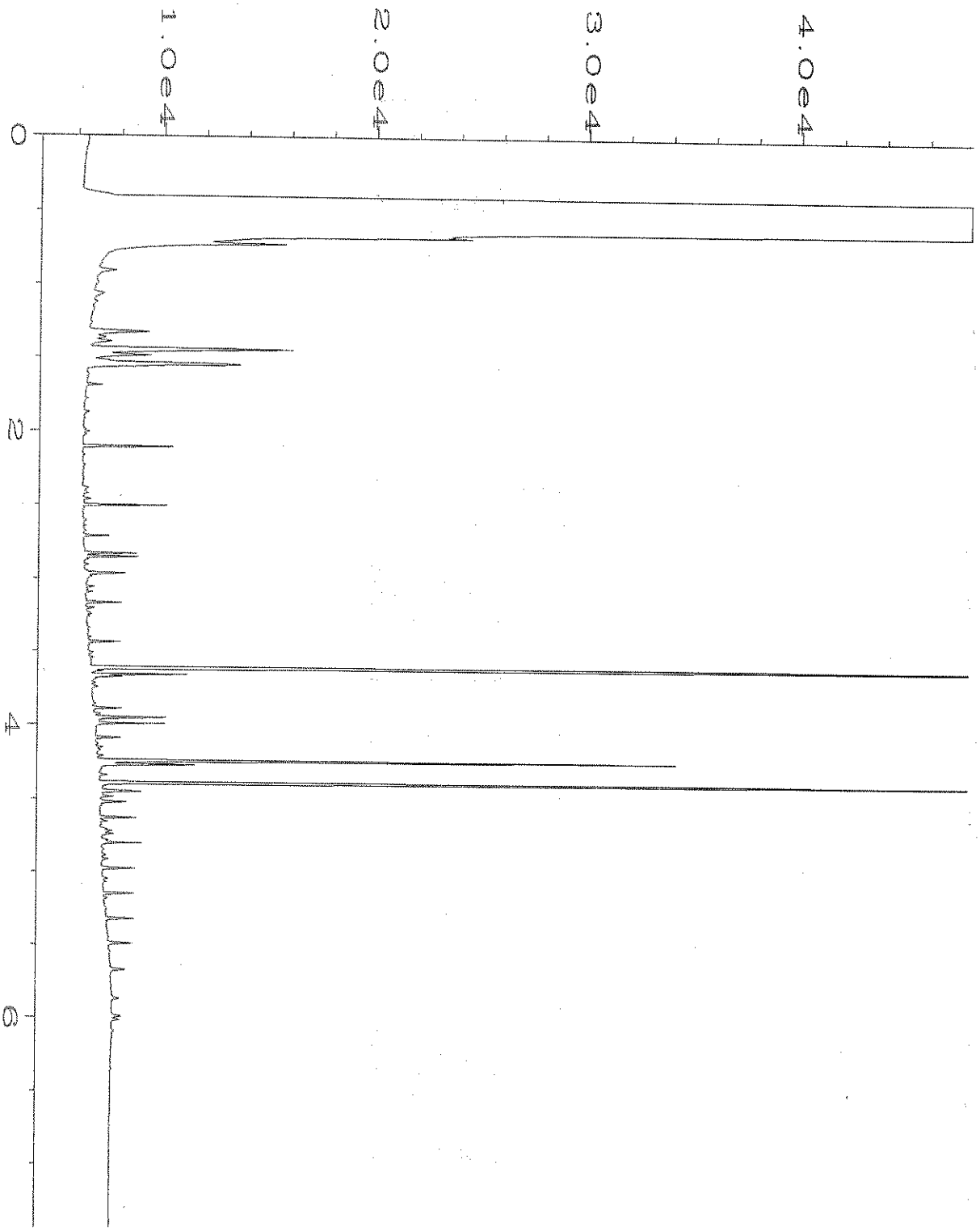
Operator : TL
Instrument : GC1
Sample Name : 906291-01
Run Time Bar Code:
Acquired on : 17 Jun 19 01:58 PM
Report Created on: 18 Jun 19 07:04 AM

Page Number : 1
Vial Number : 27
Injection Number : 1
Sequence Line : 4
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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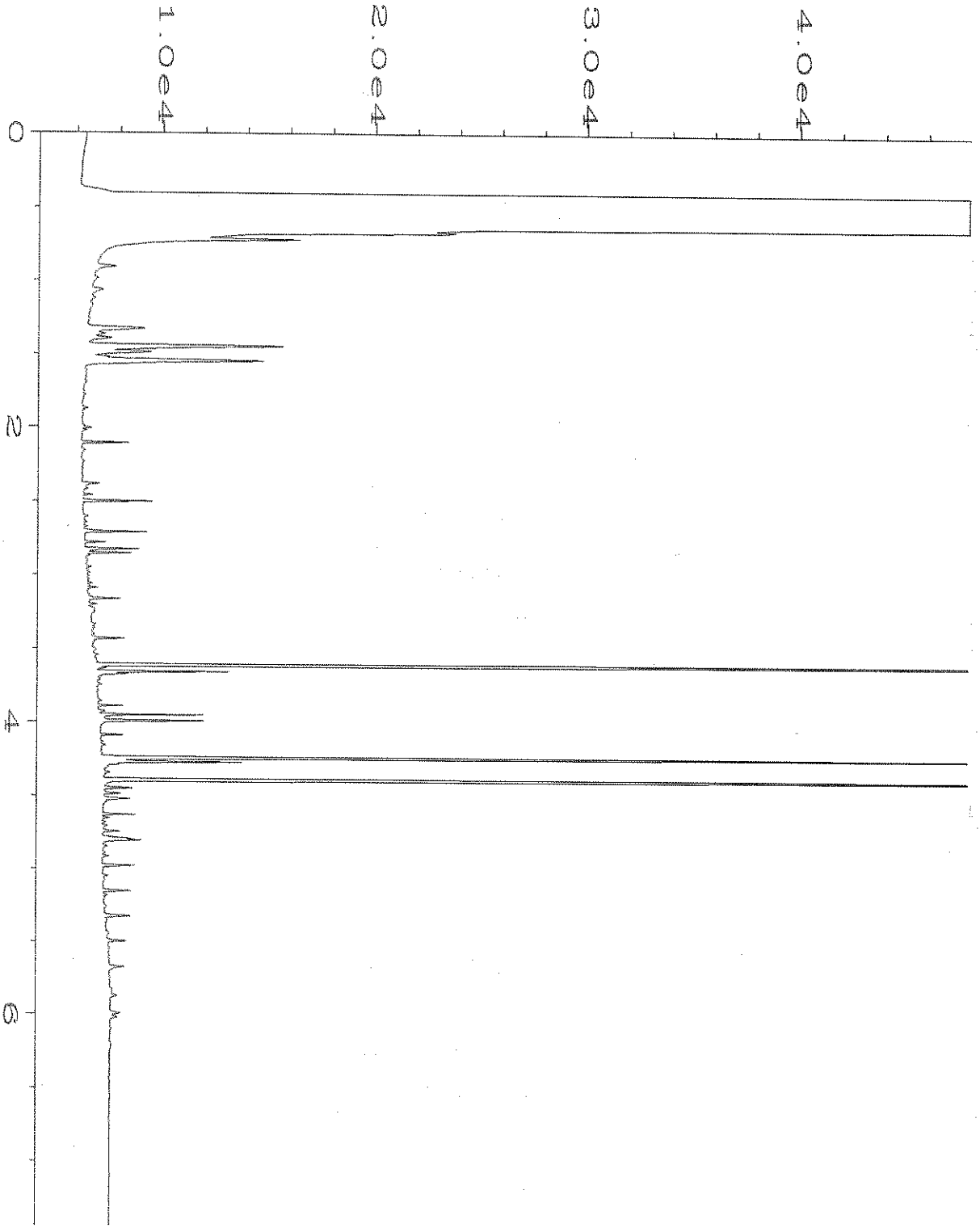
Operator : TL
Instrument : GC1
Sample Name : 906291-02
Run Time Bar Code:
Acquired on : 17 Jun 19 02:10 PM
Report Created on: 18 Jun 19 07:04 AM

Page Number : 1
Vial Number : 28
Injection Number : 1
Sequence Line : 4
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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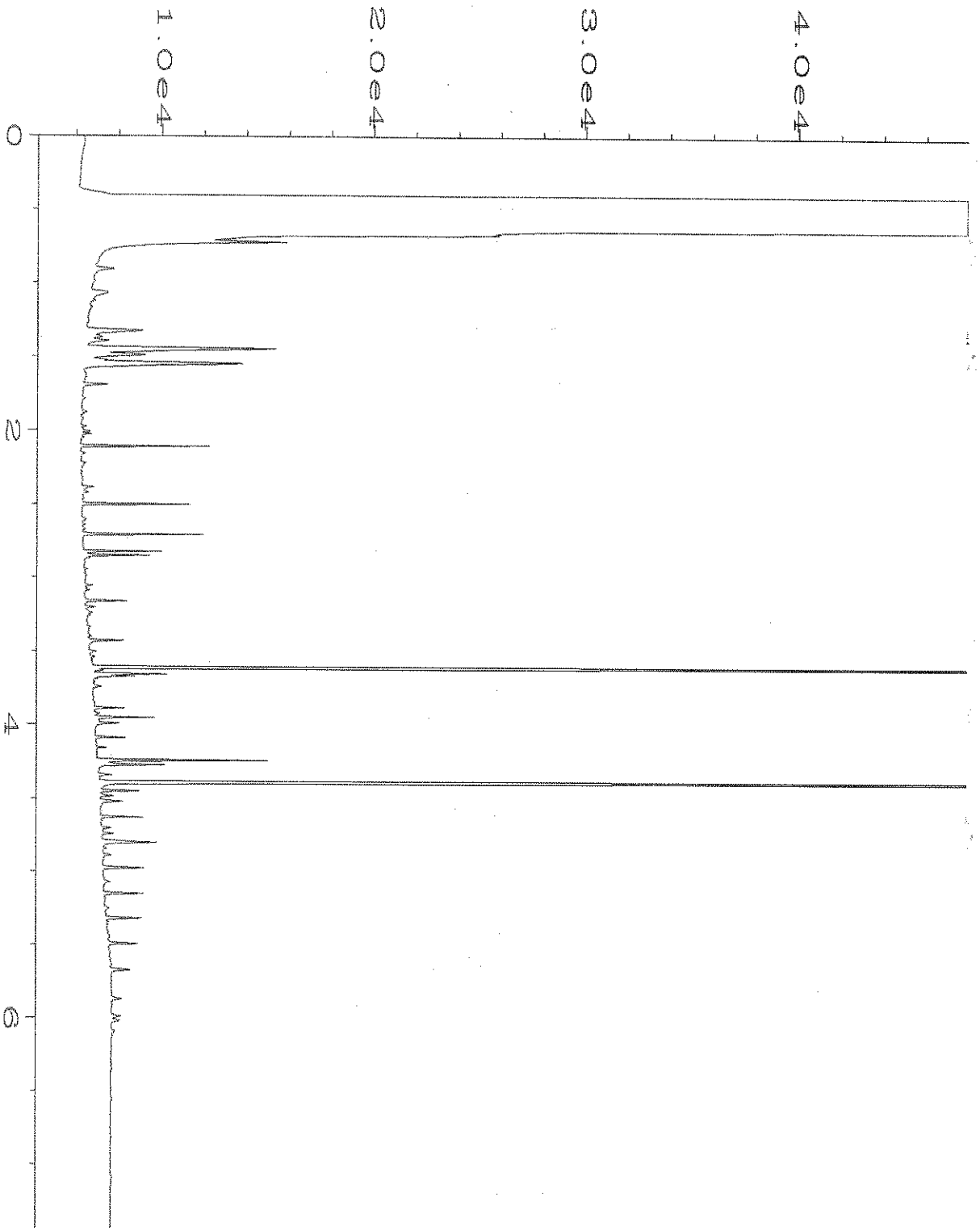
Operator : TL
Instrument : GC1
Sample Name : 906291-03
Run Time Bar Code:
Acquired on : 17 Jun 19 02:21 PM
Report Created on: 18 Jun 19 07:04 AM

Page Number : 1
Vial Number : 29
Injection Number : 1
Sequence Line : 4
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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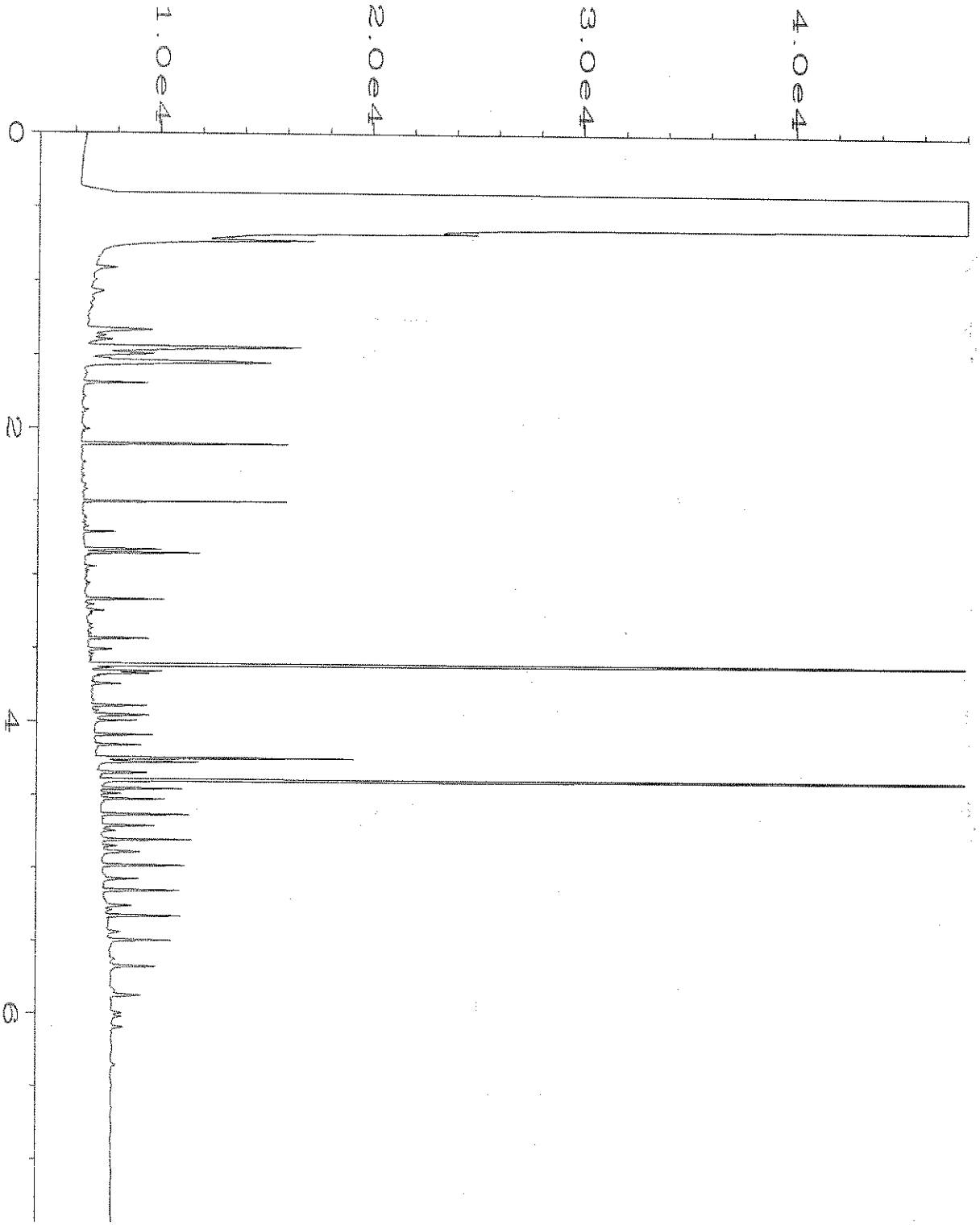
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 30
Sample Name	: 906291-04	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 4
Acquired on	: 17 Jun 19 02:33 PM	Instrument Method	: DX.MTH
Report Created on	: 18 Jun 19 07:05 AM	Analysis Method	: DEFAULT.MTH



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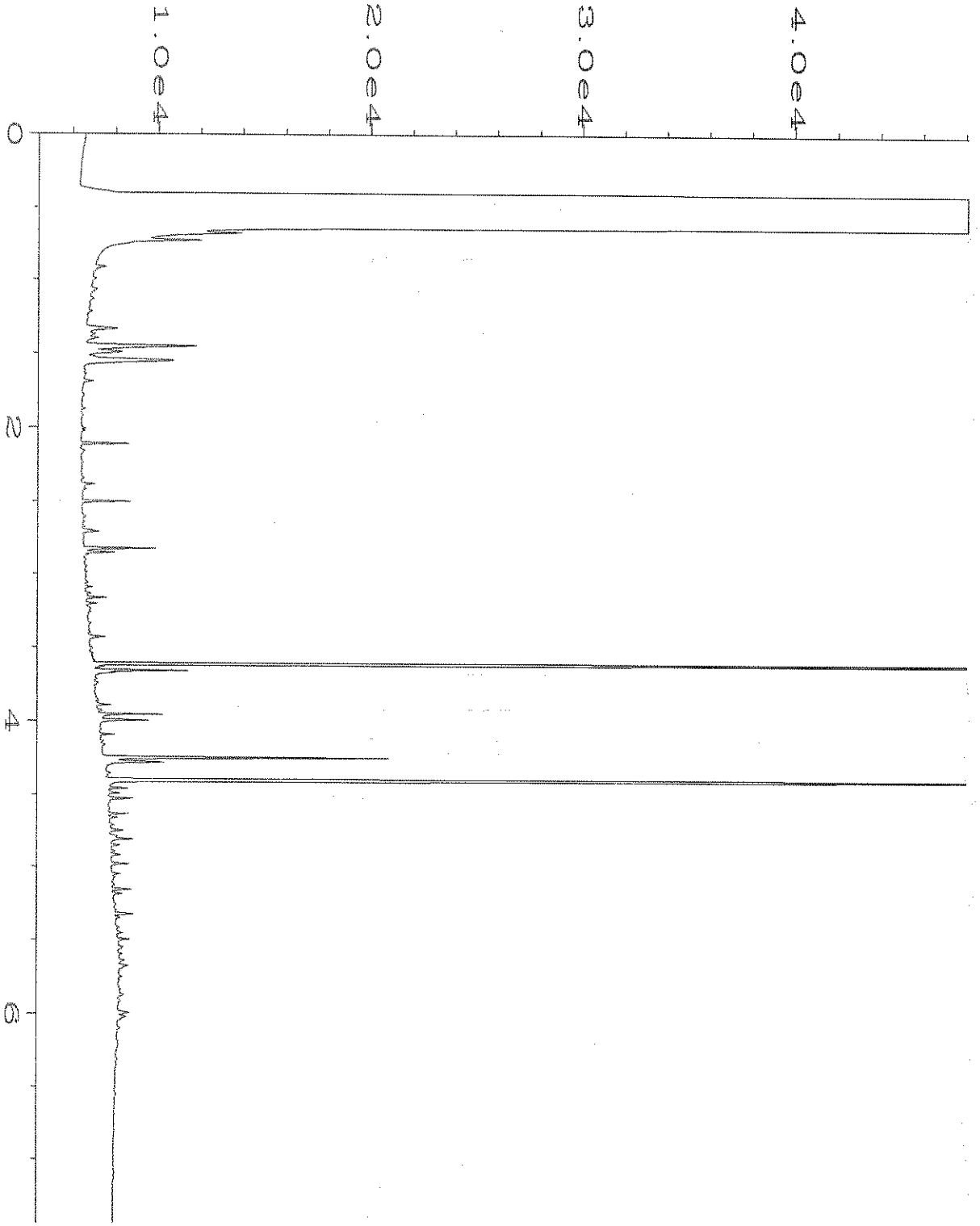
Operator : TL
Instrument : GC1
Sample Name : 906291-05
Run Time Bar Code:
Acquired on : 17 Jun 19 03:53 PM
Report Created on: 18 Jun 19 07:05 AM

Page Number : 1
Vial Number : 31
Injection Number : 1
Sequence Line : 6
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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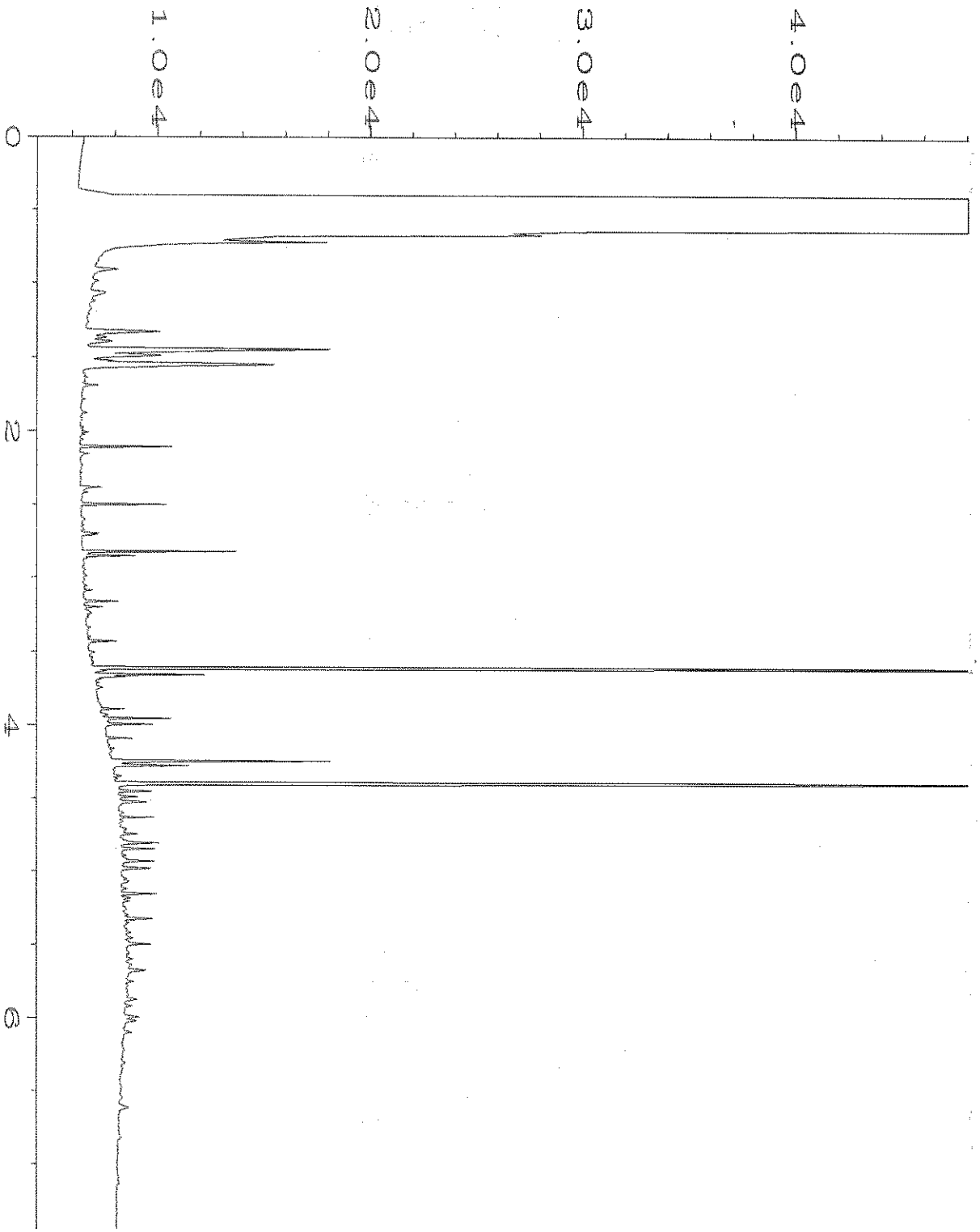
Operator : TL
Instrument : GC1
Sample Name : 906291-06
Run Time Bar Code:
Acquired on : 17 Jun 19 04:04 PM
Report Created on: 18 Jun 19 07:05 AM

Page Number : 1
Vial Number : 32
Injection Number : 1
Sequence Line : 6
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 33
Sample Name	: 906291-07	Injection Number	: 1
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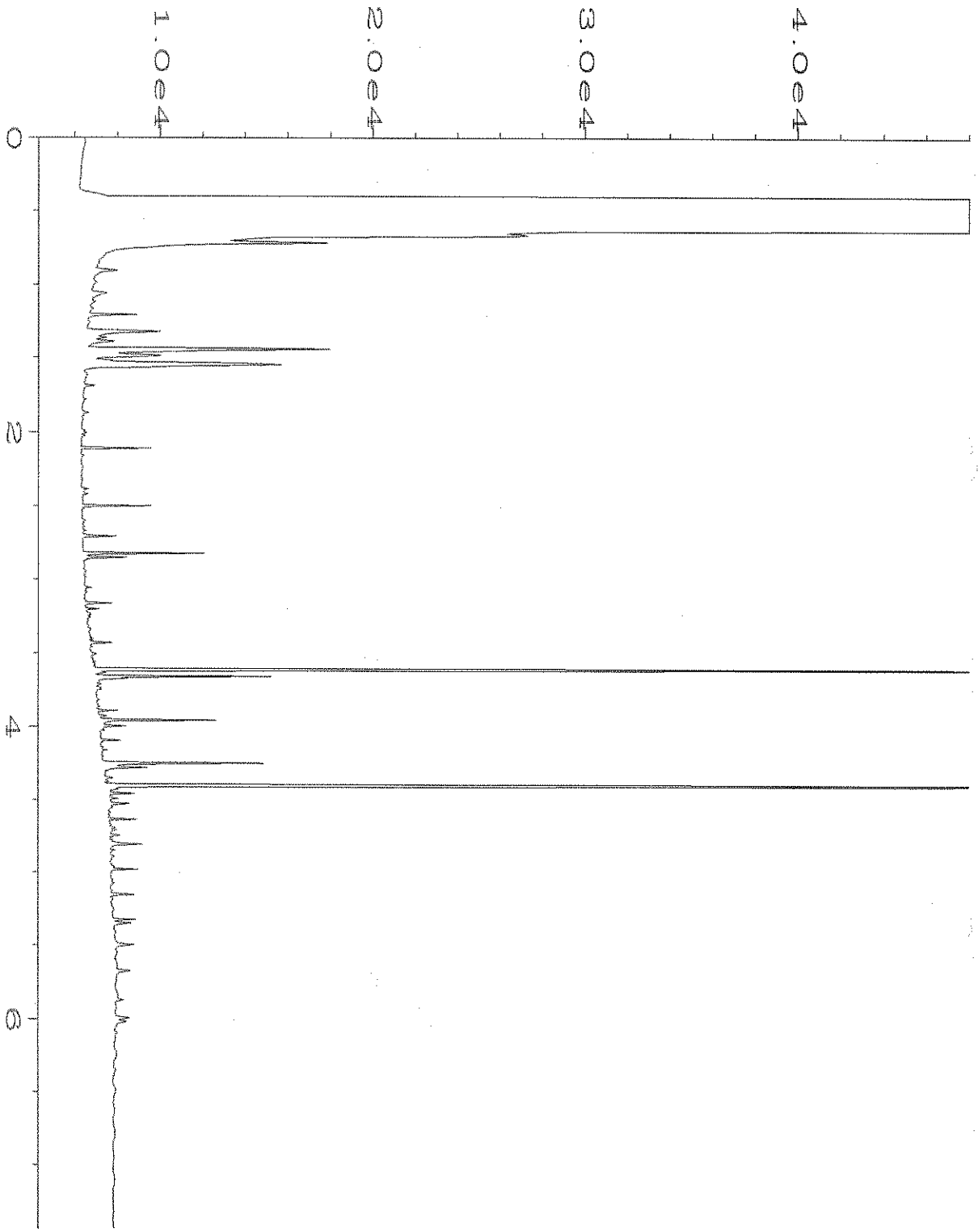

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Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 34
Sample Name	: 906291-08	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 6
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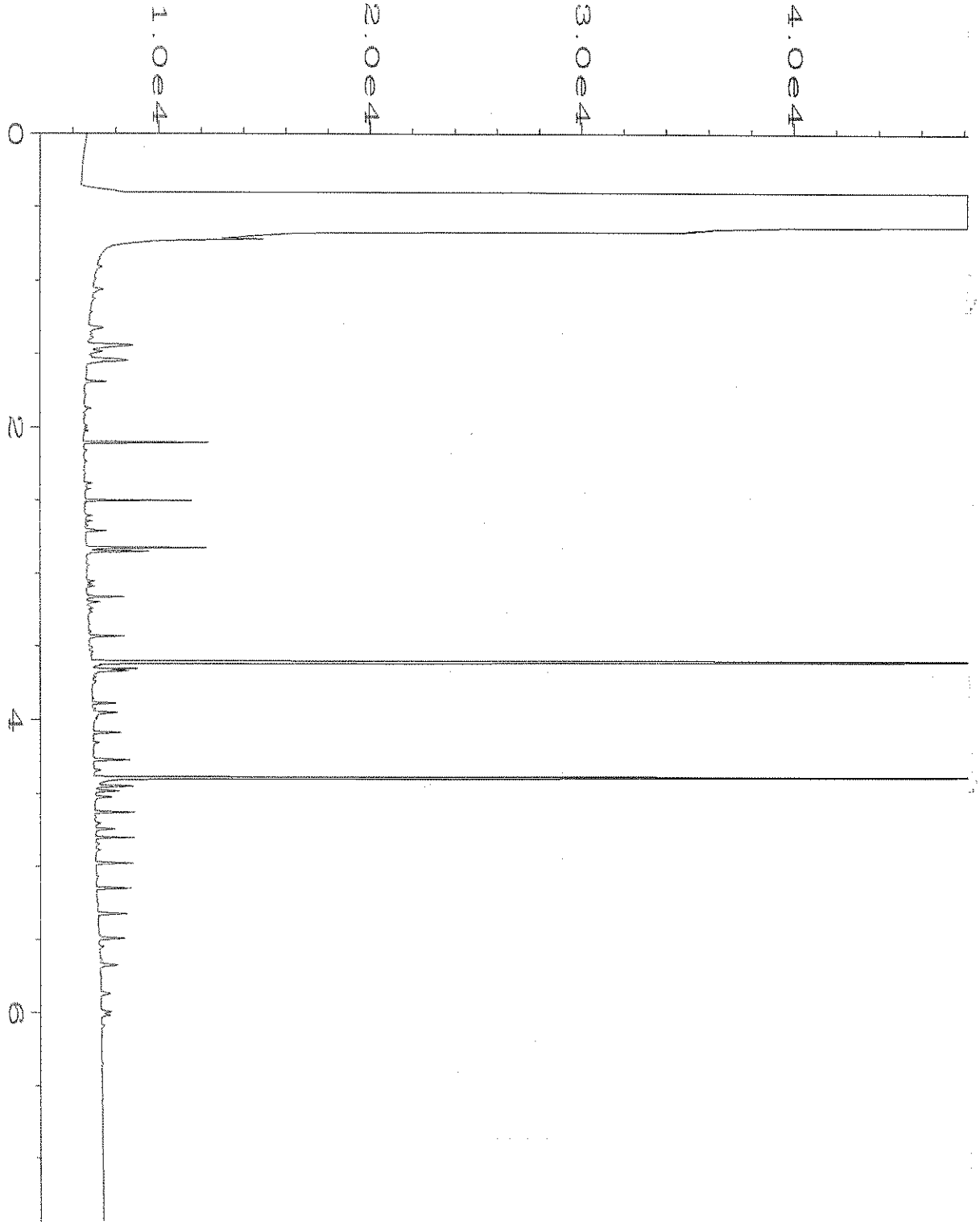

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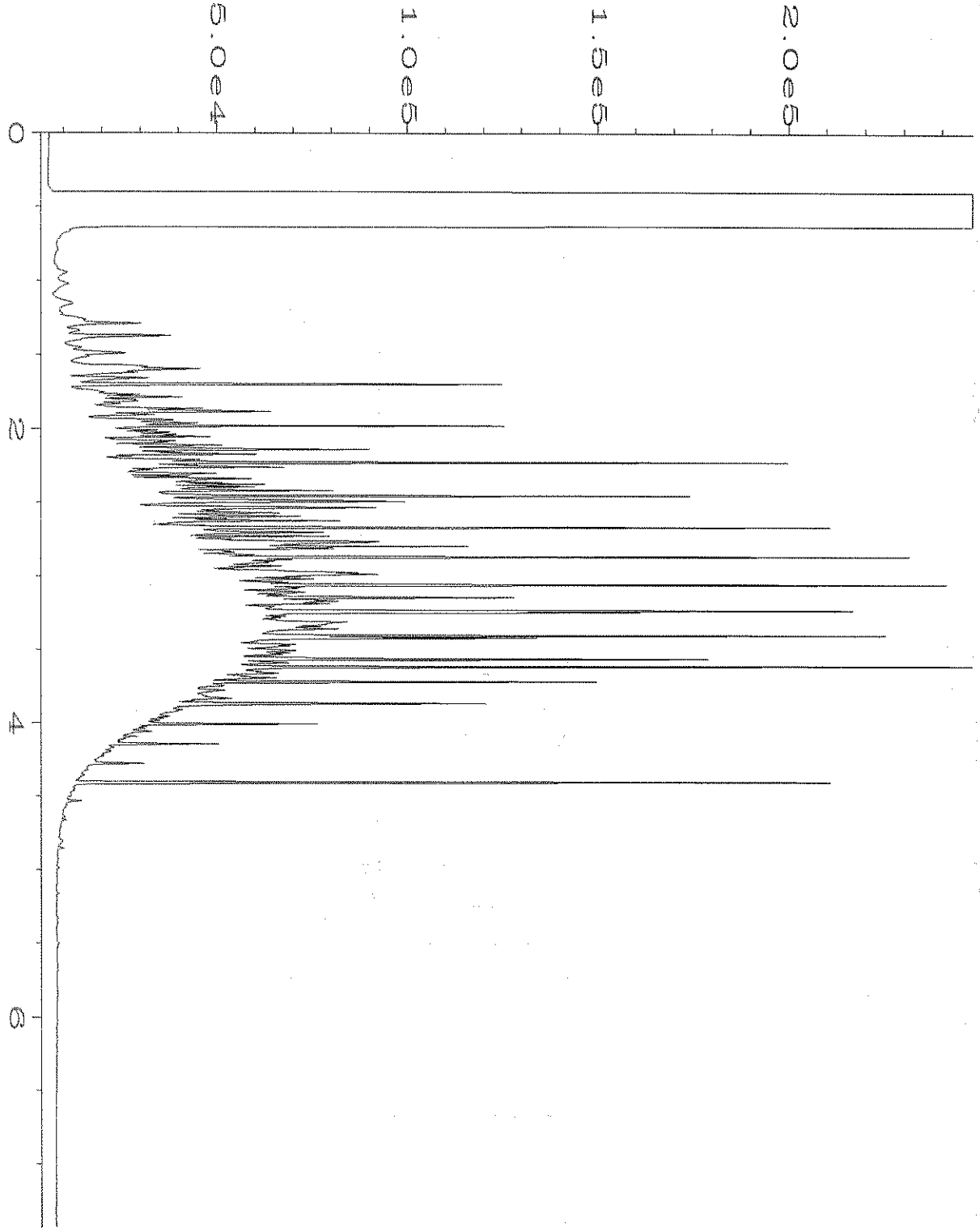
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 19
Sample Name	: 09-1421 mb	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 4
Acquired on	: 17 Jun 19 12:24 PM	Instrument Method	: DX.MTH
Report Created on:	18 Jun 19 07:06 AM	Analysis Method	: DEFAULT.MTH



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Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 5
Sample Name	: 1000 Dx 57-78B	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 17 Jun 19 03:39 PM	Instrument Method	: DX.MTH
Report Created on:	18 Jun 19 07:06 AM	Analysis Method	: DEFAULT.MTH

906291

SAMPLE CHAIN OF CUSTODY

ME 06-14-19

Page # 1 (VW3

Send Report To Tom Cammarata cc: Logan Schumacher

Company SoundEarth Strategies

Address 2811 Fairview Ave E, Suite 2000

City, State, ZIP Seattle, WA 98102

SAMPLERS (signature) Sarah Welter

PROJECT NAME/NO. Troy Laundry Property

PO # 0731-004-05

REMARKS

EIM Y

TURNAROUND TIME

Standard (2 Weeks) BOS AI B

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

⊗ Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	GRPH by NWTPH-Gx	BTEX by EPA 8021B	DRPH/ORPH by NWTPH-Dx	cVOCs by EPA 8260C	Methane, Ethane, Ethene by RSK175	Sulfate, Nitrate, Alkalinity by SM1845/SM2320B	Total Fe and Mn by EPA 200.8	Fe 2+ by SM 3500	TOC By EPA 415.1	Notes
MW28-20190613	MW28	–	01A-M	6/13/19	1535	W	15	X	X	X	X	X	X	X	X		
MW15-20190613	MW15	–	02A-H	6/13/19	1640		7	X	X	X	X						
MW27-20190614	MW27	–	03	6/14/19	0830		7	X	X	X	X						
MW13-20190614	MW13	–	04	6/14/19	0855		7	X	X	X	X						
MW01-20190614	MW01	–	05	6/14/19	0938		7	X	X	X	X						
MW26-20190614	MW26	–	06A-M	6/14/19	0950		14	X	X	X	X	X	X	X	X	X	
MW07-20190614	MW07	–	07	6/14/19	1050		14	X	X	X	X	X	X	X	X	X	
MW04-20190614	MW04	–	08A-M	6/14/19	1105		15	X	X	X	X	X	X	X	X		

SM

Samples received at 4 °C

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:	Sarah Welter	Sarah Welter	SES	6/14/19	1419
Received by:		WILSON VANEGAS	FEDEX	6-14-19	1419
Relinquished by:					
Received by:		Nhan Phan	FCBI	6/14/19	1456

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
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(206) 285-8282
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www.friedmanandbruya.com

June 26, 2019

Tom Cammarata, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

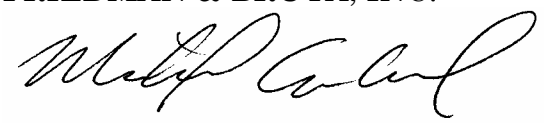
Dear Mr Cammarata:

Included are the results from the testing of material submitted on June 17, 2019 from the SOU_0731-004-05_ 20190617, F&BI 906323 project. There are 27 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: Logan Schumacher
SOU0626R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 17, 2019 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0731-004-05_ 20190617, F&BI 906323 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
906323 -01	MW25-20190615
906323 -02	MW19-20190615
906323 -03	MW18-20190615
906323 -04	MW17-20190615
906323 -05	MW24-20190615
906323 -06	MW20-20190615
906323 -07	MW21-20190615
906323 -08	MW99-20190615
906323 -09	MW22-20190615
906323 -10	MW23-20190615
906323 -11	IW91-20190615

Samples MW25-20190615, MW19-20190615, MW18-20190615, MW24-20190615, MW22-20190615, and MW23-20190615 were sent to Fremont Analytical for nitrate, sulfate, alkalinity, TOC, and ferrous iron analysis. In addition, samples MW25-20190615, MW19-20190615, MW18-20190615, MW24-20190615, MW21-20190615, MW22-20190615, and MW23-20190615 were sent to Fremont for dissolved gasses analysis. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 06/26/19
Date Received: 06/17/19
Project: SOU_0731-004-05_ 20190617, F&BI 906323
Date Extracted: 06/18/19
Date Analyzed: 06/18/19

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
MW25-20190615 906323-01	<1	<1	<1	<3	<100	103
MW19-20190615 906323-02	<1	<1	<1	<3	<100	103
MW18-20190615 906323-03	<1	<1	<1	<3	<100	102
MW17-20190615 906323-04	<1	<1	<1	<3	<100	103
MW24-20190615 906323-05	<1	<1	<1	<3	<100	102
MW20-20190615 906323-06	<1	<1	<1	<3	<100	103
MW21-20190615 906323-07	<1	<1	<1	3.8	<100	102
MW99-20190615 906323-08	<1	<1	<1	<3	<100	103
MW22-20190615 906323-09	<1	<1	<1	21	170	106
MW23-20190615 906323-10	<1	<1	<1	7.1	260	106
IW91-20190615 906323-11	<1	<1	<1	<3	<100	103
Method Blank 09-1406 MB	<1	<1	<1	<3	<100	104

Date of Report: 06/26/19
Date Received: 06/17/19
Project: SOU_0731-004-05_ 20190617, F&BI 906323
Date Extracted: 06/18/19
Date Analyzed: 06/18/19 and 06/21/19

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
MW25-20190615 906323-01 1/10	1,000 x	<2,500	100
MW19-20190615 906323-02	650 x	430 x	83
MW18-20190615 906323-03	1,100 x	830 x	ip
MW17-20190615 906323-04	<50	<250	87
MW24-20190615 906323-05 1/10	6,400 x	<2,500	84
MW20-20190615 906323-06	140 x	<250	110
MW21-20190615 906323-07 1/10	6,400 x	<2,500	80
MW99-20190615 906323-08 1/10	1,100 x	<2,500	105
MW22-20190615 906323-09 1/10	24,000 x	4,600 x	75
MW23-20190615 906323-10 1/10	3,400 x	<2,500	ip
IW91-20190615 906323-11	<50	<250	ip
Method Blank 09-1428 MB	<50	<250	108

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW25-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	906323-01 x10
Date Analyzed:	06/18/19	Data File:	906323-01 x10.111
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	12,300
Manganese	9,560

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW19-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	906323-02 x20
Date Analyzed:	06/19/19	Data File:	906323-02 x20.039
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	10,000
Manganese	11,400

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW18-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	906323-03 x20
Date Analyzed:	06/19/19	Data File:	906323-03 x20.040
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	13,500
Manganese	10,100

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW24-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	906323-05 x100
Date Analyzed:	06/19/19	Data File:	906323-05 x100.050
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	11,600
Manganese	21,900

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW22-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	906323-09 x20
Date Analyzed:	06/19/19	Data File:	906323-09 x20.042
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	11,200
Manganese	11,400

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW23-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	906323-10 x100
Date Analyzed:	06/19/19	Data File:	906323-10 x100.051
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	12,300
Manganese	26,700

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	I9-375 mb
Date Analyzed:	06/18/19	Data File:	I9-375 mb.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<50
Manganese	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW25-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-01
Date Analyzed:	06/19/19	Data File:	061937.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.54
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	45
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW19-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-02
Date Analyzed:	06/19/19	Data File:	061938.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.79
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	27
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW18-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-03
Date Analyzed:	06/19/19	Data File:	061939.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	95	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.44
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	28
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW17-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-04
Date Analyzed:	06/19/19	Data File:	061940.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.2
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	3.4
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW24-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-05
Date Analyzed:	06/19/19	Data File:	061941.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.0
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	84
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW20-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-06
Date Analyzed:	06/19/19	Data File:	061942.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	3.8
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW21-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-07
Date Analyzed:	06/19/19	Data File:	061943.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.1
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	29
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW99-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-08
Date Analyzed:	06/19/19	Data File:	061944.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.50
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	43
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW22-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-09
Date Analyzed:	06/19/19	Data File:	061945.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.0
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	49
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1.1
Tetrachloroethene	1.1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW23-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-10
Date Analyzed:	06/19/19	Data File:	061946.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.72
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	25
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	IW91-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906323-11
Date Analyzed:	06/19/19	Data File:	061947.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	92	63	127
4-Bromofluorobenzene	92	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	09-1432 mb
Date Analyzed:	06/19/19	Data File:	061928.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 06/26/19
Date Received: 06/17/19
Project: SOU_0731-004-05_ 20190617, F&BI 906323

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 906323-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	107	65-118
Toluene	ug/L (ppb)	50	108	72-122
Ethylbenzene	ug/L (ppb)	50	112	73-126
Xylenes	ug/L (ppb)	150	110	74-118
Gasoline	ug/L (ppb)	1,000	98	69-134

Date of Report: 06/26/19
Date Received: 06/17/19
Project: SOU_0731-004-05_ 20190617, F&BI 906323

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	100	61-133	4

Date of Report: 06/26/19
Date Received: 06/17/19
Project: SOU_0731-004-05_ 20190617, F&BI 906323

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 906321-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Iron	ug/L (ppb)	100	152	89	85	70-130	5
Manganese	ug/L (ppb)	20	30.6	101	95	70-130	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	99	85-115
Manganese	ug/L (ppb)	20	95	85-115

Date of Report: 06/26/19
Date Received: 06/17/19
Project: SOU_0731-004-05_ 20190617, F&BI 906323

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

Laboratory Code: 906291-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	0.35	119	36-166
Chloroethane	ug/L (ppb)	50	<1	110	46-160
1,1-Dichloroethene	ug/L (ppb)	50	1.5	108	60-136
Methylene chloride	ug/L (ppb)	50	<5	109	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	110	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	105	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	80	119 b	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	96	48-149
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	110	60-146
Trichloroethene	ug/L (ppb)	50	5.7	98	66-135
Tetrachloroethene	ug/L (ppb)	50	9.0	101	10-226

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	113	107	50-154	5
Chloroethane	ug/L (ppb)	50	105	100	58-146	5
1,1-Dichloroethene	ug/L (ppb)	50	103	102	67-136	1
Methylene chloride	ug/L (ppb)	50	102	100	39-148	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	106	101	68-128	5
1,1-Dichloroethane	ug/L (ppb)	50	102	100	79-121	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	107	105	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	96	100	73-132	4
1,1,1-Trichloroethane	ug/L (ppb)	50	106	104	81-125	2
Trichloroethene	ug/L (ppb)	50	98	98	79-113	0
Tetrachloroethene	ug/L (ppb)	50	104	103	76-121	1

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. 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 lowest calibration standard. 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.

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.

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info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
3012 16th Ave. W.
Seattle, WA 98119

RE: 906323
Work Order Number: 1906197

June 24, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 7 sample(s) on 6/17/2019 for the analyses presented in the following report.

Dissolved Gases by RSK-175
Ferrous Iron by SM3500-Fe B
Ion Chromatography by EPA Method 300.0
Total Alkalinity by SM 2320B
Total Organic Carbon by SM 5310C

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *06/24/2019*

CLIENT: Friedman & Bruya
Project: 906323
Work Order: 1906197

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1906197-001	MW25-20190615	06/15/2019 8:18 AM	06/17/2019 1:45 PM
1906197-002	MW19-20190615	06/15/2019 8:24 AM	06/17/2019 1:45 PM
1906197-003	MW18-20190615	06/15/2019 9:35 AM	06/17/2019 1:45 PM
1906197-004	MW24-20190615	06/15/2019 11:20 AM	06/17/2019 1:45 PM
1906197-005	MW21-20190615	06/15/2019 12:32 PM	06/17/2019 1:45 PM
1906197-006	MW22-20190615	06/15/2019 1:10 PM	06/17/2019 1:45 PM
1906197-007	MW23-20190615	06/15/2019 2:10 PM	06/17/2019 1:45 PM

Case Narrative

WO#: **1906197**

Date: **6/24/2019**

CLIENT: Friedman & Bruya
Project: 906323

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

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

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

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

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

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

Analytical Report

Work Order: **1906197**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 8:18:00 AM
Project: 906323
Lab ID: 1906197-001
Matrix: Water
Client Sample ID: **MW25-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	9.67	0.173	DE	mg/L	20	6/19/2019 5:10:00 PM
Ethene	ND	0.303	D	mg/L	20	6/19/2019 5:10:00 PM
Ethane	ND	0.324	D	mg/L	20	6/19/2019 5:10:00 PM
NOTES: E - Estimated value. The amount exceeds the linear working range of the instrument.						
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.100	H	mg/L	1	6/18/2019 4:53:00 PM
Sulfate	0.380	0.300	H	mg/L	1	6/18/2019 4:53:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	25.8	0.500		mg/L	1	6/18/2019 7:49:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	575	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	7.60	0.500	DH	mg/L	10	6/19/2019 5:00:00 PM

Analytical Report

Work Order: **1906197**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 8:24:00 AM
Project: 906323
Lab ID: 1906197-002
Matrix: Water
Client Sample ID: **MW19-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	2.53	0.173	D	mg/L	20	6/19/2019 5:14:00 PM
Ethene	ND	0.303	D	mg/L	20	6/19/2019 5:14:00 PM
Ethane	ND	0.324	D	mg/L	20	6/19/2019 5:14:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.100	H	mg/L	1	6/18/2019 5:16:00 PM
Sulfate	0.380	0.300	H	mg/L	1	6/18/2019 5:16:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	556	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	7.81	0.500	DH	mg/L	10	6/19/2019 5:00:00 PM

Analytical Report

Work Order: **1906197**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 9:35:00 AM
Project: 906323
Lab ID: 1906197-003
Matrix: Water
Client Sample ID: **MW18-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	5.29	0.432	D	mg/L	50	6/19/2019 5:16:00 PM
Ethene	ND	0.757	D	mg/L	50	6/19/2019 5:16:00 PM
Ethane	ND	0.809	D	mg/L	50	6/19/2019 5:16:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.100	H	mg/L	1	6/18/2019 5:39:00 PM
Sulfate	0.422	0.300	H	mg/L	1	6/18/2019 5:39:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	10.6	0.500		mg/L	1	6/18/2019 9:05:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	531	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	8.35	0.500	DH	mg/L	10	6/19/2019 5:00:00 PM

Analytical Report

Work Order: **1906197**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 11:20:00 AM
Project: 906323
Lab ID: 1906197-004
Matrix: Water
Client Sample ID: **MW24-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	2.66	0.432	D	mg/L	50	6/19/2019 5:18:00 PM
Ethene	ND	0.757	D	mg/L	50	6/19/2019 5:18:00 PM
Ethane	ND	0.809	D	mg/L	50	6/19/2019 5:18:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.100	H	mg/L	1	6/18/2019 6:03:00 PM
Sulfate	0.348	0.300	H	mg/L	1	6/18/2019 6:03:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	20.5	0.500		mg/L	1	6/18/2019 9:24:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	414	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	11.1	0.500	DH	mg/L	10	6/19/2019 5:00:00 PM

Analytical Report

Work Order: **1906197**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 12:32:00 PM
Project: 906323
Lab ID: 1906197-005
Matrix: Water
Client Sample ID: **MW21-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	2.46	0.432	D	mg/L	50	6/19/2019 5:25:00 PM
Ethene	ND	0.757	D	mg/L	50	6/19/2019 5:25:00 PM
Ethane	ND	0.809	D	mg/L	50	6/19/2019 5:25:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	163	2.50	D	mg/L	5	6/19/2019 11:36:00 AM

Analytical Report

Work Order: **1906197**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 1:10:00 PM
Project: 906323
Lab ID: 1906197-006
Matrix: Water
Client Sample ID: **MW22-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	3.09	0.432	D	mg/L	50	6/19/2019 5:27:00 PM
Ethene	ND	0.757	D	mg/L	50	6/19/2019 5:27:00 PM
Ethane	ND	0.809	D	mg/L	50	6/19/2019 5:27:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.100	H	mg/L	1	6/18/2019 6:26:00 PM
Sulfate	ND	0.300	H	mg/L	1	6/18/2019 6:26:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	286	25.0	D	mg/L	50	6/19/2019 11:57:00 AM
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	273	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	11.6	0.500	DH	mg/L	10	6/19/2019 5:00:00 PM

Analytical Report

Work Order: **1906197**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 2:10:00 PM
Project: 906323
Lab ID: 1906197-007
Matrix: Water
Client Sample ID: **MW23-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	2.90	0.432	D	mg/L	50	6/19/2019 5:30:00 PM
Ethene	ND	0.757	D	mg/L	50	6/19/2019 5:30:00 PM
Ethane	ND	0.809	D	mg/L	50	6/19/2019 5:30:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.100	H	mg/L	1	6/18/2019 6:49:00 PM
Sulfate	0.378	0.300	H	mg/L	1	6/18/2019 6:49:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	60.7	1.00	D	mg/L	2	6/19/2019 12:29:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	639	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	13.0	0.500	DH	mg/L	10	6/19/2019 5:00:00 PM

Date: *6/24/2019*

Work Order: 1906197
CLIENT: Friedman & Bruya
Project: 906323

QC SUMMARY REPORT

Total Alkalinity by SM 2320B

Sample ID: **MB-R52247**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **6/21/2019**			RunNo: **52247**	
Client ID: **MBLKW**	Batch ID: **R52247**					Analysis Date: **6/21/2019**			SeqNo: **1031932**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID: **LCS-R52247**	SampType: **LCS**			Units: **mg/L**		Prep Date: **6/21/2019**			RunNo: **52247**	
Client ID: **LCSW**	Batch ID: **R52247**					Analysis Date: **6/21/2019**			SeqNo: **1031933**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	104	2.50	100.0	0	104	80	120				

Sample ID: **1906195-001BDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/21/2019**			RunNo: **52247**	
Client ID: **BATCH**	Batch ID: **R52247**					Analysis Date: **6/21/2019**			SeqNo: **1031935**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	618	2.50						611.0	1.06	20	

Work Order: 1906197
CLIENT: Friedman & Bruya
Project: 906323

QC SUMMARY REPORT

Ferrous Iron by SM3500-Fe B

Sample ID: **MB-R52165** SampType: **MBLK** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **MBLKW** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1029999**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	ND	0.0500									

Sample ID: **LCS-R52165** SampType: **LCS** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **LCSW** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030000**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.406	0.0500	0.4000	0	101	80	120				

Sample ID: **1906196-001ADUP** SampType: **DUP** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **BATCH** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030007**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.922	0.0500						1.023	10.4	20	H

Sample ID: **1906196-001AMS** SampType: **MS** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **BATCH** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030008**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	1.29	0.0500	0.4000	1.023	66.9	80	120				SH

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **1906196-001AMSD** SampType: **MSD** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **BATCH** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030009**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	1.29	0.0500	0.4000	1.023	67.5	80	120	1.291	0.182	20	SH

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 1906197
CLIENT: Friedman & Bruya
Project: 906323

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **MB-24947** SampType: **MBLK** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **MBLKW** Batch ID: **24947** Analysis Date: **6/17/2019** SeqNo: **1029908**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									

Sample ID: **LCS1-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/17/2019** SeqNo: **1029909**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.739	0.100	0.7500	0	98.5	90	110				
Sulfate	3.65	0.300	3.750	0	97.4	90	110				

Sample ID: **LCS2-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029925**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.725	0.100	0.7500	0	96.7	90	110				
Sulfate	3.57	0.300	3.750	0	95.2	90	110				

Sample ID: **LCS3-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029926**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.725	0.100	0.7500	0	96.7	90	110				
Sulfate	3.55	0.300	3.750	0	94.6	90	110				

Sample ID: **LCS4-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029927**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.732	0.100	0.7500	0	97.6	90	110				

Work Order: 1906197
CLIENT: Friedman & Bruya
Project: 906323

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **LCS4-24947**	SampType: **LCS**			Units: **mg/L**		Prep Date: **6/17/2019**			RunNo: **52162**	
Client ID: **LCSW**	Batch ID: **24947**					Analysis Date: **6/18/2019**			SeqNo: **1029927**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.73	0.300	3.750	0	99.4	90	110				

Sample ID: **1906195-001BDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/17/2019**			RunNo: **52162**	
Client ID: **BATCH**	Batch ID: **24947**					Analysis Date: **6/18/2019**			SeqNo: **1029933**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100						0		20	H
Sulfate	0.749	0.300						0.7590	1.33	20	

Sample ID: **1906195-001BMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **6/17/2019**			RunNo: **52162**	
Client ID: **BATCH**	Batch ID: **24947**					Analysis Date: **6/18/2019**			SeqNo: **1029934**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.787	0.100	0.7500	0.09000	92.9	80	120				H
Sulfate	4.20	0.300	3.750	0.7590	91.8	80	120				

Sample ID: **1906195-001BMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **6/17/2019**			RunNo: **52162**	
Client ID: **BATCH**	Batch ID: **24947**					Analysis Date: **6/18/2019**			SeqNo: **1029935**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.784	0.100	0.7500	0.09000	92.5	80	120	0.7870	0.382	20	H
Sulfate	4.18	0.300	3.750	0.7590	91.3	80	120	4.203	0.525	20	

Work Order: 1906197
CLIENT: Friedman & Bruya
Project: 906323

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MBLK-52199**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **6/18/2019**		RunNo: **52199**		
Client ID: **MBLKW**	Batch ID: **R52199**					Analysis Date: **6/18/2019**		SeqNo: **1030537**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.500									

Sample ID: **LCS-52199**	SampType: **LCS**			Units: **mg/L**		Prep Date: **6/18/2019**		RunNo: **52199**		
Client ID: **LCSW**	Batch ID: **R52199**					Analysis Date: **6/18/2019**		SeqNo: **1030538**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	5.14	0.500	5.000	0	103	80	120				

Sample ID: **1906179-001DDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/18/2019**		RunNo: **52199**		
Client ID: **BATCH**	Batch ID: **R52199**					Analysis Date: **6/18/2019**		SeqNo: **1030540**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.14	0.500						1.129	0.618	20	

Sample ID: **1906179-001DMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **6/18/2019**		RunNo: **52199**		
Client ID: **BATCH**	Batch ID: **R52199**					Analysis Date: **6/18/2019**		SeqNo: **1030541**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	6.48	0.500	5.000	1.129	107	70	130				

Sample ID: **1906179-001DMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **6/18/2019**		RunNo: **52199**		
Client ID: **BATCH**	Batch ID: **R52199**					Analysis Date: **6/18/2019**		SeqNo: **1030542**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	6.28	0.500	5.000	1.129	103	70	130	6.478	3.02	30	

Work Order: 1906197
CLIENT: Friedman & Bruya
Project: 906323

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **1906197-001DDUP** SampType: **DUP** Units: **mg/L** Prep Date: **6/18/2019** RunNo: **52199**
Client ID: **MW25-20190615** Batch ID: **R52199** Analysis Date: **6/18/2019** SeqNo: **1030549**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	26.0	0.500						25.77	0.927	20	

Sample ID: **1906197-001DMS** SampType: **MS** Units: **mg/L** Prep Date: **6/18/2019** RunNo: **52199**
Client ID: **MW25-20190615** Batch ID: **R52199** Analysis Date: **6/18/2019** SeqNo: **1030550**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	31.0	0.500	5.000	25.77	104	70	130				

Work Order: 1906197
CLIENT: Friedman & Bruya
Project: 906323

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R52203** SampType: **LCS** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52203**
Client ID: **LCSW** Batch ID: **R52203** Analysis Date: **6/19/2019** SeqNo: **1030678**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,020	0.00863	1,000	0	102	70	130				
Ethene	976	0.0151	1,000	0	97.6	70	130				
Ethane	973	0.0162	1,000	0	97.3	70	130				

Sample ID: **MB-R52203** SampType: **MBLK** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52203**
Client ID: **MBLKW** Batch ID: **R52203** Analysis Date: **6/19/2019** SeqNo: **1030679**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00863									
Ethene	ND	0.0151									
Ethane	ND	0.0162									

Sample ID: **1906152-001AREP** SampType: **REP** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52203**
Client ID: **BATCH** Batch ID: **R52203** Analysis Date: **6/19/2019** SeqNo: **1030653**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	4.81	0.173						4.601	4.43	30	ED
Ethene	ND	0.303						0		30	D
Ethane	ND	0.324						0		30	D

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**1906197**
Logged by:	**Clare Griggs**	Date Received:	**6/17/2019 1:45:00 PM**

Chain of Custody

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

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	☐	No ☑	Not Required	☐
6.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
7.	Were all items received at a temperature of >0°C to 10.0°C*	Yes	☑	No ☐	NA	☐
8.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
10.	Are samples properly preserved?	Yes	☑	No ☐		
11.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
12.	Is there headspace in the VOA vials?	Yes	☐	No ☑	NA	☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No ☐		
14.	Does paperwork match bottle labels?	Yes	☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
16.	Is it clear what analyses were requested?	Yes	☑	No ☐		
17.	Were all holding times able to be met?	Yes	☐	No ☑		

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	9.6
Sample	8.7

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

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 1906197

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Sub'd.

PROJECT NAME/NO.	PO #
906323	B-297

REMARKS

Please Email Results

TURNAROUND TIME

☒ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

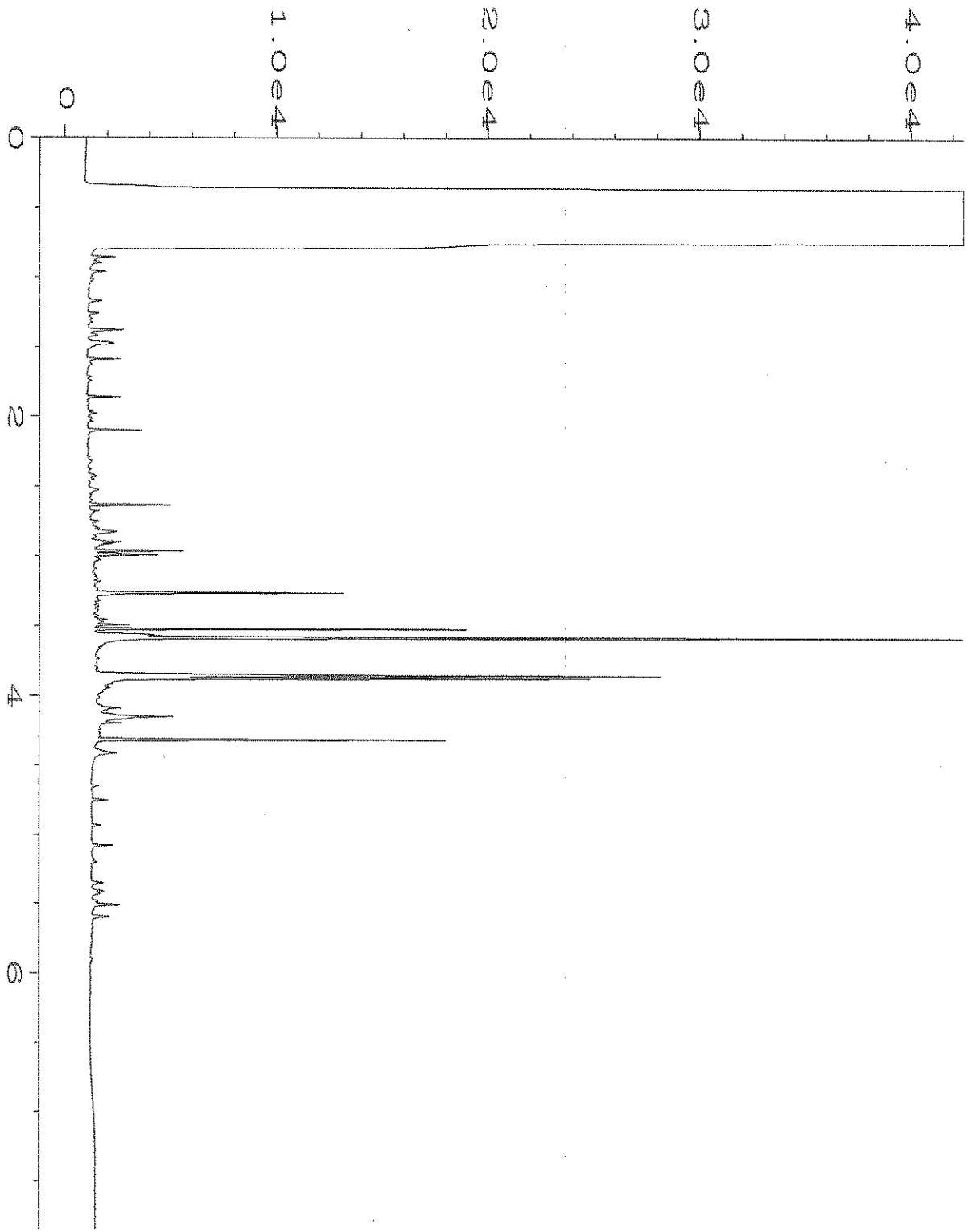
☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins/Furans	EPH	VPH	RSK 175 Methane,Ethene,Ethane	Sulfide, Nitrate Alkalinity	Ferrous Iron	TOC				Notes
MW25-20190615		6/15/19	6/15 0818	H_2O					X	X	X	X				
MW19-20190615			0824						X	X	X					
MW18-20190615			0935						X	X	X	X				
MW24-20190615			1120						X	X	X	X				
MW21-20190615			1232						X			X				
MW22-20190615			1310						X	X	X	X				
MW23-20190615			1410						X	X	X	X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	6/17/19	12:10
Received by:		FAI	6/17/19	1345
Relinquished by:				
Received by:				

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



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Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 24
Sample Name	: 906323-01 1/10	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
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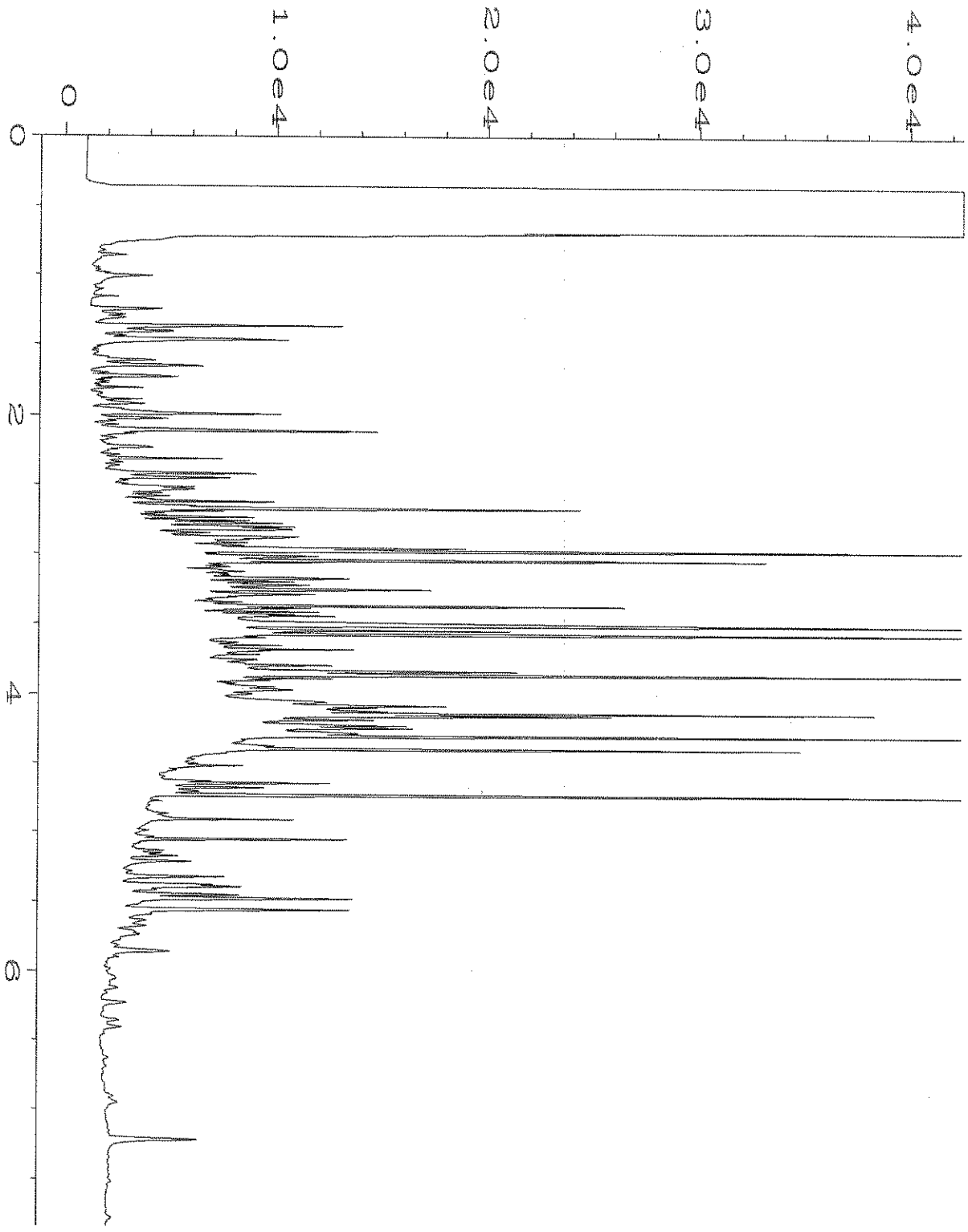
Report Created on	: 19 Jun 19 09:36 AM	Analysis Method	: DEFAULT.MTH



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Operator : TL
Instrument : GC#4
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Report Created on: 24 Jun 19 08:29 AM

Page Number : 1
Vial Number : 29
Injection Number : 1
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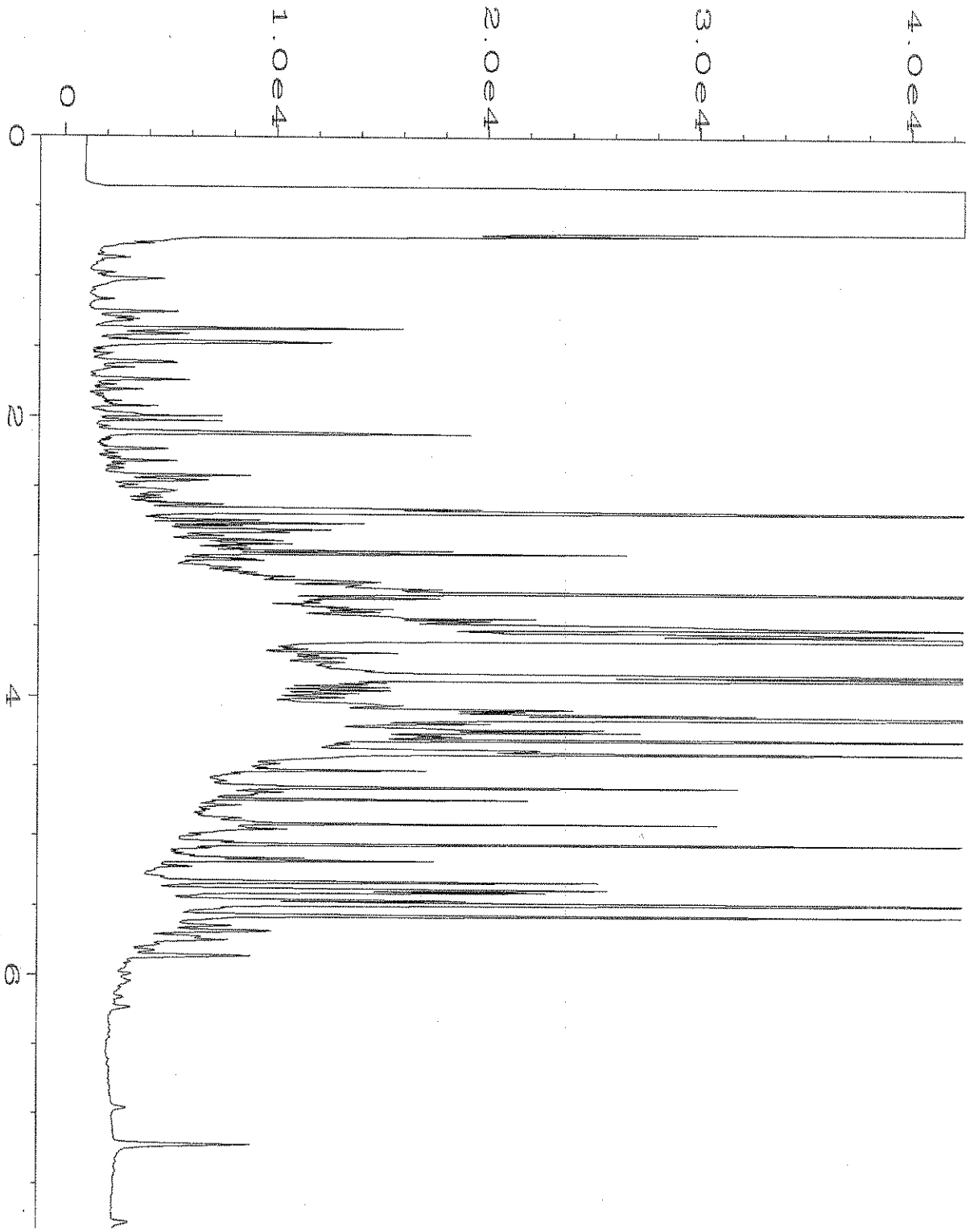
Analysis Method : DEFAULT.MTH



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Operator : TL
Instrument : GC#4
Sample Name : 906323-03 fs
Run Time Bar Code:
Acquired on : 21 Jun 19 04:55 PM
Report Created on: 24 Jun 19 08:29 AM

Page Number : 1
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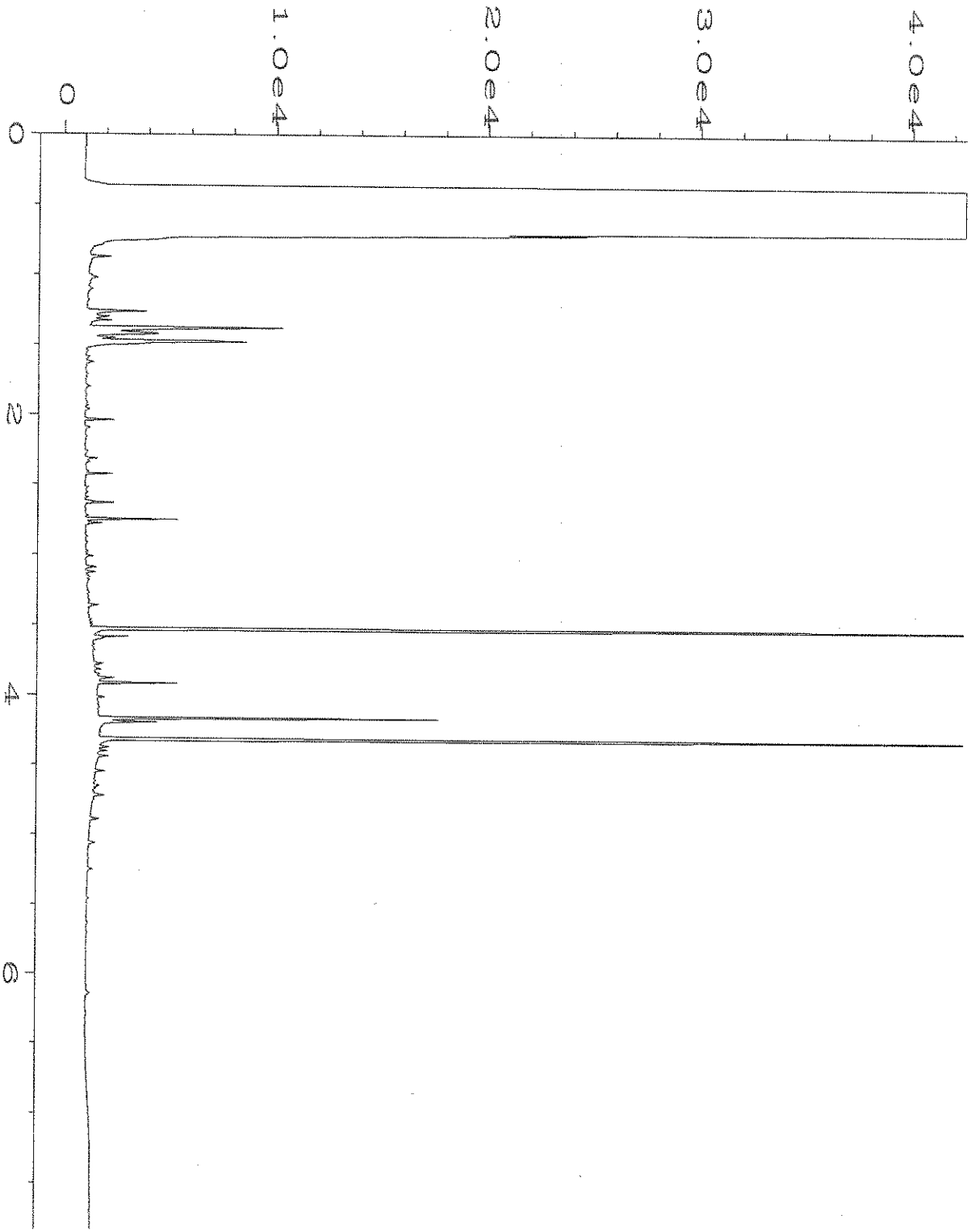
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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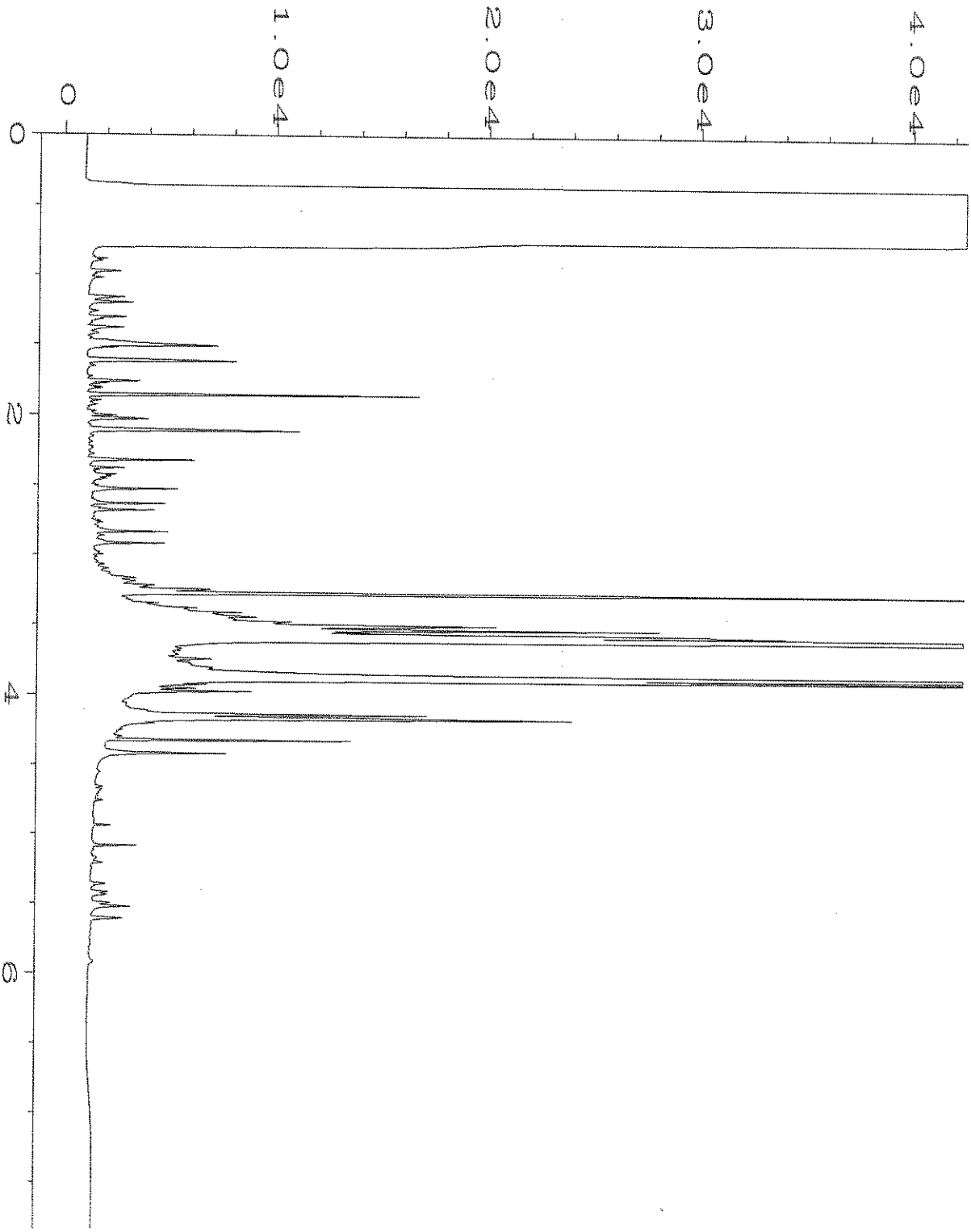
Operator : TL
Instrument : GC#4
Sample Name : 906323-04
Run Time Bar Code:
Acquired on : 18 Jun 19 07:09 PM
Report Created on: 19 Jun 19 09:36 AM

Page Number : 1
Vial Number : 27
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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Operator : TL
Instrument : GC#4
Sample Name : 906323-05 1/10
Run Time Bar Code:
Acquired on : 18 Jun 19 07:22 PM
Report Created on: 19 Jun 19 09:36 AM

Page Number : 1
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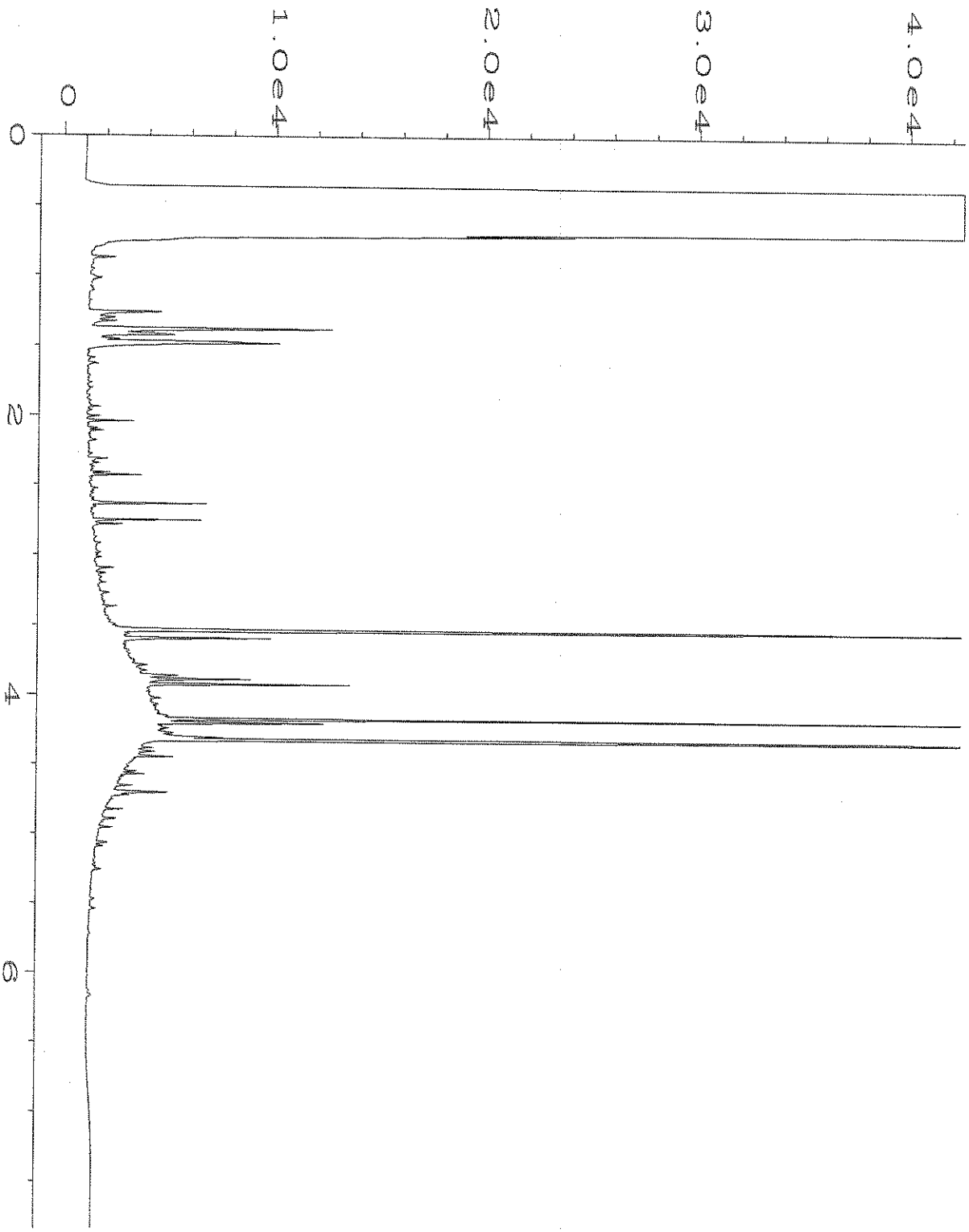
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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Instrument : GC#4
Sample Name : 906323-06
Run Time Bar Code:
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Report Created on: 19 Jun 19 09:37 AM

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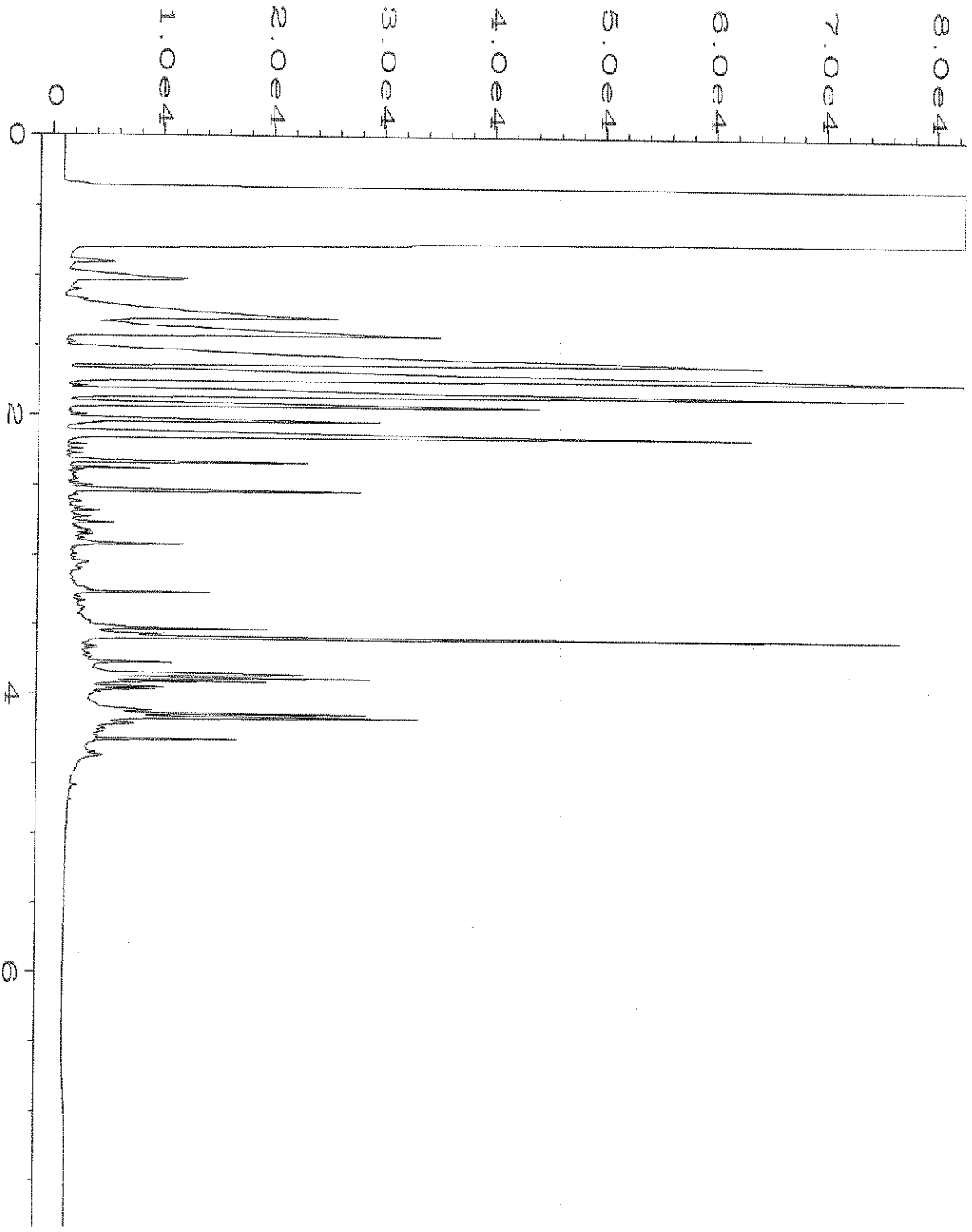
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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Operator : TL
Instrument : GC#4
Sample Name : 906323-07 1/10
Run Time Bar Code:
Acquired on : 18 Jun 19 07:46 PM
Report Created on: 19 Jun 19 09:37 AM

Page Number : 1
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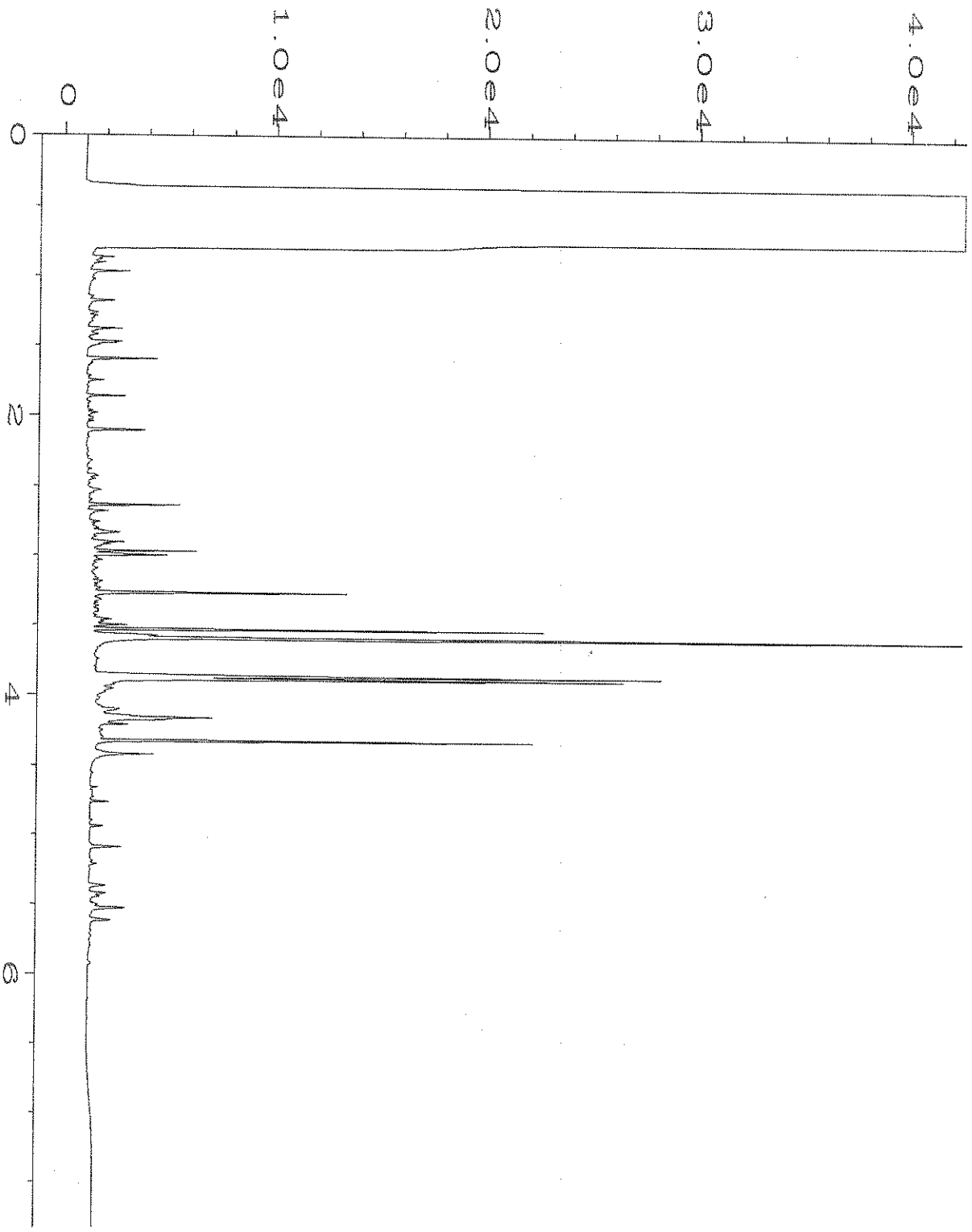
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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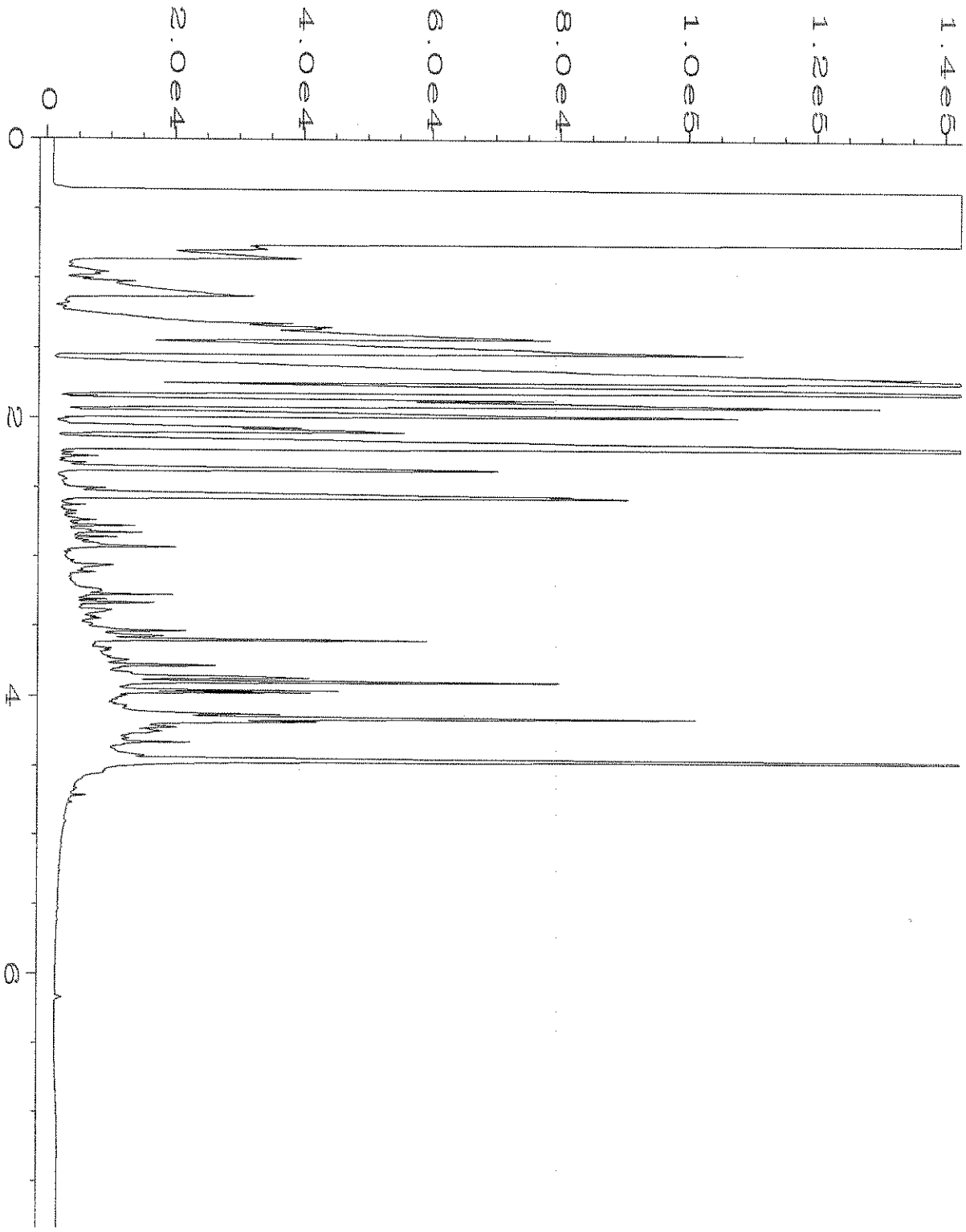
Operator : TL
Instrument : GC#4
Sample Name : 906323-08 1/10
Run Time Bar Code:
Acquired on : 18 Jun 19 07:58 PM
Report Created on: 19 Jun 19 09:37 AM

Page Number : 1
Vial Number : 31
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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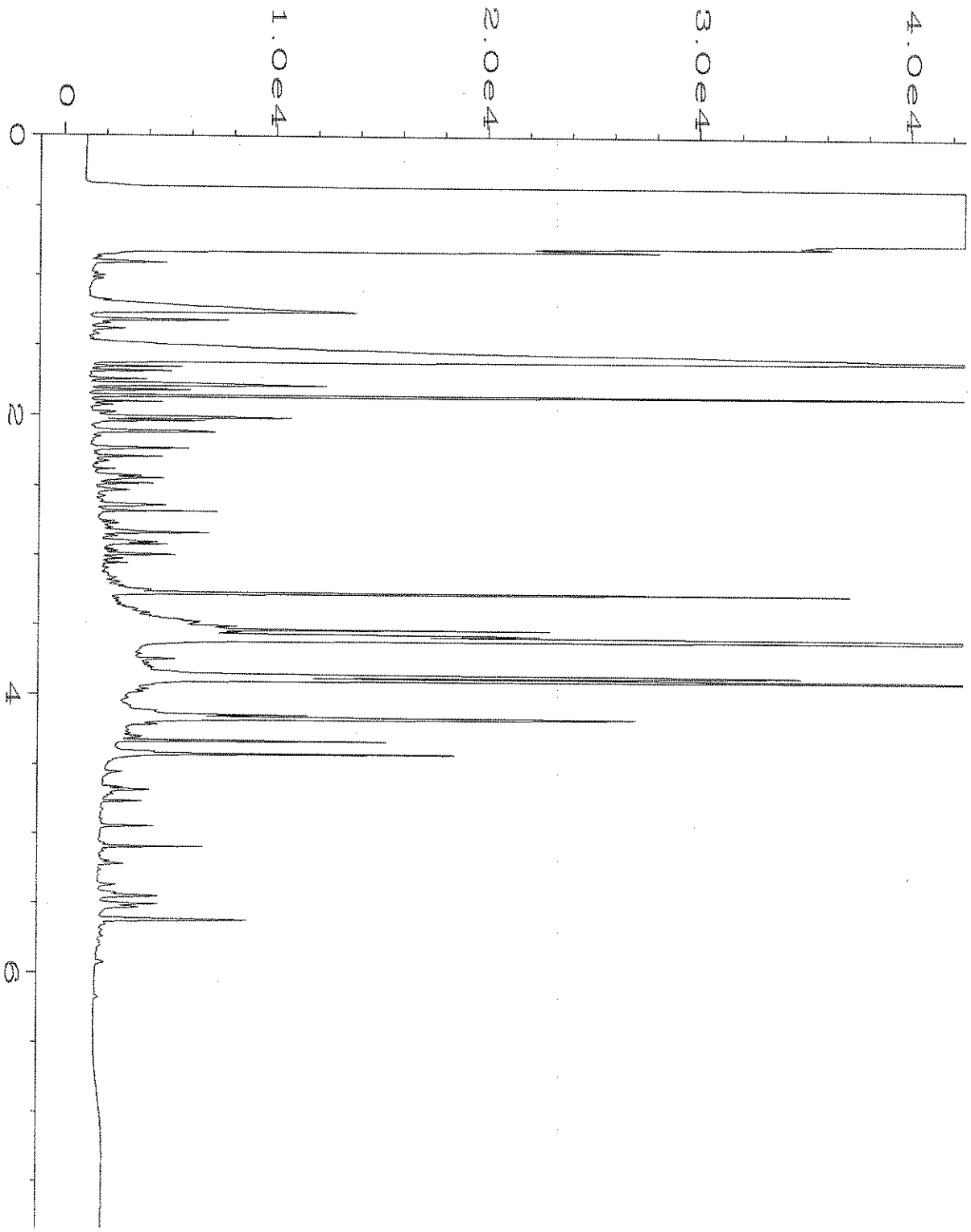
Operator : TL
Instrument : GC#4
Sample Name : 906323-09 1/10
Run Time Bar Code:
Acquired on : 18 Jun 19 08:10 PM
Report Created on: 19 Jun 19 09:38 AM

Page Number : 1
Vial Number : 32
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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Operator : TL
Instrument : GC#4
Sample Name : 906323-10 1/10
Run Time Bar Code:
Acquired on : 18 Jun 19 08:22 PM
Report Created on: 19 Jun 19 09:38 AM

Page Number : 1
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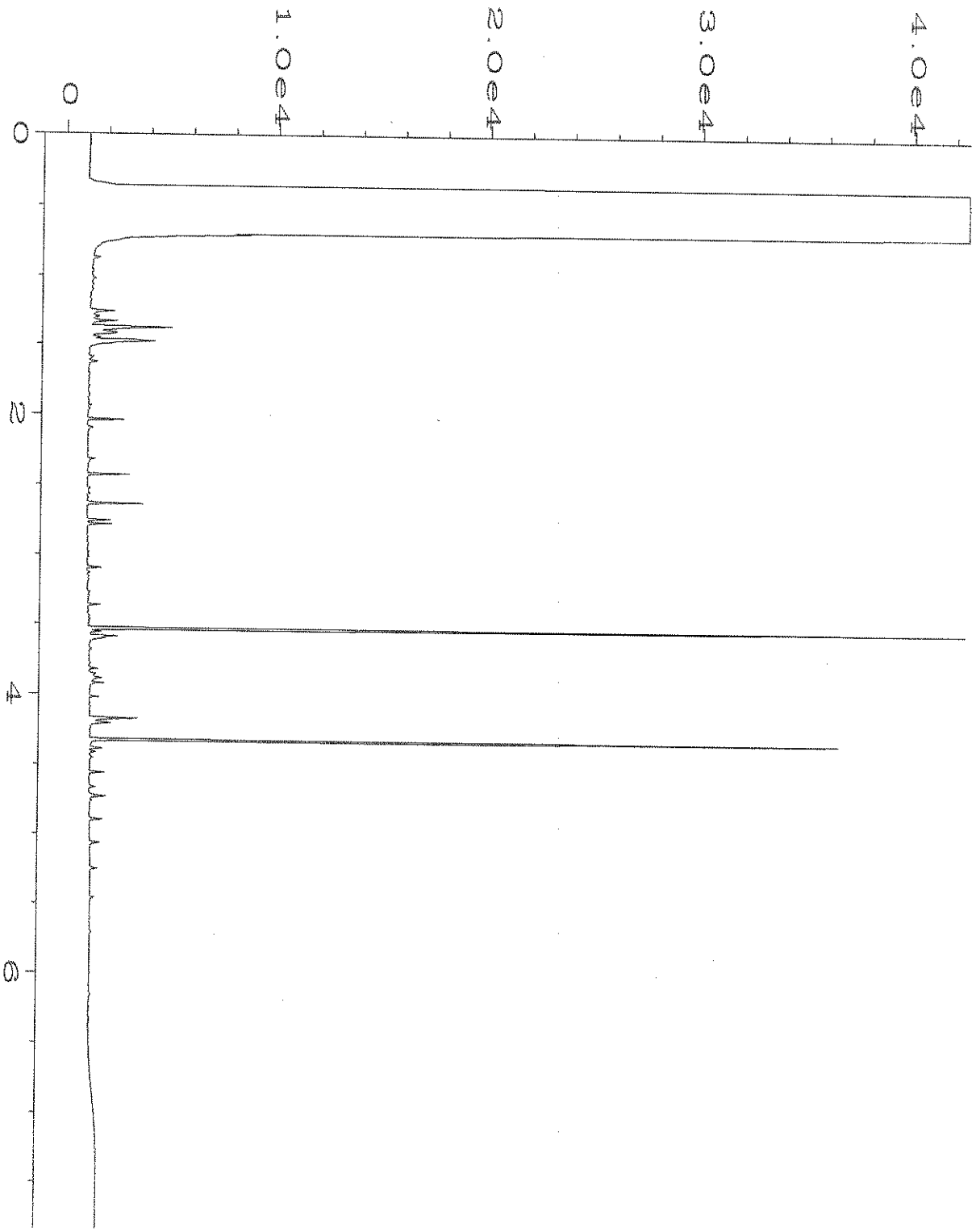
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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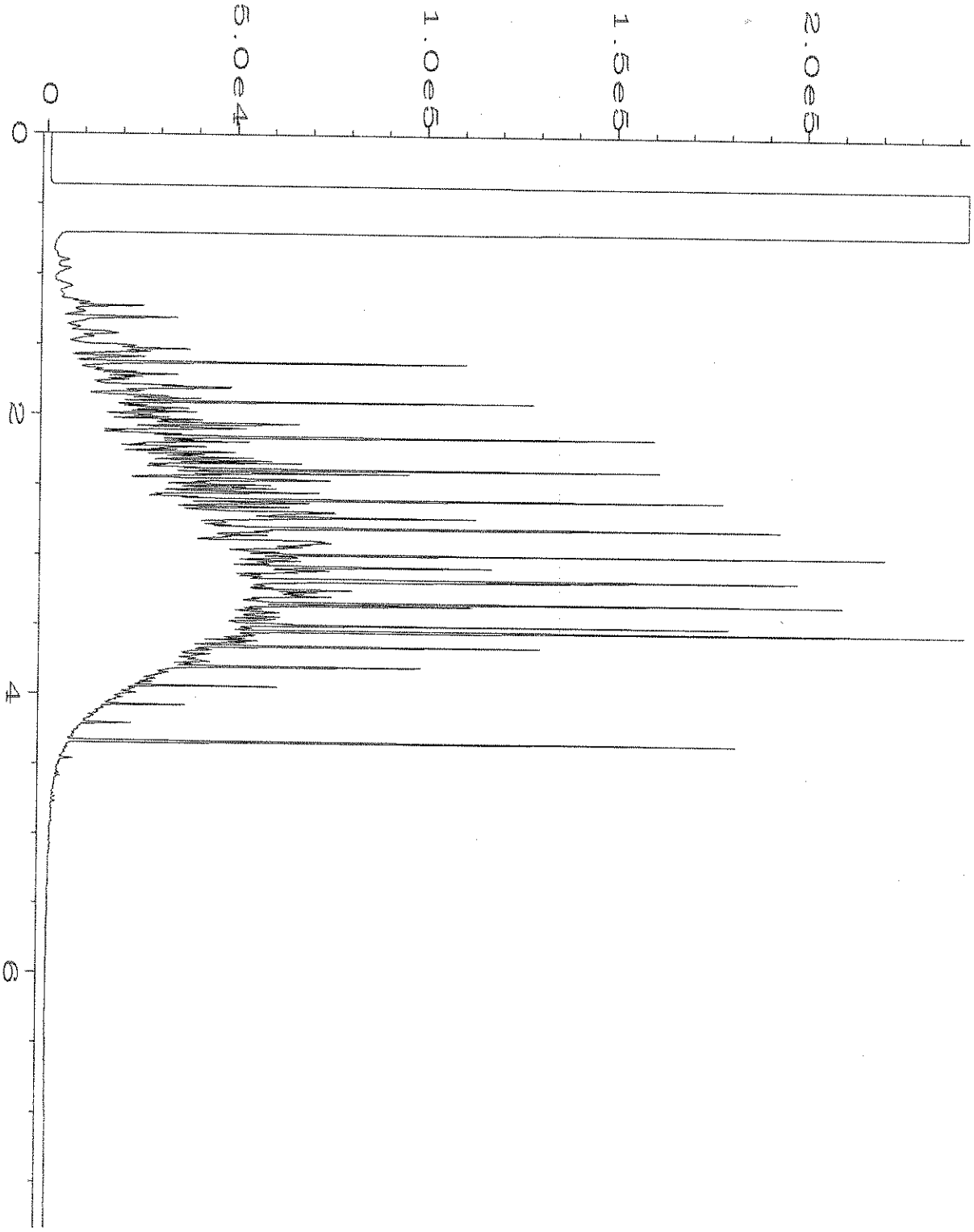
Operator : TL
Instrument : GC#4
Sample Name : 906323-11
Run Time Bar Code:
Acquired on : 18 Jun 19 08:34 PM
Report Created on: 19 Jun 19 09:38 AM

Page Number : 1
Vial Number : 34
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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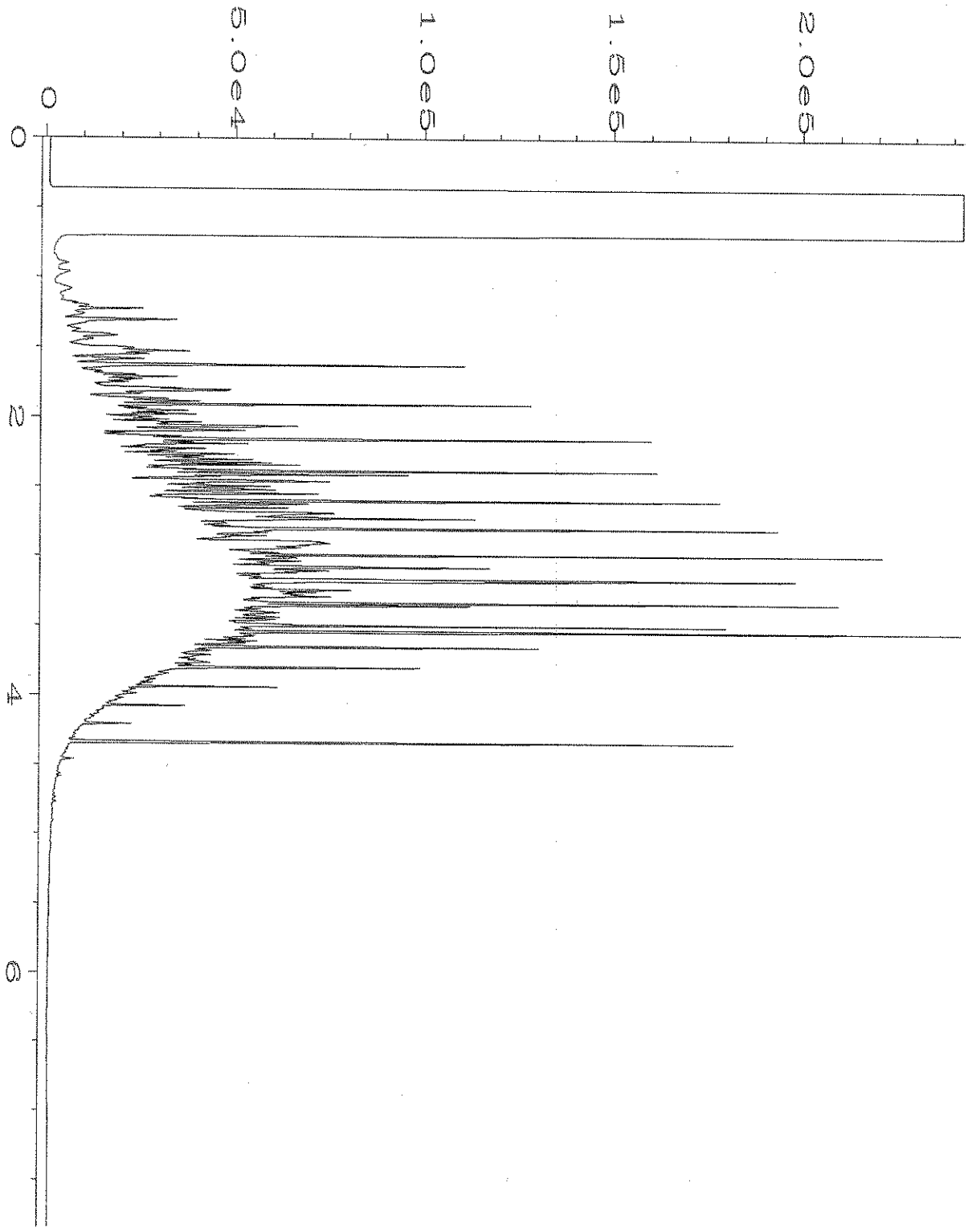
Operator : TL
Instrument : GC#4
Sample Name : 1000 Dx 57-78B
Run Time Bar Code:
Acquired on : 18 Jun 19 02:55 PM
Report Created on: 19 Jun 19 09:35 AM

Page Number : 1
Vial Number : 5
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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Operator : TL
Instrument : GC#4
Sample Name : 1000 Dx 57-78B
Run Time Bar Code:
Acquired on : 18 Jun 19 02:55 PM
Report Created on: 19 Jun 19 09:35 AM

Page Number : 1
Vial Number : 5
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH

906323

SAMPLE CHAIN OF CUSTODY

ME 06/17/19

VW6/B05/A1.5

Send Report To: Tom Cammarata cc: Logan Schumacher

Company: SoundEarth Strategies

Address: 2811 Fairview Ave E, Suite 2000

City, State, ZIP: Seattle, WA 98102

SAMPLERS (signature)	
Sarah Welte	
PROJECT NAME/NO.	PO #
Troy Laundry Property	0731-004-05
REMARKS	EIM Y

Page # 1 of 1

TURNAROUND TIME
Standard (2 Weeks) (circled)
RUSH
Rush charges authorized by:
SAMPLE DISPOSAL
⊗ Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	GRPH by NWTPH-Gx	BTEX by EPA 8021B	DRPH/ORPH by NWTPH-Dx	cVOCs by EPA 8260C	Methane, Ethane, Ethene by RSK175	Sulfate, Nitrate, Alkalinity by SM1845/SM2320B	Total Fe and Mn by EPA 200.8	Fe 2+ by SM 3500	TOC By EPA 415.1	Notes
MW25-20190615	MW25	—	01 A-N	6/15/19	0818	W	14	X	X	X	X	X	X	X	X	X	
MW19-20190615	MW19	—	02 A-M		0824	W	13	X	X	X	X	X	X	X	X		
MW18-20190615	MW18	—	03 A-N		0935	W	14	X	X	X	X	X	X	X	X	X	
MW17-20190615	MW17	—	04 A-G		1030	W	7	X	X	X	X						
MW24-20190615	MW24	—	05 A-N		1120	W	14	X	X	X	X	X	X	X	X	X	
MW20-20190615	MW20	—	06 A-G		1120	W	7	X	X	X	X						
MW21-20190615	MW21	—	07 A-K		1232	W	11	X	X	X	X	X				X	
MW99-20190615	MW99	—	08 A-G		1200	W	7	X	X	X	X						
MW22-20190615	MW22	—	09 A-N		1310	W	14	X	X	X	X	X	X	X	X	X	
MW23-20190615	MW23	—	10 A-N		1410	W	14	X	X	X	X	X	X	X	X	X	
IW91-20190615	IW91	—	11 A-G		1420	W	7	X	X	X	X						

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Sarah Welte	Sarah Welte	SES	6/17/19	930
Received by:	[signature]	Wilson Yanigas	FedEx	6-17-19	930
Relinquished by: / Rec:	[signature]	Liz Webber-Bruya	F&BI	6/17/19	1100
Received by:					

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 26, 2019

Tom Cammarata, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

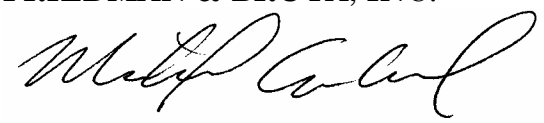
Dear Mr Cammarata:

Included are the results from the testing of material submitted on June 17, 2019 from the SOU_0731-004-05_ 20190617, F&BI 906324 project. There are 13 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: Logan Schumacher
SOU0626R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 17, 2019 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0731-004-05_ 20190617, F&BI 906324 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
906324 -01	IW06-20190615
906324 -02	IW04-20190615
906324 -03	IW50-20190615
906324 -04	IW61-20190615

Samples IW04-20190615, IW50-20190615, and IW61-20190615 were sent to Fremont Analytical for nitrate, sulfate, alkalinity, TOC, and ferrous iron analysis. In addition, samples IW50-20190615 and IW61-20190615 were sent to Fremont for dissolved gasses analysis. The report is enclosed.

All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	IW04-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	906324-02 x20
Date Analyzed:	06/19/19	Data File:	906324-02 x20.048
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	17,900
Manganese	12,900

Analysis For Total Metals By EPA Method 200.8

Client ID:	IW50-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	906324-03 x10
Date Analyzed:	06/18/19	Data File:	906324-03 x10.128
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	7,550
Manganese	9,670

Analysis For Total Metals By EPA Method 200.8

Client ID:	IW61-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	906324-04 x20
Date Analyzed:	06/19/19	Data File:	906324-04 x20.049
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	25,500
Manganese	11,800

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/18/19	Lab ID:	I9-375 mb
Date Analyzed:	06/18/19	Data File:	I9-375 mb.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<50
Manganese	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	IW06-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906324-01
Date Analyzed:	06/19/19	Data File:	061948.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	1.7

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	IW04-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906324-02
Date Analyzed:	06/19/19	Data File:	061949.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.0
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.7
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	IW50-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906324-03
Date Analyzed:	06/19/19	Data File:	061950.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	95	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	7.1
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	54
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	2.0
Tetrachloroethene	5.2

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	IW61-20190615	Client:	SoundEarth Strategies
Date Received:	06/17/19	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	906324-04
Date Analyzed:	06/19/19	Data File:	061951.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	118	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.9
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	71
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	2.4
Tetrachloroethene	13

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0731-004-05_ 20190617
Date Extracted:	06/19/19	Lab ID:	09-1429 mb
Date Analyzed:	06/19/19	Data File:	061911.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	92	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
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)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 06/26/19
Date Received: 06/17/19
Project: SOU_0731-004-05_ 20190617, F&BI 906324

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 906321-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Iron	ug/L (ppb)	100	152	89	85	70-130	5
Manganese	ug/L (ppb)	20	30.6	101	95	70-130	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	99	85-115
Manganese	ug/L (ppb)	20	95	85-115

Date of Report: 06/26/19
Date Received: 06/17/19
Project: SOU_0731-004-05_ 20190617, F&BI 906324

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

Laboratory Code: 906324-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	7.1	116	36-166
Chloroethane	ug/L (ppb)	50	<1	108	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	106	60-136
Methylene chloride	ug/L (ppb)	50	<5	107	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	109	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	105	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	54	108 b	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	97	48-149
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	109	60-146
Trichloroethene	ug/L (ppb)	50	2.0	99	66-135
Tetrachloroethene	ug/L (ppb)	50	5.2	103	10-226

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	131	118	50-154	10
Chloroethane	ug/L (ppb)	50	119	107	58-146	11
1,1-Dichloroethene	ug/L (ppb)	50	116	105	67-136	10
Methylene chloride	ug/L (ppb)	50	115	104	39-148	10
trans-1,2-Dichloroethene	ug/L (ppb)	50	118	107	68-128	10
1,1-Dichloroethane	ug/L (ppb)	50	112	104	79-121	7
cis-1,2-Dichloroethene	ug/L (ppb)	50	116	108	80-123	7
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	102	101	73-132	1
1,1,1-Trichloroethane	ug/L (ppb)	50	118	108	81-125	9
Trichloroethene	ug/L (ppb)	50	105	101	79-113	4
Tetrachloroethene	ug/L (ppb)	50	107	102	76-121	5

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. 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 lowest calibration standard. 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.

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.

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

Friedman & Bruya
Michael Erdahl
3012 16th Ave. W.
Seattle, WA 98119

RE: 906324
Work Order Number: 1906195

June 24, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 3 sample(s) on 6/17/2019 for the analyses presented in the following report.

Dissolved Gases by RSK-175
Ferrous Iron by SM3500-Fe B
Ion Chromatography by EPA Method 300.0
Total Alkalinity by SM 2320B
Total Organic Carbon by SM 5310C

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *06/24/2019*

CLIENT: Friedman & Bruya
Project: 906324
Work Order: 1906195

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1906195-001	IW04-20190615	06/15/2019 10:17 AM	06/17/2019 1:45 PM
1906195-002	IW50-20190615	06/15/2019 12:05 PM	06/17/2019 1:45 PM
1906195-003	IW61-20190615	06/15/2019 1:25 PM	06/17/2019 1:45 PM

Case Narrative

WO#: **1906195**
Date: **6/24/2019**

CLIENT: Friedman & Bruya
Project: 906324

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

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

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

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

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

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

Analytical Report

Work Order: **1906195**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 10:17:00 AM
Project: 906324
Lab ID: 1906195-001
Matrix: Water
Client Sample ID: **IW04-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.100	H	mg/L	1	6/18/2019 12:38:00 PM
Sulfate	0.759	0.300		mg/L	1	6/18/2019 12:38:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	148	2.50	D	mg/L	5	6/19/2019 11:14:00 AM
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	611	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	0.0865	0.0500	H	mg/L	1	6/19/2019 5:00:00 PM

Analytical Report

Work Order: **1906195**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 12:05:00 PM
Project: 906324
Lab ID: 1906195-002
Matrix: Water
Client Sample ID: **IW50-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	3.11	0.173	D	mg/L	20	6/19/2019 5:00:00 PM
Ethene	ND	0.303	D	mg/L	20	6/19/2019 5:00:00 PM
Ethane	ND	0.324	D	mg/L	20	6/19/2019 5:00:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.100	H	mg/L	1	6/18/2019 2:11:00 PM
Sulfate	11.0	0.300		mg/L	1	6/18/2019 2:11:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	7.56	0.500		mg/L	1	6/18/2019 6:41:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	299	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	7.08	0.500	DH	mg/L	10	6/19/2019 5:00:00 PM

Analytical Report

Work Order: **1906195**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/15/2019 1:25:00 PM
Project: 906324
Lab ID: 1906195-003
Matrix: Water
Client Sample ID: **IW61-20190615**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	2.44	0.173	D	mg/L	20	6/19/2019 5:03:00 PM
Ethene	ND	0.303	D	mg/L	20	6/19/2019 5:03:00 PM
Ethane	ND	0.324	D	mg/L	20	6/19/2019 5:03:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24947		Analyst: SS
Nitrate (as N)	ND	0.100	H	mg/L	1	6/18/2019 2:34:00 PM
Sulfate	0.338	0.300		mg/L	1	6/18/2019 2:34:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	140	2.50	D	mg/L	5	6/18/2019 11:58:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52247		Analyst: WF
Alkalinity, Total (As CaCO3)	429	2.50		mg/L	1	6/21/2019 1:25:44 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52165		Analyst: GM
Ferrous Iron	30.5	2.50	DH	mg/L	50	6/19/2019 5:00:00 PM

Work Order: 1906195
CLIENT: Friedman & Bruya
Project: 906324

QC SUMMARY REPORT

Total Alkalinity by SM 2320B

Sample ID: **MB-R52247** SampType: **MBLK** Units: **mg/L** Prep Date: **6/21/2019** RunNo: **52247**
Client ID: **MBLKW** Batch ID: **R52247** Analysis Date: **6/21/2019** SeqNo: **1031932**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID: **LCS-R52247** SampType: **LCS** Units: **mg/L** Prep Date: **6/21/2019** RunNo: **52247**
Client ID: **LCSW** Batch ID: **R52247** Analysis Date: **6/21/2019** SeqNo: **1031933**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	104	2.50	100.0	0	104	80	120				

Sample ID: **1906195-001BDUP** SampType: **DUP** Units: **mg/L** Prep Date: **6/21/2019** RunNo: **52247**
Client ID: **IW04-20190615** Batch ID: **R52247** Analysis Date: **6/21/2019** SeqNo: **1031935**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	618	2.50						611.0	1.06	20	

Work Order: 1906195
CLIENT: Friedman & Bruya
Project: 906324

QC SUMMARY REPORT

Ferrous Iron by SM3500-Fe B

Sample ID: **MB-R52165** SampType: **MBLK** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **MBLKW** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1029999**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	ND	0.0500									

Sample ID: **LCS-R52165** SampType: **LCS** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **LCSW** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030000**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.406	0.0500	0.4000	0	101	80	120				

Sample ID: **1906196-001ADUP** SampType: **DUP** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **BATCH** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030007**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.922	0.0500						1.023	10.4	20	H

Sample ID: **1906196-001AMS** SampType: **MS** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **BATCH** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030008**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	1.29	0.0500	0.4000	1.023	66.9	80	120				SH

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **1906196-001AMSD** SampType: **MSD** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52165**
Client ID: **BATCH** Batch ID: **R52165** Analysis Date: **6/19/2019** SeqNo: **1030009**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	1.29	0.0500	0.4000	1.023	67.5	80	120	1.291	0.182	20	SH

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 1906195
CLIENT: Friedman & Bruya
Project: 906324

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **MB-24947** SampType: **MBLK** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **MBLKW** Batch ID: **24947** Analysis Date: **6/17/2019** SeqNo: **1029908**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									

Sample ID: **LCS1-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/17/2019** SeqNo: **1029909**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.739	0.100	0.7500	0	98.5	90	110				
Sulfate	3.65	0.300	3.750	0	97.4	90	110				

Sample ID: **LCS2-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029925**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.725	0.100	0.7500	0	96.7	90	110				
Sulfate	3.57	0.300	3.750	0	95.2	90	110				

Sample ID: **LCS3-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029926**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.725	0.100	0.7500	0	96.7	90	110				
Sulfate	3.55	0.300	3.750	0	94.6	90	110				

Sample ID: **LCS4-24947** SampType: **LCS** Units: **mg/L** Prep Date: **6/17/2019** RunNo: **52162**
Client ID: **LCSW** Batch ID: **24947** Analysis Date: **6/18/2019** SeqNo: **1029927**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.732	0.100	0.7500	0	97.6	90	110				

Work Order: 1906195
CLIENT: Friedman & Bruya
Project: 906324

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID: **LCS4-24947**	SampType: **LCS**			Units: **mg/L**		Prep Date: **6/17/2019**			RunNo: **52162**	
Client ID: **LCSW**	Batch ID: **24947**					Analysis Date: **6/18/2019**			SeqNo: **1029927**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.73	0.300	3.750	0	99.4	90	110				

Sample ID: **1906195-001BDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/17/2019**			RunNo: **52162**	
Client ID: **IW04-20190615**	Batch ID: **24947**					Analysis Date: **6/18/2019**			SeqNo: **1029933**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100						0		20	H
Sulfate	0.749	0.300						0.7590	1.33	20	

Sample ID: **1906195-001BMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **6/17/2019**			RunNo: **52162**	
Client ID: **IW04-20190615**	Batch ID: **24947**					Analysis Date: **6/18/2019**			SeqNo: **1029934**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.787	0.100	0.7500	0.09000	92.9	80	120				H
Sulfate	4.20	0.300	3.750	0.7590	91.8	80	120				

Sample ID: **1906195-001BMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **6/17/2019**			RunNo: **52162**	
Client ID: **IW04-20190615**	Batch ID: **24947**					Analysis Date: **6/18/2019**			SeqNo: **1029935**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.784	0.100	0.7500	0.09000	92.5	80	120	0.7870	0.382	20	H
Sulfate	4.18	0.300	3.750	0.7590	91.3	80	120	4.203	0.525	20	

Work Order: 1906195
CLIENT: Friedman & Bruya
Project: 906324

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MBLK-52199**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **6/18/2019**			RunNo: **52199**	
Client ID: **MBLKW**	Batch ID: **R52199**					Analysis Date: **6/18/2019**			SeqNo: **1030537**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.500									

Sample ID: **LCS-52199**	SampType: **LCS**			Units: **mg/L**		Prep Date: **6/18/2019**			RunNo: **52199**	
Client ID: **LCSW**	Batch ID: **R52199**					Analysis Date: **6/18/2019**			SeqNo: **1030538**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	5.14	0.500	5.000	0	103	80	120				

Sample ID: **1906179-001DDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/18/2019**			RunNo: **52199**	
Client ID: **BATCH**	Batch ID: **R52199**					Analysis Date: **6/18/2019**			SeqNo: **1030540**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.14	0.500						1.129	0.618	20	

Sample ID: **1906179-001DMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **6/18/2019**			RunNo: **52199**	
Client ID: **BATCH**	Batch ID: **R52199**					Analysis Date: **6/18/2019**			SeqNo: **1030541**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	6.48	0.500	5.000	1.129	107	70	130				

Sample ID: **1906179-001DMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **6/18/2019**			RunNo: **52199**	
Client ID: **BATCH**	Batch ID: **R52199**					Analysis Date: **6/18/2019**			SeqNo: **1030542**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	6.28	0.500	5.000	1.129	103	70	130	6.478	3.02	30	

Work Order: 1906195
CLIENT: Friedman & Bruya
Project: 906324

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **1906197-001DDUP** SampType: **DUP** Units: **mg/L** Prep Date: **6/18/2019** RunNo: **52199**
Client ID: **BATCH** Batch ID: **R52199** Analysis Date: **6/18/2019** SeqNo: **1030549**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	26.0	0.500						25.77	0.927	20	

Sample ID: **1906197-001DMS** SampType: **MS** Units: **mg/L** Prep Date: **6/18/2019** RunNo: **52199**
Client ID: **BATCH** Batch ID: **R52199** Analysis Date: **6/18/2019** SeqNo: **1030550**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	31.0	0.500	5.000	25.77	104	70	130				

Work Order: 1906195
CLIENT: Friedman & Bruya
Project: 906324

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R52203** SampType: **LCS** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52203**
Client ID: **LCSW** Batch ID: **R52203** Analysis Date: **6/19/2019** SeqNo: **1030678**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,020	0.00863	1,000	0	102	70	130				
Ethene	976	0.0151	1,000	0	97.6	70	130				
Ethane	973	0.0162	1,000	0	97.3	70	130				

Sample ID: **MB-R52203** SampType: **MBLK** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52203**
Client ID: **MBLKW** Batch ID: **R52203** Analysis Date: **6/19/2019** SeqNo: **1030679**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00863									
Ethene	ND	0.0151									
Ethane	ND	0.0162									

Sample ID: **1906152-001AREP** SampType: **REP** Units: **mg/L** Prep Date: **6/19/2019** RunNo: **52203**
Client ID: **BATCH** Batch ID: **R52203** Analysis Date: **6/19/2019** SeqNo: **1030653**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	4.81	0.173						4.601	4.43	30	DE
Ethene	ND	0.303						0		30	D
Ethane	ND	0.324						0		30	D

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**1906195**
Logged by:	**Clare Griggs**	Date Received:	**6/17/2019 1:45:00 PM**

Chain of Custody

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

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	☐	No ☑	Not Required	☐
6.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
7.	Were all items received at a temperature of >0°C to 10.0°C *	Yes	☑	No ☐	NA	☐
8.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
10.	Are samples properly preserved?	Yes	☑	No ☐		
11.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
12.	Is there headspace in the VOA vials?	Yes	☐	No ☑	NA	☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No ☐		
14.	Does paperwork match bottle labels?	Yes	☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
16.	Is it clear what analyses were requested?	Yes	☑	No ☐		
17.	Were all holding times able to be met?	Yes	☐	No ☑		

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	9.6
Sample	8.7

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

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 1906195

Page # 1 of 1

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Fremont

PROJECT NAME/NO.	PO #
906324	B-297

REMARKS

Please Email Results

TURNAROUND TIME

☒ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Dioxins/Furans	EPH	VPH	RSK 175 Diss. Methane Ethane Ethene	Sulfate	Alkalinity	Nitrate	Ferrous Iron	TOC		Notes
IW04-20190615		6/15/19	1017	H_2O						X	X	X	X	X		
IW50-20190615		↓	1205	↓					X	X	X	X	X	X		
IW61-20190615		↓	1325	↓					X	X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	6/17/19	12:06
Received by:		FBI	6/17/19	1345
Relinquished by:				
Received by:				

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

SAMPLE CHAIN OF CUSTODY

906324

ME 06-17-19

VW3

Send Report To Tom Cammarata cc: Logan Schumacher

Company SoundEarth Strategies

Address 2811 Fairview Ave E, Suite 2000

City, State, ZIP Seattle, WA 98102

SAMPLERS (signature) Sarah Welter

PROJECT NAME/NO.: Troy Laundry Property

PO #: 0731-004-05

REMARKS

EIM Y

Page # 1 of 1

TURNAROUND TIME: AI 3

(Standard (2 Weeks)) RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

⊗ Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	GRPH by NWTPH-Gx	BTEX by EPA 8021B	DRPH/ORPH by NWTPH-Dx	cVOCs by EPA 8260C	Methane, Ethane, Ethene by RSK175	Sulfate, Nitrate, Alkalinity by SM1845/SM2320B	Total Fe and Mn by EPA 200.8	Fe 2+ by SM 3500	TOC By EPA 415.1	Notes
IW06-20190615	IW06	-	01 A-G	6/15/19	0942	W	3				X						
IW04-20190615	IW04	-	02 A-G		1017	W	7				X		X	X	X	X	
IW50-20190615	IW50	-	03 A-J		1205	W	10				X	X	X	X	X	X	
IW61-20190615	IW61	-	04		1325	W	10				X	X	X	X	X	X	
									SHW								

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Sarah Welter	Sarah Welter	SES	6/17/19	930
Received by:	Wilson Williams	FEDEX	6-17-19	930
Relinquished by: D. M-R	Liz Webber-Bruya	FTB1	6/17/19	1100
Received by:				

Samples received at 4 °C

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

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

Friedman & Bruya
Michael Erdahl
3012 16th Ave. W.
Seattle, WA 98119

RE: 906291
Work Order Number: 1906179

June 24, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 3 sample(s) on 6/14/2019 for the analyses presented in the following report.

Dissolved Gases by RSK-175
Ferrous Iron by SM3500-Fe B
Ion Chromatography by EPA Method 300.0
Total Alkalinity by SM 2320B
Total Organic Carbon by SM 5310C

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *06/24/2019*

CLIENT: Friedman & Bruya
Project: 906291
Work Order: 1906179

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1906179-001	MW26-20190614	06/14/2019 9:50 AM	06/14/2019 4:41 PM
1906179-002	MW07-20190614	06/14/2019 10:50 AM	06/14/2019 4:41 PM
1906179-003	MW04-20190614	06/14/2019 11:05 AM	06/14/2019 4:41 PM

Case Narrative

WO#: **1906179**
Date: **6/24/2019**

CLIENT: Friedman & Bruya
Project: 906291

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

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

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

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

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

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

Analytical Report

Work Order: **1906179**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/14/2019 9:50:00 AM
Project: 906291
Lab ID: 1906179-001
Matrix: Water
Client Sample ID: **MW26-20190614**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	4.12	0.173	D	mg/L	20	6/19/2019 4:48:00 PM
Ethene	ND	0.303	D	mg/L	20	6/19/2019 4:48:00 PM
Ethane	ND	0.324	D	mg/L	20	6/19/2019 4:48:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24928		Analyst: SS
Nitrate (as N)	7.10	0.500	DH	mg/L	5	6/17/2019 1:42:00 PM
Nitrate (as N)	7.86	0.100	E	mg/L	1	6/14/2019 6:37:00 PM
Sulfate	45.0	1.50	D	mg/L	5	6/17/2019 1:42:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	1.13	0.500		mg/L	1	6/18/2019 4:27:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52246		Analyst: WF
Alkalinity, Total (As CaCO3)	78.0	2.50		mg/L	1	6/24/2019 1:25:36 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52152		Analyst: GM
Ferrous Iron	0.136	0.0500		mg/L	1	6/14/2019 4:30:00 PM

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.

Analytical Report

Work Order: **1906179**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/14/2019 10:50:00 AM
Project: 906291
Lab ID: 1906179-002
Matrix: Water
Client Sample ID: **MW07-20190614**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	ND	0.00863		mg/L	1	6/19/2019 4:51:00 PM
Ethene	ND	0.0151		mg/L	1	6/19/2019 4:51:00 PM
Ethane	ND	0.0162		mg/L	1	6/19/2019 4:51:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24928		Analyst: SS
Nitrate (as N)	29.1	2.00	DH	mg/L	20	6/17/2019 2:05:00 PM
Nitrate (as N)	32.5	0.100	E	mg/L	1	6/14/2019 8:09:00 PM
Sulfate	51.0	3.00	D	mg/L	10	6/17/2019 2:28:00 PM
NOTES:						
E - Estimated value. The amount exceeds the linear working range of the instrument.						
Total Organic Carbon by SM 5310C				Batch ID: R52199		Analyst: GM
Total Organic Carbon	0.869	0.500		mg/L	1	6/18/2019 5:47:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52246		Analyst: WF
Alkalinity, Total (As CaCO3)	23.4	2.50		mg/L	1	6/24/2019 1:25:36 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52152		Analyst: GM
Ferrous Iron	0.0818	0.0500		mg/L	1	6/14/2019 4:30:00 PM

Analytical Report

Work Order: **1906179**
Date Reported: **6/24/2019**

Client: Friedman & Bruya
Collection Date: 6/14/2019 11:05:00 AM
Project: 906291
Lab ID: 1906179-003
Matrix: Water
Client Sample ID: **MW04-20190614**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R52203		Analyst: SG
Methane	ND	0.00863		mg/L	1	6/19/2019 4:54:00 PM
Ethene	ND	0.0151		mg/L	1	6/19/2019 4:54:00 PM
Ethane	ND	0.0162		mg/L	1	6/19/2019 4:54:00 PM
Ion Chromatography by EPA Method 300.0				Batch ID: 24928		Analyst: SS
Nitrate (as N)	14.8	1.00	DH	mg/L	10	6/17/2019 2:51:00 PM
Nitrate (as N)	16.4	0.100	E	mg/L	1	6/14/2019 8:32:00 PM
Sulfate	46.7	3.00	D	mg/L	10	6/17/2019 2:51:00 PM
Total Alkalinity by SM 2320B				Batch ID: R52246		Analyst: WF
Alkalinity, Total (As CaCO3)	66.3	2.50		mg/L	1	6/24/2019 1:25:36 PM
Ferrous Iron by SM3500-Fe B				Batch ID: R52152		Analyst: GM
Ferrous Iron	0.129	0.0500		mg/L	1	6/14/2019 4:30:00 PM

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.

Work Order: 1906179
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Total Alkalinity by SM 2320B

Sample ID	**MB-R52246**	SampType:	**MBLK**		Units:	**mg/L**	Prep Date:	**6/24/2019**	RunNo:	**52246**
Client ID:	**MBLKW**	Batch ID:	**R52246**				Analysis Date:	**6/24/2019**	SeqNo:	**1031682**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID	**LCS-R52246**	SampType:	**LCS**		Units:	**mg/L**	Prep Date:	**6/24/2019**	RunNo:	**52246**
Client ID:	**LCSW**	Batch ID:	**R52246**				Analysis Date:	**6/24/2019**	SeqNo:	**1031683**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	103	2.50	100.0	0	103	80	120				

Sample ID	**1906179-001BDUP**	SampType:	**DUP**		Units:	**mg/L**	Prep Date:	**6/24/2019**	RunNo:	**52246**
Client ID:	**MW26-20190614**	Batch ID:	**R52246**				Analysis Date:	**6/24/2019**	SeqNo:	**1031685**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	84.5	2.50						78.00	8.00	20	

Work Order: 1906179
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Ferrous Iron by SM3500-Fe B

Sample ID	**MB-R52152**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **6/14/2019**		RunNo: **52152**	
Client ID:	**MBLKW**	Batch ID: **R52152**					Analysis Date: **6/14/2019**		SeqNo: **1029748**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	ND	0.0500									

Sample ID	**LCS-R52152**	SampType: **LCS**			Units: **mg/L**		Prep Date: **6/14/2019**		RunNo: **52152**	
Client ID:	**LCSW**	Batch ID: **R52152**					Analysis Date: **6/14/2019**		SeqNo: **1029749**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.371	0.0500	0.4000	0	92.6	80	120				

Sample ID	**1906179-001ADUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/14/2019**		RunNo: **52152**	
Client ID:	**MW26-20190614**	Batch ID: **R52152**					Analysis Date: **6/14/2019**		SeqNo: **1029751**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.115	0.0500						0.1358	16.9	20	

Sample ID	**1906179-001AMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **6/14/2019**		RunNo: **52152**	
Client ID:	**MW26-20190614**	Batch ID: **R52152**					Analysis Date: **6/14/2019**		SeqNo: **1029752**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.518	0.0500	0.4000	0.1358	95.6	80	120				

Sample ID	**1906179-001AMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **6/14/2019**		RunNo: **52152**	
Client ID:	**MW26-20190614**	Batch ID: **R52152**					Analysis Date: **6/14/2019**		SeqNo: **1029753**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ferrous Iron	0.568	0.0500	0.4000	0.1358	108	80	120	0.5184	9.08	20	

Work Order: 1906179
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID	**MB-24928**	SampType:	**MBLK**	Units:	**mg/L**	Prep Date:	**6/14/2019**	RunNo:	**52127**
Client ID:	**MBLKW**	Batch ID:	**24928**			Analysis Date:	**6/14/2019**	SeqNo:	**1029284**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									

Sample ID	**LCS-24928**	SampType:	**LCS**	Units:	**mg/L**	Prep Date:	**6/14/2019**	RunNo:	**52127**
Client ID:	**LCSW**	Batch ID:	**24928**			Analysis Date:	**6/14/2019**	SeqNo:	**1029285**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.717	0.100	0.7500	0	95.6	90	110				
Sulfate	3.54	0.300	3.750	0	94.5	90	110				

Sample ID	**1906179-001BDUP**	SampType:	**DUP**	Units:	**mg/L**	Prep Date:	**6/14/2019**	RunNo:	**52127**
Client ID:	**MW26-20190614**	Batch ID:	**24928**			Analysis Date:	**6/14/2019**	SeqNo:	**1029287**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	7.85	0.100						7.855	0.0637	20	E
Sulfate	48.1	0.300						48.12	0.0395	20	E

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID	**1906179-001BMS**	SampType:	**MS**	Units:	**mg/L**	Prep Date:	**6/14/2019**	RunNo:	**52127**
Client ID:	**MW26-20190614**	Batch ID:	**24928**			Analysis Date:	**6/14/2019**	SeqNo:	**1029288**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	8.69	0.100	0.7500	7.855	112	80	120				E
Sulfate	52.2	0.300	3.750	48.12	108	80	120				E

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.

Work Order: 1906179
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Ion Chromatography by EPA Method 300.0

Sample ID **1906179-001BMSD** SampType: **MSD** Units: **mg/L** Prep Date: **6/14/2019** RunNo: **52127**
Client ID: **MW26-20190614** Batch ID: **24928** Analysis Date: **6/14/2019** SeqNo: **1029289**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	8.70	0.100	0.7500	7.855	112	80	120	8.693	0.0575	20	E
Sulfate	52.3	0.300	3.750	48.12	111	80	120	52.18	0.159	20	E

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.

Work Order: 1906179
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID	MBLK-52199	SampType:	MBLK			Units:	mg/L	Prep Date:	6/18/2019		RunNo:	52199	
Client ID:	MBLKW	Batch ID:	R52199					Analysis Date:	6/18/2019		SeqNo:	1030537	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon		ND	0.500										

Sample ID	LCS-52199	SampType:	LCS			Units:	mg/L	Prep Date:	6/18/2019		RunNo:	52199	
Client ID:	LCSW	Batch ID:	R52199					Analysis Date:	6/18/2019		SeqNo:	1030538	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon		5.14	0.500	5.000	0	103	80	120					

Sample ID	1906179-001DDUP	SampType:	DUP			Units:	mg/L	Prep Date:	6/18/2019		RunNo:	52199	
Client ID:	MW26-20190614	Batch ID:	R52199					Analysis Date:	6/18/2019		SeqNo:	1030540	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon		1.14	0.500						1.129	0.618	20		

Sample ID	1906179-001DMS	SampType:	MS			Units:	mg/L	Prep Date:	6/18/2019		RunNo:	52199	
Client ID:	MW26-20190614	Batch ID:	R52199					Analysis Date:	6/18/2019		SeqNo:	1030541	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon		6.48	0.500	5.000	1.129	107	70	130					

Sample ID	1906179-001DMSD	SampType:	MSD			Units:	mg/L	Prep Date:	6/18/2019		RunNo:	52199	
Client ID:	MW26-20190614	Batch ID:	R52199					Analysis Date:	6/18/2019		SeqNo:	1030542	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon		6.28	0.500	5.000	1.129	103	70	130	6.478	3.02	30		

Work Order: 1906179
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID	**1906197-001DDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/18/2019**		RunNo: **52199**	
Client ID:	**BATCH**	Batch ID: **R52199**					Analysis Date: **6/18/2019**		SeqNo: **1030549**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	26.0	0.500						25.77	0.927	20	

Sample ID	**1906197-001DMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **6/18/2019**		RunNo: **52199**	
Client ID:	**BATCH**	Batch ID: **R52199**					Analysis Date: **6/18/2019**		SeqNo: **1030550**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	31.0	0.500	5.000	25.77	104	70	130				

Work Order: 1906179
CLIENT: Friedman & Bruya
Project: 906291

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID	LCS-R52203	SampType:	LCS	Units:	mg/L	Prep Date:	6/19/2019	RunNo:	52203
Client ID:	LCSW	Batch ID:	R52203			Analysis Date:	6/19/2019	SeqNo:	1030678

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,020	0.00863	1,000	0	102	70	130				
Ethene	976	0.0151	1,000	0	97.6	70	130				
Ethane	973	0.0162	1,000	0	97.3	70	130				

Sample ID	MB-R52203	SampType:	MBLK	Units:	mg/L	Prep Date:	6/19/2019	RunNo:	52203
Client ID:	MBLKW	Batch ID:	R52203			Analysis Date:	6/19/2019	SeqNo:	1030679

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00863									
Ethene	ND	0.0151									
Ethane	ND	0.0162									

Sample ID	1906152-001AREP	SampType:	REP	Units:	mg/L	Prep Date:	6/19/2019	RunNo:	52203
Client ID:	BATCH	Batch ID:	R52203			Analysis Date:	6/19/2019	SeqNo:	1030653

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	4.81	0.173						4.601	4.43	30	DE
Ethene	ND	0.303						0		30	D
Ethane	ND	0.324						0		30	D

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**1906179**
Logged by:	**Clare Griggs**	Date Received:	**6/14/2019 4:41:00 PM**

Chain of Custody

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

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	☐	No ☑	Not Required	☐
6.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
7.	Were all items received at a temperature of >0°C to 10.0°C*	Yes	☑	No ☐	NA	☐
8.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
10.	Are samples properly preserved?	Yes	☑	No ☐		
11.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
12.	Is there headspace in the VOA vials?	Yes	☐	No ☑	NA	☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No ☐		
14.	Does paperwork match bottle labels?	Yes	☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
16.	Is it clear what analyses were requested?	Yes	☑	No ☐		
17.	Were all holding times able to be met?	Yes	☑	No ☐		

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	4.6
Sample	9.0

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

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 1906179

Send Report To Michael Erdahl
Company Friedman and Bruya, Inc.
Address 3012 16th Ave W
City, State, ZIP Seattle, WA 98119
Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Fremont

PROJECT NAME/NO.	PO #
906291	B-282

REMARKS

Please Email Results

TURNAROUND TIME
☐ Standard (2 Weeks)
☐ 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	Dioxins/Furans	EPH	VPH	Ferrous Iron	Methane, Ethane, Ethene & SIC	Nitrate, Sulfate, Alkalinity	TOC				Notes
~~MW28-20190613~~		6/13/19	1535	water					x	x	x					Not received MC 6/14
MW26-20190614		6/14/19	0950						x	x	x	x				
MW07-20190614			1050						x	x	x	x				
MW04-20190614			1105						x	x	x					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	6/14/19	1501
Received by:	~~EA~~ Phoebe Acutio	FAI	6-14-19	1641
Relinquished by:				
Received by:				

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

SiREM
Leading Science · Lasting Solutions

130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Analytical Results

Client: SoundEarth Strategies
Client Project Number: 0731-004
Date Samples Received: June 18, 2019
Date Samples Analyzed: June 25, 2019

SiREM File Reference: S-5382

Client Sample ID	SiREM Reference ID	Client Sample Date	Sample dilution factor	Lactate	Acetate	Propionate	Formate	Butyrate	Pyruvate
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW25-20190615	19-1594	15-Jun-19	50	<0.39	45	1.3	<0.22	1.3	<0.69
MW18-20190615	19-1595	15-Jun-19	50	<0.39	<0.54	<0.31	<0.22	<0.41	<0.69
IW04-20190615	19-1596	15-Jun-19	50	<0.39	31	6.1	<0.22	3.2	0.42
MW24-20190615	19-1597	15-Jun-19	50	<0.39	39	5.6	<0.22	0.46	<0.69
IW50-20190615	19-1598	15-Jun-19	50	<0.39	<0.54	<0.31	<0.22	<0.41	<0.69
MW21-20190615	19-1599	15-Jun-19	50	<0.39	140	66	<0.22	12	4.2
MW22-20190615	19-1600	15-Jun-19	50	<0.39	270	150	<0.22	39	13
IW61-20190615	19-1601	15-Jun-19	50	<0.39	88	72	<0.22	4.4	0.58
MW23-20190615	19-1602	15-Jun-19	50	<0.39	19	86	<0.22	0.42	1.8
		QL	50	0.39	0.54	0.31	0.22	0.41	0.69

Comments:
Method: Ion Chromatography
QL = Quantitation limit
J = associated value is estimated; compound positively detected at concentration below the QL
< = compound analysed for but not detected, associated value is QL. Sample QL is corrected for dilution.

Analyst:

Steven Sande
Laboratory Technician

Results approved:

Michael Healey, B.Sc.
Laboratory Technician

Date: 26-Jun-19

SiREM

Chain-of-Custody Form

siremlab.com

180A Market Place Bl
Knoxville, TN 37
(865) 330-003

Lab # S-5382

Project Name	Troy Laundry
Project #	0731-004
Project Manager	Logan Schumacher
Email	LSCHUMACHER@SOUNDEARTHINC.COM
Company	Sound Earth Strategies
Address	2811 Fairview Ave E Suite 2000 Seattle, WA 98102
Phone #	206-306-1900
Sampler's Signature	Sarah Welter
Sampler's Printed Name	Sarah Welter

Analysis

Preservative: 0

Volatile Fatty Acids

VOA centrifuge vial #

Preservative Key
0. None
1. HCL
2. Other
3. Other
4. Other
5. Other
6. Other

Client Sample ID	Lab ID	Sampling Date	Sampling Time	Matrix	# of Containers	Preservative	VOA centrifuge vial #	Other Information
MW25-20190615		6/15/19	0818	W	2	X	1	
MW18-20190615			0935	W	2	X	2	
IW04-20190615			1017	W	2	X	3	
MW24-20190615			1120	W	2	X	4	
IW50-20190615			1205	W	2	X	5	1x Bubble
MW21-20190615			1232	W	2	X	6	
MW22-20190615			1310	W	2	X	7	1x Bubble
IW01-20190615			1325	W	2	X	8	
MW23-20190615			1410	W	2	X	9	
							5	

Sample Receipt

Cooler Condition: Good

Cooler Temperature: 9.0°C

Custody Seals: Yes ☐ No ☒

Invoice Information

P.O. # 0731-004-05

Bill To: AP@SOUNDEARTHINC.COM

LSCHUMACHER@SOUNDEARTHINC.COM

For Lab Use Only

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: Sarah Welter	Signature: J. Smith	Signature: Susan Thomas	Signature: Rachel Hallman	Signature:	Signature:
Printed Name: Sarah Welter	Printed Name: J. Smith	Printed Name: Susan Thomas	Printed Name: Rachel Hallman	Printed Name:	Printed Name:
Firm: Sound Earth	Firm: SiREM	Firm: SiREM	Firm: S.REM	Firm:	Firm:
Date/Time: 6/17/19 0935	Date/Time: 6-18-19 0915	Date/Time: 6-19-19 1500	Date/Time: 21 June 19 12:10	Date/Time:	Date/Time:

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client