Appendix A

Analytical Laboratory Reports (2020-2026)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

June 27, 2023

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

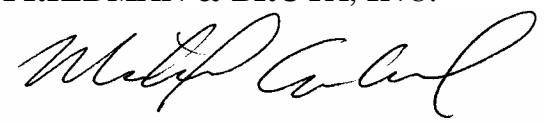
Dear Mr Jones:

Included are the results from the testing of material submitted on June 21, 2023 from the Bridge Point Seattle 130, F&BI 306349 project. There are 14 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: Grant Hainsworth
CTC0627R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 21, 2023 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 306349 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
306349 -01	MW8-0623
306349 -02	MW4-0623
306349 -03	MW5-0623
306349 -04	DUP01-0623
306349 -05	MW9-0623
306349 -06	MW1-0623

All quality control requirements were acceptable.

Date of Report: 06/27/23
Date Received: 06/21/23
Project: Bridge Point Seattle 130, F&BI 306349
Date Extracted: 06/22/23
Date Analyzed: 06/23/23

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW8-0623 306349-01	1,500	125
Method Blank 03-1396 MB	<100	105

Date of Report: 06/27/23
Date Received: 06/21/23
Project: Bridge Point Seattle 130, F&BI 306349
Date Extracted: 06/23/23
Date Analyzed: 06/23/23

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW8-0623 306349-01	380 x	590	107
Method Blank 03-1505 MB	<50	<250	118

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW8-0623	Client:	Crete Consulting
Date Received:	06/21/23	Project:	Bridge Point Seattle 130
Date Extracted:	06/22/23	Lab ID:	306349-01
Date Analyzed:	06/22/23	Data File:	062216.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	71	132
Toluene-d8	107	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	5.0
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	1.5
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	14
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	1.8
Tetrachloroethene	2.2

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0623	Client:	Crete Consulting
Date Received:	06/21/23	Project:	Bridge Point Seattle 130
Date Extracted:	06/22/23	Lab ID:	306349-02
Date Analyzed:	06/22/23	Data File:	062217.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	86	71	132
Toluene-d8	89	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.35
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.5
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	2.4

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0623	Client:	Crete Consulting
Date Received:	06/21/23	Project:	Bridge Point Seattle 130
Date Extracted:	06/22/23	Lab ID:	306349-03
Date Analyzed:	06/22/23	Data File:	062218.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	71	132
Toluene-d8	102	68	139
4-Bromofluorobenzene	104	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	6.8
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4.1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	9.1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP01-0623	Client:	Crete Consulting
Date Received:	06/21/23	Project:	Bridge Point Seattle 130
Date Extracted:	06/22/23	Lab ID:	306349-04
Date Analyzed:	06/22/23	Data File:	062219.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	71	132
Toluene-d8	91	68	139
4-Bromofluorobenzene	102	62	136

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW9-0623	Client:	Crete Consulting
Date Received:	06/21/23	Project:	Bridge Point Seattle 130
Date Extracted:	06/22/23	Lab ID:	306349-05
Date Analyzed:	06/22/23	Data File:	062220.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	71	132
Toluene-d8	97	68	139
4-Bromofluorobenzene	104	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	26
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	12
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW1-0623	Client:	Crete Consulting
Date Received:	06/21/23	Project:	Bridge Point Seattle 130
Date Extracted:	06/22/23	Lab ID:	306349-06
Date Analyzed:	06/22/23	Data File:	062221.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	97	62	136

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	06/22/23	Lab ID:	03-1458 mb
Date Analyzed:	06/22/23	Data File:	062207.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	101	62	136

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

Date of Report: 06/27/23
Date Received: 06/21/23
Project: Bridge Point Seattle 130, F&BI 306349

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

Laboratory Code: 306280-01 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

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

Date of Report: 06/27/23
Date Received: 06/21/23
Project: Bridge Point Seattle 130, F&BI 306349

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	96	72-139	8

Date of Report: 06/27/23
Date Received: 06/21/23
Project: Bridge Point Seattle 130, F&BI 306349

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

Laboratory Code: 306343-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	0.063	101	16-176
Chloroethane	ug/L (ppb)	10	<1	107	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	111	50-150
Methylene chloride	ug/L (ppb)	10	<5	105	40-143
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	109	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	107	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	112	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	112	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	110	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	103	43-133
Tetrachloroethene	ug/L (ppb)	10	<1	111	50-150

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)	10	100	97	43-149	3
Chloroethane	ug/L (ppb)	10	106	102	59-157	4
1,1-Dichloroethene	ug/L (ppb)	10	108	103	67-138	5
Methylene chloride	ug/L (ppb)	10	99	95	29-192	4
trans-1,2-Dichloroethene	ug/L (ppb)	10	106	101	70-130	5
1,1-Dichloroethane	ug/L (ppb)	10	104	99	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	109	100	70-130	9
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	111	108	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	10	107	103	70-130	4
Trichloroethene	ug/L (ppb)	10	102	98	70-130	4
Tetrachloroethene	ug/L (ppb)	10	107	106	70-130	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, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

306349

SAMPLE CHAIN OF CUSTODY

06/21/23 VW2/I3

Page # 1 of 1

Report To K. Jones / G. Hainsworth

Company Crete Consulting Inc

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones K. Jones

PROJECT NAME Bridge Point Seattle 130

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO Crete

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs 8260				Notes
MW8-0623	01 A-G	6.19.2023	1144	WATER	7	X	X						X				
MW4-0623	02 A-C		1246		3								X				
MW5-0623	03		1322		3								X				
DUP01-0623	04	6.21.2023	0001		3								X				
MW9-0623	05		1145		3								X				
MW1-0623	06		1331		3								X				
																	Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: K. Jones	Rusty Jones	CRETE	6.21.23	1600
Received by: D. M-B	Liz Webber - Brya	F:B	6/21/23	1606
Relinquished by:				
Received by:				

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

BROOKS APPLIED LABS
13751 Lake City Way NE, Ste 108, Seattle, WA 98125 • USA • T:206-632-6206 • info@brooksapplied.com

October 18, 2023

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Dear Rusty Jones,

On September 1, 2023, Brooks Applied Labs (BAL) received eleven (11) aqueous samples in a sealed cooler at an acceptable temperature of 3.1°C. The samples were logged-in for total recoverable and dissolved (*arsenic [As], cadmium [Cd], chromium [Cr], copper [Cu], lead [Pb], nickel [Ni], and zinc [Zn]*) analyses, according to the issued quotation. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) were preserved to a pH <2 upon receipt at BAL.

Total Recoverable and Dissolved (As, Cd, Cr, Cu, Pb, Ni, and Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) content via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

Batch B232225
Sample results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs. All results were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

The method blank (BLK) B23225-BLK3 had a Pb concentration above the acceptance limit. Samples 2309017-01, 2309017-06, 2309017-07, 2309017-13, and 2309017-15 had Pb results that were above the MRL but less than 10x the concentration of this BLK and were not reported from this batch. These five samples were redigested for Pb in batch B232241. All other samples had Pb results that were less than the MRL and no further action was required.

The duplicate (DUP) B232225-DUP1 performed on sample 2309003-01 had a relative percent difference (RPD) for Cd above the acceptance limit (29%). The DUP result and the native result met secondary criteria (within 5x the MRL and within the MRL of each other) and no further action was required.

Batch B232241

Sample results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs. All results were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Some of the total results were less than the corresponding dissolved result. In all of these cases, the total and dissolved samples meet RPD, or the results met secondary criteria (within 5x the MRL and within the MRL of each other) and no further action was required.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL, the relative percent difference (RPD) was not calculated (N/C).

Except for concentration qualifiers, all data were reported without qualification. All associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02.

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

13751 Lake City Way NE, Suite 108, Seattle, WA 98125 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
MW5-0823	2309017-01	Water	Sample	08/28/2023	09/01/2023
MW5-0823	2309017-02	Water	Sample	08/28/2023	09/01/2023
MW9-0823	2309017-03	Water	Sample	08/28/2023	09/01/2023
MW9-0823	2309017-04	Water	Sample	08/28/2023	09/01/2023
MW7-0823	2309017-05	Water	Sample	08/28/2023	09/01/2023
MW7-0823	2309017-06	Water	Sample	08/28/2023	09/01/2023
MW8-0823	2309017-07	Water	Sample	08/28/2023	09/01/2023
MW8-0823	2309017-08	Water	Sample	08/28/2023	09/01/2023
DUPO3-0823	2309017-09	Water	Field Duplicate	08/29/2023	09/01/2023
DUPO3-0823	2309017-10	Water	Field Duplicate	08/29/2023	09/01/2023
MW1-0823	2309017-11	Water	Sample	08/29/2023	09/01/2023
MW1-0823	2309017-12	Water	Sample	08/29/2023	09/01/2023
MW3-0823	2309017-13	Water	Sample	08/29/2023	09/01/2023
MW3-0823	2309017-14	Water	Sample	08/29/2023	09/01/2023
MW2-0823	2309017-15	Water	Sample	08/29/2023	09/01/2023
MW2-0823	2309017-16	Water	Sample	08/29/2023	09/01/2023
MW4-0823	2309017-17	Water	Sample	08/30/2023	09/01/2023
MW4-0823	2309017-18	Water	Sample	08/30/2023	09/01/2023
FB-0823	2309017-19	Water	Filter Blank	08/30/2023	09/01/2023
MW6-0823	2309017-20	Water	Sample	08/30/2023	09/01/2023
MW6-0823	2309017-21	Water	Sample	08/30/2023	09/01/2023

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Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
As	Water	EPA 1638 Mod	ISO,TNI	09/07/23	09/07/23	B232225	S230926
Cd	Water	EPA 1638 Mod	ISO,TNI	09/07/23	09/07/23	B232225	S230926
Cr	Water	EPA 1638 Mod	ISO,TNI	09/07/23	09/07/23	B232225	S230926
Cu	Water	EPA 1638 Mod	ISO,TNI	09/07/23	09/07/23	B232225	S230926
Ni	Water	EPA 1638 Mod	ISO,TNI	09/07/23	09/07/23	B232225	S230926
Pb	Water	EPA 1638 Mod	ISO,TNI	09/07/23	09/07/23	B232225	S230926
Pb	Water	EPA 1638 Mod	ISO,TNI	09/08/23	09/09/23	B232241	S230927
Zn	Water	EPA 1638 Mod	ISO,TNI	09/07/23	09/07/23	B232225	S230926

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW5-0823										
2309017-01	As	Water	TR	0.719	J	0.162	0.727	µg/L	B232225	S230926
2309017-01	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-01	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-01	Cu	Water	TR	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-01	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B232225	S230926
2309017-01	Pb	Water	TR	0.075	J	0.061	0.121	µg/L	B232241	S230927
2309017-01	Zn	Water	TR	286		7.07	22.2	µg/L	B232225	S230926
MW5-0823										
2309017-02	As	Water	D	0.584	J	0.162	0.727	µg/L	B232225	S230926
2309017-02	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-02	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-02	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-02	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B232225	S230926
2309017-02	Pb	Water	D	0.093	J	0.061	0.121	µg/L	B232225	S230926
2309017-02	Zn	Water	D	202		7.07	22.2	µg/L	B232225	S230926
MW9-0823										
2309017-03	As	Water	TR	13.1		0.162	0.727	µg/L	B232225	S230926
2309017-03	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-03	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-03	Cu	Water	TR	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-03	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B232225	S230926
2309017-03	Pb	Water	TR	0.081	J	0.061	0.121	µg/L	B232225	S230926
2309017-03	Zn	Water	TR	8.84	J	7.07	22.2	µg/L	B232225	S230926
MW9-0823										
2309017-04	As	Water	D	13.4		0.162	0.727	µg/L	B232225	S230926
2309017-04	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-04	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-04	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-04	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B232225	S230926
2309017-04	Pb	Water	D	0.102	J	0.061	0.121	µg/L	B232225	S230926
2309017-04	Zn	Water	D	9.71	J	7.07	22.2	µg/L	B232225	S230926

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW7-0823										
2309017-05	As	Water	TR	0.669	J	0.162	0.727	µg/L	B232225	S230926
2309017-05	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-05	Cr	Water	TR	4.82	J	1.72	6.06	µg/L	B232225	S230926
2309017-05	Cu	Water	TR	0.506	J	0.505	1.01	µg/L	B232225	S230926
2309017-05	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B232225	S230926
2309017-05	Pb	Water	TR	0.113	J	0.061	0.121	µg/L	B232225	S230926
2309017-05	Zn	Water	TR	9.39	J	7.07	22.2	µg/L	B232225	S230926
MW7-0823										
2309017-06	As	Water	D	0.562	J	0.162	0.727	µg/L	B232225	S230926
2309017-06	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-06	Cr	Water	D	4.31	J	1.72	6.06	µg/L	B232225	S230926
2309017-06	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-06	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B232225	S230926
2309017-06	Pb	Water	D	0.225		0.061	0.121	µg/L	B232241	S230927
2309017-06	Zn	Water	D	10.6	J	7.07	22.2	µg/L	B232225	S230926
MW8-0823										
2309017-07	As	Water	TR	9.72		0.162	0.727	µg/L	B232225	S230926
2309017-07	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-07	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-07	Cu	Water	TR	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-07	Ni	Water	TR	1.87	J	1.21	3.64	µg/L	B232225	S230926
2309017-07	Pb	Water	TR	0.098	J	0.061	0.121	µg/L	B232241	S230927
2309017-07	Zn	Water	TR	10.8	J	7.07	22.2	µg/L	B232225	S230926
MW8-0823										
2309017-08	As	Water	D	9.07		0.162	0.727	µg/L	B232225	S230926
2309017-08	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-08	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-08	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-08	Ni	Water	D	1.71	J	1.21	3.64	µg/L	B232225	S230926
2309017-08	Pb	Water	D	0.112	J	0.061	0.121	µg/L	B232225	S230926
2309017-08	Zn	Water	D	10.1	J	7.07	22.2	µg/L	B232225	S230926

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DUPO3-0823										
2309017-09	As	Water	TR	1.16		0.162	0.727	µg/L	B232225	S230926
2309017-09	Cd	Water	TR	0.482		0.061	0.182	µg/L	B232225	S230926
2309017-09	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-09	Cu	Water	TR	1.62		0.505	1.01	µg/L	B232225	S230926
2309017-09	Ni	Water	TR	1.69	J	1.21	3.64	µg/L	B232225	S230926
2309017-09	Pb	Water	TR	≤ 0.061	U	0.061	0.121	µg/L	B232225	S230926
2309017-09	Zn	Water	TR	398		7.07	22.2	µg/L	B232225	S230926
DUPO3-0823										
2309017-10	As	Water	D	1.26		0.162	0.727	µg/L	B232225	S230926
2309017-10	Cd	Water	D	0.502		0.061	0.182	µg/L	B232225	S230926
2309017-10	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-10	Cu	Water	D	1.81		0.505	1.01	µg/L	B232225	S230926
2309017-10	Ni	Water	D	1.54	J	1.21	3.64	µg/L	B232225	S230926
2309017-10	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B232225	S230926
2309017-10	Zn	Water	D	379		7.07	22.2	µg/L	B232225	S230926
MW1-0823										
2309017-11	As	Water	TR	1.25		0.162	0.727	µg/L	B232225	S230926
2309017-11	Cd	Water	TR	0.457		0.061	0.182	µg/L	B232225	S230926
2309017-11	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-11	Cu	Water	TR	1.70		0.505	1.01	µg/L	B232225	S230926
2309017-11	Ni	Water	TR	1.77	J	1.21	3.64	µg/L	B232225	S230926
2309017-11	Pb	Water	TR	0.107	J	0.061	0.121	µg/L	B232225	S230926
2309017-11	Zn	Water	TR	390		7.07	22.2	µg/L	B232225	S230926
MW1-0823										
2309017-12	As	Water	D	1.20		0.162	0.727	µg/L	B232225	S230926
2309017-12	Cd	Water	D	0.451		0.061	0.182	µg/L	B232225	S230926
2309017-12	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-12	Cu	Water	D	1.75		0.505	1.01	µg/L	B232225	S230926
2309017-12	Ni	Water	D	1.57	J	1.21	3.64	µg/L	B232225	S230926
2309017-12	Pb	Water	D	0.102	J	0.061	0.121	µg/L	B232225	S230926
2309017-12	Zn	Water	D	386		7.07	22.2	µg/L	B232225	S230926

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW3-0823										
2309017-13	As	Water	TR	3.32		0.162	0.727	µg/L	B232225	S230926
2309017-13	Cd	Water	TR	0.297		0.061	0.182	µg/L	B232225	S230926
2309017-13	Cr	Water	TR	3.58	J	1.72	6.06	µg/L	B232225	S230926
2309017-13	Cu	Water	TR	4.91		0.505	1.01	µg/L	B232225	S230926
2309017-13	Ni	Water	TR	4.17		1.21	3.64	µg/L	B232225	S230926
2309017-13	Pb	Water	TR	1.59		0.061	0.121	µg/L	B232241	S230927
2309017-13	Zn	Water	TR	17.0	J	7.07	22.2	µg/L	B232225	S230926
MW3-0823										
2309017-14	As	Water	D	2.33		0.162	0.727	µg/L	B232225	S230926
2309017-14	Cd	Water	D	0.258		0.061	0.182	µg/L	B232225	S230926
2309017-14	Cr	Water	D	1.83	J	1.72	6.06	µg/L	B232225	S230926
2309017-14	Cu	Water	D	1.28		0.505	1.01	µg/L	B232225	S230926
2309017-14	Ni	Water	D	2.48	J	1.21	3.64	µg/L	B232225	S230926
2309017-14	Pb	Water	D	0.089	J	0.061	0.121	µg/L	B232225	S230926
2309017-14	Zn	Water	D	11.5	J	7.07	22.2	µg/L	B232225	S230926
MW2-0823										
2309017-15	As	Water	TR	3.62		0.162	0.727	µg/L	B232225	S230926
2309017-15	Cd	Water	TR	0.311		0.061	0.182	µg/L	B232225	S230926
2309017-15	Cr	Water	TR	2.39	J	1.72	6.06	µg/L	B232225	S230926
2309017-15	Cu	Water	TR	2.80		0.505	1.01	µg/L	B232225	S230926
2309017-15	Ni	Water	TR	3.54	J	1.21	3.64	µg/L	B232225	S230926
2309017-15	Pb	Water	TR	0.229		0.061	0.121	µg/L	B232241	S230927
2309017-15	Zn	Water	TR	14.3	J	7.07	22.2	µg/L	B232225	S230926
MW2-0823										
2309017-16	As	Water	D	3.21		0.162	0.727	µg/L	B232225	S230926
2309017-16	Cd	Water	D	0.270		0.061	0.182	µg/L	B232225	S230926
2309017-16	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-16	Cu	Water	D	1.38		0.505	1.01	µg/L	B232225	S230926
2309017-16	Ni	Water	D	1.68	J	1.21	3.64	µg/L	B232225	S230926
2309017-16	Pb	Water	D	0.089	J	0.061	0.121	µg/L	B232225	S230926
2309017-16	Zn	Water	D	10.9	J	7.07	22.2	µg/L	B232225	S230926

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW4-0823										
2309017-17	As	Water	TR	0.276	J	0.162	0.727	µg/L	B232225	S230926
2309017-17	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-17	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-17	Cu	Water	TR	0.640	J	0.505	1.01	µg/L	B232225	S230926
2309017-17	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B232225	S230926
2309017-17	Pb	Water	TR	0.100	J	0.061	0.121	µg/L	B232225	S230926
2309017-17	Zn	Water	TR	212		7.07	22.2	µg/L	B232225	S230926
MW4-0823										
2309017-18	As	Water	D	≤ 0.162	U	0.162	0.727	µg/L	B232225	S230926
2309017-18	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-18	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-18	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-18	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B232225	S230926
2309017-18	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B232225	S230926
2309017-18	Zn	Water	D	167		7.07	22.2	µg/L	B232225	S230926
FB-0823										
2309017-19	As	Water	D	≤ 0.162	U	0.162	0.727	µg/L	B232225	S230926
2309017-19	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-19	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-19	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-19	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B232225	S230926
2309017-19	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B232225	S230926
2309017-19	Zn	Water	D	≤ 7.07	U	7.07	22.2	µg/L	B232225	S230926
MW6-0823										
2309017-20	As	Water	TR	0.223	J	0.162	0.727	µg/L	B232225	S230926
2309017-20	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-20	Cr	Water	TR	1.85	J	1.72	6.06	µg/L	B232225	S230926
2309017-20	Cu	Water	TR	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-20	Ni	Water	TR	1.32	J	1.21	3.64	µg/L	B232225	S230926
2309017-20	Pb	Water	TR	≤ 0.061	U	0.061	0.121	µg/L	B232225	S230926
2309017-20	Zn	Water	TR	≤ 7.07	U	7.07	22.2	µg/L	B232225	S230926

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW6-0823										
2309017-21	As	Water	D	0.251	J	0.162	0.727	µg/L	B232225	S230926
2309017-21	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B232225	S230926
2309017-21	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232225	S230926
2309017-21	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B232225	S230926
2309017-21	Ni	Water	D	1.23	J	1.21	3.64	µg/L	B232225	S230926
2309017-21	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B232225	S230926
2309017-21	Zn	Water	D	≤ 7.07	U	7.07	22.2	µg/L	B232225	S230926

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Accuracy & Precision Summary

Batch: B232225
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B232225-BS1	**Blank Spike, (2137006)**						
	As		55.56	47.04	µg/L	85% 75-125	
	Cd		5.556	5.474	µg/L	99% 75-125	
	Cr		55.56	47.32	µg/L	85% 75-125	
	Cu		55.56	47.56	µg/L	86% 75-125	
	Ni		55.56	49.38	µg/L	89% 75-125	
	Pb		5.556	5.267	µg/L	95% 75-125	
	Zn		55.56	49.62	µg/L	89% 75-125	
B232225-BS2	**Blank Spike, (2240065)**						
	As		277.8	282.1	µg/L	102% 75-125	
	Cd		27.78	28.52	µg/L	103% 75-125	
	Cr		277.8	284.5	µg/L	102% 75-125	
	Cu		277.8	287.4	µg/L	103% 75-125	
	Ni		277.8	269.1	µg/L	97% 75-125	
	Pb		27.78	29.10	µg/L	105% 75-125	
	Zn		277.8	284.8	µg/L	103% 75-125	
B232225-SRM1	**Reference Material (2326013, NIST 1643f)**						
	As		57.42	49.14	µg/L	86% 75-125	
	Cd		5.890	5.423	µg/L	92% 75-125	
	Cr		18.50	15.49	µg/L	84% 75-125	
	Cu		21.66	17.40	µg/L	80% 75-125	
	Ni		59.80	50.60	µg/L	85% 75-125	
	Pb		18.49	17.17	µg/L	93% 75-125	
	Zn		74.40	63.92	µg/L	86% 75-125	
B232225-SRM2	**Reference Material (2326013, NIST 1643f)**						
	As		57.42	50.10	µg/L	87% 75-125	
	Cd		5.890	5.566	µg/L	95% 75-125	
	Cr		18.50	15.25	µg/L	82% 75-125	
	Cu		21.66	17.20	µg/L	79% 75-125	
	Ni		59.80	51.51	µg/L	86% 75-125	
	Pb		18.49	16.72	µg/L	90% 75-125	
	Zn		74.40	63.52	µg/L	85% 75-125	

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Accuracy & Precision Summary

Batch: B232225
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B232225-DUP1	**Duplicate, (2309003-01)**						
	As	0.539		0.547	µg/L		1% 20
	Cd	0.008		0.011	µg/L		*29%* 20
	Cr	0.265		0.246	µg/L		7% 20
	Cu	47.10		46.93	µg/L		0.4% 20
	Ni	0.381		0.441	µg/L		15% 20
	Zn	15.70		15.45	µg/L		2% 20
B232225-MS1	**Matrix Spike, (2309003-01)**						
	As	0.539	56.12	48.09	µg/L	85% 75-125	
	Cd	0.008	5.612	5.444	µg/L	97% 75-125	
	Cr	0.265	56.12	46.69	µg/L	83% 75-125	
	Cu	47.10	56.12	90.48	µg/L	77% 75-125	
	Ni	0.381	56.12	48.32	µg/L	85% 75-125	
	Zn	15.70	56.12	63.11	µg/L	84% 75-125	
B232225-MSD1	**Matrix Spike Duplicate, (2309003-01)**						
	As	0.539	56.12	48.89	µg/L	86% 75-125	2% 20
	Cd	0.008	5.612	5.557	µg/L	99% 75-125	2% 20
	Cr	0.265	56.12	47.63	µg/L	84% 75-125	2% 20
	Cu	47.10	56.12	91.89	µg/L	80% 75-125	2% 20
	Ni	0.381	56.12	48.37	µg/L	86% 75-125	0.1% 20
	Zn	15.70	56.12	64.38	µg/L	87% 75-125	2% 20
B232225-DUP2	**Duplicate, (2309017-09)**						
	As	1.163		1.234	µg/L		6% 20
	Cd	0.482		0.498	µg/L		3% 20
	Cr	ND		ND	µg/L		N/C 20
	Cu	1.619		1.613	µg/L		0.4% 20
	Ni	1.692		1.644	µg/L		3% 20
	Pb	ND		ND	µg/L		N/C 20
	Zn	397.8		388.1	µg/L		2% 20

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Accuracy & Precision Summary

Batch: B232225
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B232225-MS2	**Matrix Spike, (2309017-09)**						
	As	1.163	280.6	261.0	µg/L	93% 75-125	
	Cd	0.482	28.06	27.59	µg/L	97% 75-125	
	Cr	ND	280.6	246.2	µg/L	88% 75-125	
	Cu	1.619	280.6	235.9	µg/L	83% 75-125	
	Ni	1.692	280.6	255.9	µg/L	91% 75-125	
	Pb	ND	28.06	24.57	µg/L	88% 75-125	
	Zn	397.8	280.6	630.1	µg/L	83% 75-125	
B232225-MSD2	**Matrix Spike Duplicate, (2309017-09)**						
	As	1.163	280.6	249.2	µg/L	88% 75-125	5% 20
	Cd	0.482	28.06	25.90	µg/L	91% 75-125	6% 20
	Cr	ND	280.6	240.2	µg/L	86% 75-125	2% 20
	Cu	1.619	280.6	232.3	µg/L	82% 75-125	2% 20
	Ni	1.692	280.6	244.9	µg/L	87% 75-125	4% 20
	Pb	ND	28.06	23.76	µg/L	85% 75-125	3% 20
	Zn	397.8	280.6	622.8	µg/L	80% 75-125	1% 20
B232225-DUP3	**Duplicate, (2309017-20)**						
	As	0.223		0.224	µg/L		0.4% 20
	Cd	ND		ND	µg/L		N/C 20
	Cr	1.853		2.194	µg/L		17% 20
	Cu	ND		ND	µg/L		N/C 20
	Ni	1.320		1.273	µg/L		4% 20
	Pb	ND		ND	µg/L		N/C 20
	Zn	ND		ND	µg/L		N/C 20
B232225-MS3	**Matrix Spike, (2309017-20)**						
	As	0.223	280.6	255.9	µg/L	91% 75-125	
	Cd	ND	28.06	26.77	µg/L	95% 75-125	
	Cr	1.853	280.6	252.1	µg/L	89% 75-125	
	Cu	ND	280.6	242.4	µg/L	86% 75-125	
	Ni	1.320	280.6	269.4	µg/L	96% 75-125	
	Pb	ND	28.06	25.95	µg/L	92% 75-125	
	Zn	ND	280.6	258.6	µg/L	92% 75-125	

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B232225
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B232225-MSD3	**Matrix Spike Duplicate, (2309017-20)**						
	As	0.223	280.6	275.5	µg/L	98% 75-125	7% 20
	Cd	ND	28.06	28.70	µg/L	102% 75-125	7% 20
	Cr	1.853	280.6	242.4	µg/L	86% 75-125	4% 20
	Cu	ND	280.6	233.4	µg/L	83% 75-125	4% 20
	Ni	1.320	280.6	244.5	µg/L	87% 75-125	10% 20
	Pb	ND	28.06	25.10	µg/L	89% 75-125	3% 20
	Zn	ND	280.6	250.5	µg/L	89% 75-125	3% 20

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B232241
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B232241-BS1	**Blank Spike, (2240065)**						
	Pb		27.78	28.68	µg/L	103% 75-125	
B232241-SRM1	**Reference Material (2326013, NIST 1643f)**						
	Pb		18.49	18.86	µg/L	102% 75-125	
B232241-DUP1	**Duplicate, (2309017-15)**						
	Pb	0.229		0.206	µg/L		11% 20
B232241-MS1	**Matrix Spike, (2309017-15)**						
	Pb	0.229	28.06	27.32	µg/L	97% 75-125	
B232241-MSD1	**Matrix Spike Duplicate, (2309017-15)**						
	Pb	0.229	28.06	27.62	µg/L	98% 75-125	1% 20

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Method Blanks & Reporting Limits

Batch: B232225
Matrix: Water
Method: EPA 1638 Mod
Analyte: As

Sample	Result	Units
B232225-BLK1	0.003	µg/L
B232225-BLK2	0.002	µg/L
B232225-BLK3	0.002	µg/L
B232225-BLK4	0.002	µg/L

Average: 0.002
Limit: 0.072
MDL: 0.016
MRL: 0.072

Analyte: Cd

Sample	Result	Units
B232225-BLK1	-0.00002	µg/L
B232225-BLK2	0.0007	µg/L
B232225-BLK3	0.0001	µg/L
B232225-BLK4	0.0003	µg/L

Average: 0.000
Limit: 0.018
MDL: 0.006
MRL: 0.018

Analyte: Cr

Sample	Result	Units
B232225-BLK1	0.054	µg/L
B232225-BLK2	-0.015	µg/L
B232225-BLK3	-0.033	µg/L
B232225-BLK4	-0.010	µg/L

Average: -0.001
Limit: 0.600
MDL: 0.170
MRL: 0.600

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Method Blanks & Reporting Limits

Analyte: Cu

Sample	Result	Units
B232225-BLK1	0.031	µg/L
B232225-BLK2	0.042	µg/L
B232225-BLK3	0.008	µg/L
B232225-BLK4	0.030	µg/L

Average: 0.028
Limit: 0.100
MDL: 0.050
MRL: 0.100

Analyte: Ni

Sample	Result	Units
B232225-BLK1	0.008	µg/L
B232225-BLK2	0.009	µg/L
B232225-BLK3	0.011	µg/L
B232225-BLK4	0.026	µg/L

Average: 0.014
Limit: 0.360
MDL: 0.120
MRL: 0.360

Analyte: Pb

Sample	Result	Units
B232225-BLK1	0.006	µg/L
B232225-BLK2	0.005	µg/L
B232225-BLK3	0.047	µg/L
B232225-BLK4	0.005	µg/L

Average: *0.016*
Limit: 0.012
MDL: 0.006
MRL: 0.012

Analyte: Zn

Sample	Result	Units
B232225-BLK1	0.283	µg/L
B232225-BLK2	0.330	µg/L
B232225-BLK3	0.072	µg/L
B232225-BLK4	0.480	µg/L

Average: 0.291
Limit: 2.200
MDL: 0.700
MRL: 2.20

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Method Blanks & Reporting Limits

Batch: B232241
Matrix: Water
Method: EPA 1638 Mod
Analyte: Pb

Sample	Result	Units
B232241-BLK1	-0.003	µg/L
B232241-BLK2	-0.003	µg/L
B232241-BLK3	-0.0008	µg/L
B232241-BLK4	-0.004	µg/L

Average: -0.003
Limit: 0.012

MDL: 0.006
MRL: 0.012

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2309017-01
Sample: MW5-0823
Report Matrix: Water
Sample Type: Sample
Collected: 08/28/2023
Received: 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-02
Sample: MW5-0823
Report Matrix: Water
Sample Type: Sample
Collected: 08/28/2023
Received: 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-03
Sample: MW9-0823
Report Matrix: Water
Sample Type: Sample
Collected: 08/28/2023
Received: 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-04
Sample: MW9-0823
Report Matrix: Water
Sample Type: Sample
Collected: 08/28/2023
Received: 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-05
Sample: MW7-0823
Report Matrix: Water
Sample Type: Sample
Collected: 08/28/2023
Received: 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-06
Sample: MW7-0823
Report Matrix: Water
Sample Type: Sample
Collected: 08/28/2023
Received: 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

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Sample Containers

Lab ID: 2309017-07 **Report Matrix:** Water **Collected:** 08/28/2023
Sample: MW8-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-08 **Report Matrix:** Water **Collected:** 08/28/2023
Sample: MW8-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-09 **Report Matrix:** Water **Collected:** 08/29/2023
Sample: DUPO3-0823 **Sample Type:** Field Duplicate **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-10 **Report Matrix:** Water **Collected:** 08/29/2023
Sample: DUPO3-0823 **Sample Type:** Field Duplicate **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-11 **Report Matrix:** Water **Collected:** 08/29/2023
Sample: MW1-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-12 **Report Matrix:** Water **Collected:** 08/29/2023
Sample: MW1-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

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Sample Containers

Lab ID: 2309017-13 **Report Matrix:** Water **Collected:** 08/29/2023
Sample: MW3-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-14 **Report Matrix:** Water **Collected:** 08/29/2023
Sample: MW3-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-15 **Report Matrix:** Water **Collected:** 08/29/2023
Sample: MW2-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-16 **Report Matrix:** Water **Collected:** 08/29/2023
Sample: MW2-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-17 **Report Matrix:** Water **Collected:** 08/30/2023
Sample: MW4-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-18 **Report Matrix:** Water **Collected:** 08/30/2023
Sample: MW4-0823 **Sample Type:** Sample **Received:** 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2309017-19
Sample: FB-0823
Report Matrix: Water
Sample Type: Filter Blank
Collected: 08/30/2023
Received: 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-20
Sample: MW6-0823
Report Matrix: Water
Sample Type: Sample
Collected: 08/30/2023
Received: 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Lab ID: 2309017-21
Sample: MW6-0823
Report Matrix: Water
Sample Type: Sample
Collected: 08/30/2023
Received: 09/01/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0044	1%HNO3		<2	Cooler - 2309017

Shipping Containers

Cooler - 2309017

Received: September 1, 2023 12:39
Tracking No: N/A via Courier
Coolant Type: Ice
Temperature: 3.1 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: R-IR-3

Custody seals present? No
Custody seals intact? No
COC present? Yes

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

EENP 9/1/23
BAL Report 2309017

For BAL use only
Received by: [signature] Date: ~~1239~~ 9/1/23
Work Order ID: _____ Time: 1239
Project ID: _____

Client: CRETE Consulting PO Number: Bridge Point Seattle 130 Mailing Address: _____
Contact: Rusty Jones Phone: _____
Client Project ID: Bridge Point Seattle 130 Email: rusty.jones@creteconsulting.com Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones R. Jones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO_3/Other	Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) 1638 Mod Total Metals	Other (specify) 1638 Mod Dissolved Metals	Comments: Specify Here
1	MW5-0823	8.28.2023	1050	WATER	2	Y+N	NONE							X	X	2.042 mS/cm SpC
2	MW9-0823		1158		2									X	X	0.6986 mS/cm SpC
3	MW7-0823		1306		2									X	X	0.387 mS/cm SpC
4	MW8-0823		1359		2									X	X	0.978 mS/cm
5	DUP03-0823	8.29.2023	0001		2									X	X	
6	MW1-0823		1024		2									X	X	16.586 mS/cm SpC
7	MW3-0823		1115		2									X	X	33.077 mS/cm SpC
8	MW2-0823		1155		2									X	X	31.818 mS/cm SpC
9	MW4-0823	8.30.2023	1129		2									X	X	Cond. 1.024 mS/cm Cond.
10	FB-0823		1145		1 2 PS									X PS	X	Filter blank, dissolved only
	Trip Blank															

Relinquished By: R. Jones	Date: 9/1/2023	Time: 1239	Relinquished By:	Date:	Time:
Received By:	Date:	Time:	Total Number of Packages:		

Page 1 of ~~1~~ 2 List Hazardous Contaminants: _____

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only — BAL Report 2309017

Received by: _____ Date: 9/1/23

Work Order ID: _____ Time: 1239

Project ID: _____

Client: CRETE Consulting | PO Number: BRIDGE Point Seattle 130 | Mailing Address: _____

Contact: Rusty Jones | Phone: _____

Client Project ID: Bridge Point Seattle 130 | Email: _____ | Email Receipt Confirmation? (Yes/No)

Samples Collected By: Rusty Jones RJones | BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl /HNO_3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) 1638 Mod. Total Metals	Other (specify) 1638 Mod. Dissolved Metals	Comments
1	MW6-0823	8.30.2023	1218	WATER	2	Y+N	NONE							X	X	Same Metals List as Page 1
2																
3																
4																
5																
6																
7																
8																
9																
10																
	Trip Blank															Specify Here

Cond. 17,826 mS/cm

Relinquished By: RJones	Date: 9/1/2023	Time: 1239	Relinquished By:	Date:	Time:
Received By:	Date:	Time:	Total Number of Packages:		

Page 2 of 2 List Hazardous Contaminants: _____

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BROOKS APPLIED LABS
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November 20, 2023

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Dear Rusty Jones,

On October 19, 2023, Brooks Applied Labs (BAL) received two (2) aqueous samples in a sealed cooler at an acceptable temperature of 4.8°C. The samples were logged-in for total recoverable and dissolved (*arsenic [As], cadmium [Cd], chromium [Cr], copper [Cu], lead [Pb], nickel [Ni], and zinc [Zn]*) analyses, according to the issued quotation. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) were preserved to a pH <2 upon receipt at BAL.

Total Recoverable and Dissolved (As, Cd, Cr, Cu, Pb, Ni, and Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) content via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

Batch B232668
Sample results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs. All results were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

The method blank (BLK) B232668-BLK1 had a Cu concentration above the acceptance limit. Samples 2310315-01, 2310315-02, and 2310315-03 had Cu results that were less than the MRL and no further action was required. Sample 2310315-04 had a Cu result that was above the MRL but less than 10x the concentration of this BLK and was not reported from this batch. Sample 2310315-04 was redigested in batch B232707 and reanalyzed in sequence S231112.

The method blank (BLK) B232668-BLK1 had a Pb concentration above the acceptance limit. All sample results were less than the MRL and no further action was required.

The standard reference material (SRM) B232668-SRM1 had a Zn recovery outside the acceptance limit. In addition, the method blanks (BLK) B232668-BLK1 and B232668-BLK4 had Zn concentrations above the acceptance limit. No Zn results were reported from this batch, and all samples were redigested in batch B232707, and reanalyzed in sequence S231112.

Batch B232707

Sample results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs. All results were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Some of the total results were less than the corresponding dissolved result. In all of these cases, the total and dissolved samples meet RPD, or the results met secondary criteria (within 5x the MRL and within the MRL of each other) and no further action was required.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL, the relative percent difference (RPD) was not calculated (N/C).
In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision. When the spiking levels were ≤ 25% of the native sample concentrations, the recoveries were not reported **(NR)**. No sample results were qualified on the basis of the MS or MSD recoveries.

Except for concentration qualifiers, all data were reported without qualification. All associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02.

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
PD-1023	2310315-01	Water	Sample	10/19/2023	10/19/2023
PD-1023	2310315-02	Water	Sample	10/19/2023	10/19/2023
MWI-1023	2310315-03	Water	Sample	10/19/2023	10/19/2023
MWI-1023	2310315-04	Water	Sample	10/19/2023	10/19/2023

Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
As	Water	EPA 1638 Mod	ISO,TNI	10/24/23	10/25/23	B232668	S231103
Cd	Water	EPA 1638 Mod	ISO,TNI	10/24/23	10/25/23	B232668	S231103
Cr	Water	EPA 1638 Mod	ISO,TNI	10/24/23	10/25/23	B232668	S231103
Cu	Water	EPA 1638 Mod	ISO,TNI	10/24/23	10/25/23	B232668	S231103
Cu	Water	EPA 1638 Mod	ISO,TNI	10/26/23	10/27/23	B232707	S231112
Ni	Water	EPA 1638 Mod	ISO,TNI	10/24/23	10/25/23	B232668	S231103
Pb	Water	EPA 1638 Mod	ISO,TNI	10/24/23	10/25/23	B232668	S231103
Zn	Water	EPA 1638 Mod	ISO,TNI	10/26/23	10/27/23	B232707	S231112

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
PD-1023										
2310315-01	As	Water	TR	0.290	J	0.162	0.727	µg/L	B232668	S231103
2310315-01	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B232668	S231103
2310315-01	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B232668	S231103
2310315-01	Cu	Water	TR	≤ 0.505	U	0.505	1.01	µg/L	B232668	S231103
2310315-01	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B232668	S231103
2310315-01	Pb	Water	TR	≤ 0.061	U	0.061	0.121	µg/L	B232668	S231103
2310315-01	Zn	Water	TR	≤ 7.07	U	7.07	22.2	µg/L	B232707	S231112
PD-1023										
2310315-02	As	Water	D	0.226	J	0.162	0.727	µg/L	B232668	S231103
2310315-02	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B232668	S231103
2310315-02	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B232668	S231103
2310315-02	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B232668	S231103
2310315-02	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B232668	S231103
2310315-02	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B232668	S231103
2310315-02	Zn	Water	D	≤ 7.07	U	7.07	22.2	µg/L	B232707	S231112
MWI-1023										
2310315-03	As	Water	TR	1.47	J	0.404	1.82	µg/L	B232668	S231103
2310315-03	Cd	Water	TR	1.14		0.152	0.455	µg/L	B232668	S231103
2310315-03	Cr	Water	TR	≤ 4.29	U	4.29	15.2	µg/L	B232668	S231103
2310315-03	Cu	Water	TR	2.39	J	1.26	2.53	µg/L	B232668	S231103
2310315-03	Ni	Water	TR	3.45	J	3.03	9.09	µg/L	B232668	S231103
2310315-03	Pb	Water	TR	≤ 0.152	U	0.152	0.303	µg/L	B232668	S231103
2310315-03	Zn	Water	TR	949		17.7	55.6	µg/L	B232707	S231112
MWI-1023										
2310315-04	As	Water	D	1.52	J	0.404	1.82	µg/L	B232668	S231103
2310315-04	Cd	Water	D	1.13		0.152	0.455	µg/L	B232668	S231103
2310315-04	Cr	Water	D	≤ 4.29	U	4.29	15.2	µg/L	B232668	S231103
2310315-04	Cu	Water	D	1.94	J	1.26	2.53	µg/L	B232707	S231112
2310315-04	Ni	Water	D	3.70	J	3.03	9.09	µg/L	B232668	S231103
2310315-04	Pb	Water	D	≤ 0.152	U	0.152	0.303	µg/L	B232668	S231103
2310315-04	Zn	Water	D	956		17.7	55.6	µg/L	B232707	S231112

Accuracy & Precision Summary

Batch: B232668
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B232668-BS1	**Blank Spike, (2248032)**						
	As		55.56	55.53	µg/L	100% 75-125	
	Cd		5.556	6.127	µg/L	110% 75-125	
	Cr		55.56	58.07	µg/L	105% 75-125	
	Cu		55.56	59.11	µg/L	106% 75-125	
	Ni		55.56	57.54	µg/L	104% 75-125	
	Pb		5.556	6.711	µg/L	121% 75-125	
B232668-BS2	**Blank Spike, (2336005)**						
	As		277.8	266.7	µg/L	96% 75-125	
	Cd		27.78	29.27	µg/L	105% 75-125	
	Cr		277.8	290.0	µg/L	104% 75-125	
	Cu		277.8	292.7	µg/L	105% 75-125	
	Ni		277.8	255.9	µg/L	92% 75-125	
	Pb		27.78	32.03	µg/L	115% 75-125	
B232668-SRM1	**Reference Material (2305022, T221 - bottle 7)**						
	As		17.70	17.23	µg/L	97% 75-125	
	Cd		0.03800	0.035	µg/L	91% 75-125	
	Cr		1.710	1.814	µg/L	106% 75-125	
	Cu		3.780	3.908	µg/L	103% 75-125	
	Ni		0.6000	0.456	µg/L	76% 75-125	
	Pb		0.4900	0.555	µg/L	113% 75-125	
B232668-SRM2	**Reference Material (2305022, T221 - bottle 7)**						
	As		17.70	17.12	µg/L	97% 75-125	
	Cd		0.03800	0.041	µg/L	108% 75-125	
	Cr		1.710	1.724	µg/L	101% 75-125	
	Cu		3.780	3.848	µg/L	102% 75-125	
	Ni		0.6000	0.617	µg/L	103% 75-125	
	Pb		0.4900	0.560	µg/L	114% 75-125	

Accuracy & Precision Summary

Batch: B232668
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B232668-DUP1	**Duplicate, (2310315-01)**						
	As	0.290		0.274	µg/L		6% 20
	Cd	ND		ND	µg/L		N/C 20
	Cr	ND		ND	µg/L		N/C 20
	Cu	ND		ND	µg/L		N/C 20
	Ni	ND		ND	µg/L		N/C 20
	Pb	ND		ND	µg/L		N/C 20
B232668-MS1	**Matrix Spike, (2310315-01)**						
	As	0.290	56.12	56.03	µg/L	99% 75-125	
	Cd	ND	5.612	5.983	µg/L	107% 75-125	
	Cr	ND	56.12	58.93	µg/L	105% 75-125	
	Cu	ND	56.12	56.91	µg/L	101% 75-125	
	Ni	ND	56.12	50.11	µg/L	89% 75-125	
	Pb	ND	5.612	6.400	µg/L	114% 75-125	
B232668-MSD1	**Matrix Spike Duplicate, (2310315-01)**						
	As	0.290	56.12	53.65	µg/L	95% 75-125	4% 20
	Cd	ND	5.612	5.587	µg/L	100% 75-125	7% 20
	Cr	ND	56.12	54.58	µg/L	97% 75-125	8% 20
	Cu	ND	56.12	53.26	µg/L	95% 75-125	7% 20
	Ni	ND	56.12	51.02	µg/L	91% 75-125	2% 20
	Pb	ND	5.612	6.207	µg/L	111% 75-125	3% 20

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B232707
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B232707-BS1	**Blank Spike, (2248034)**						
	Cu		55.56	52.46	µg/L	94% 75-125	
	Zn		55.56	53.49	µg/L	96% 75-125	
B232707-BS2	**Blank Spike, (2248034)**						
	Cu		55.56	54.30	µg/L	98% 75-125	
	Zn		55.56	55.33	µg/L	100% 75-125	
B232707-SRM1	**Reference Material (2305021, T221 - bottle 6)**						
	Cu		3.780	3.936	µg/L	104% 75-125	
	Zn		25.20	26.43	µg/L	105% 75-125	
B232707-SRM2	**Reference Material (2305021, T221 - bottle 6)**						
	Cu		3.780	4.095	µg/L	108% 75-125	
	Zn		25.20	27.96	µg/L	111% 75-125	
B232707-DUP2	**Duplicate, (2310315-03)**						
	Cu	2.435		2.318	µg/L		5% 20
	Zn	948.8		1009	µg/L		6% 20
B232707-MS2	**Matrix Spike, (2310315-03)**						
	Cu	2.435	56.12	57.05	µg/L	97% 75-125	
	Zn	948.8	56.12	991.1	µg/L	NR 75-125	
B232707-MSD2	**Matrix Spike Duplicate, (2310315-03)**						
	Cu	2.435	56.12	57.56	µg/L	98% 75-125	0.9% 20
	Zn	948.8	56.12	992.5	µg/L	NR 75-125	N/C 20

Method Blanks & Reporting Limits

Batch: B232668
Matrix: Water
Method: EPA 1638 Mod
Analyte: As

Sample	Result	Units
B232668-BLK1	0.012	µg/L
B232668-BLK2	0.007	µg/L
B232668-BLK3	0.007	µg/L
B232668-BLK4	0.008	µg/L

Average: 0.009
Limit: 0.072
MDL: 0.016
MRL: 0.072

Analyte: Cd

Sample	Result	Units
B232668-BLK1	0.0008	µg/L
B232668-BLK2	-0.0001	µg/L
B232668-BLK3	0.0008	µg/L
B232668-BLK4	0.0007	µg/L

Average: 0.001
Limit: 0.018
MDL: 0.006
MRL: 0.018

Analyte: Cr

Sample	Result	Units
B232668-BLK1	0.023	µg/L
B232668-BLK2	-0.004	µg/L
B232668-BLK3	-0.002	µg/L
B232668-BLK4	-0.00005	µg/L

Average: 0.004
Limit: 0.600
MDL: 0.170
MRL: 0.600

Method Blanks & Reporting Limits

Analyte: Cu

Sample	Result	Units
B232668-BLK1	0.152	µg/L
B232668-BLK2	0.072	µg/L
B232668-BLK3	0.045	µg/L
B232668-BLK4	0.043	µg/L

Average: 0.078
Limit: 0.100

MDL: 0.050
MRL: 0.100

Analyte: Ni

Sample	Result	Units
B232668-BLK1	0.203	µg/L
B232668-BLK2	0.054	µg/L
B232668-BLK3	0.023	µg/L
B232668-BLK4	0.015	µg/L

Average: 0.074
Limit: 0.360

MDL: 0.120
MRL: 0.360

Analyte: Pb

Sample	Result	Units
B232668-BLK1	0.014	µg/L
B232668-BLK2	0.008	µg/L
B232668-BLK3	0.008	µg/L
B232668-BLK4	0.009	µg/L

Average: 0.010
Limit: 0.012

MDL: 0.006
MRL: 0.012

Method Blanks & Reporting Limits

Batch: B232707
Matrix: Water
Method: EPA 1638 Mod
Analyte: Cu

Sample	Result	Units
B232707-BLK1	0.089	µg/L
B232707-BLK2	0.005	µg/L
B232707-BLK3	0.006	µg/L
B232707-BLK4	0.012	µg/L

Average: 0.028
Limit: 0.100

MDL: 0.050
MRL: 0.100

Analyte: Zn

Sample	Result	Units
B232707-BLK1	1.20	µg/L
B232707-BLK2	0.351	µg/L
B232707-BLK3	0.218	µg/L
B232707-BLK4	0.348	µg/L

Average: 0.530
Limit: 2.200

MDL: 0.700
MRL: 2.20

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2310315-01 **Report Matrix:** Water **Collected:** 10/19/2023
Sample: PD-1023 **Sample Type:** Sample **Received:** 10/19/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	21-0031	1% HNO3 (BAL)	2329045	<2	Cooler - 2310315

Lab ID: 2310315-02 **Report Matrix:** Water **Collected:** 10/19/2023
Sample: PD-1023 **Sample Type:** Sample **Received:** 10/19/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	21-0031	1% HNO3 (BAL)	2329045	<2	Cooler - 2310315

Lab ID: 2310315-03 **Report Matrix:** Water **Collected:** 10/19/2023
Sample: MWI-1023 **Sample Type:** Sample **Received:** 10/19/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	21-0031	1% HNO3 (BAL)	2329045	<2	Cooler - 2310315

Lab ID: 2310315-04 **Report Matrix:** Water **Collected:** 10/19/2023
Sample: MWI-1023 **Sample Type:** Sample **Received:** 10/19/2023

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	21-0031	1% HNO3 (BAL)	2329045	<2	Cooler - 2310315

Shipping Containers

Cooler - 2310315

Received: October 19, 2023 11:58
Tracking No: N/A via Courier
Coolant Type: Blue Ice
Temperature: 4.8 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: R-IR-3

Custody seals present? No
Custody seals intact? No
COC present? Yes

Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only — BAL Report 2310315
Received by: _____ *Date:* _____
Work Order ID: _____ *Time:* _____
Project ID: _____

Client: CRETE Consulting — PO Number: Bridge Point Seattle 130 — Mailing Address: _____
Contact: Rusty Jones — Phone: 832.330.1359
Client Project ID: Bridge Point Seattle 130 — Email: rusty.jones@creteconsulting.com — Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones R. Jones — BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl / HNO_3 / Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) DISSOLVED METALS See Proj. Bk 1638 Mod.	Other (specify) TOTAL METALS 1638 Mod	Comments
1	PD-1023	10.19.2023	0257	WATER	2	Y+N	NONE							X	X	Cond. 3459 uS/cm
2	MW1-1023	↓	0318	↓	2	Y+N	↓							X	X	Cond. 13,622 uS/cm
3																
4																
5																
6																
7																
8																
9																
10																
	Trip Blank															

Comments — Metals List: Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Zinc

Specify Here

Relinquished By: R. Jones	Date: 10/19/2023	Time: 1158	Relinquished By:	Date: / Time:
Received By:	Date: 10/19/23	Time: 1159	Total Number of Packages:	

Page 1 of 1 — List Hazardous Contaminants: _____

samples@brooksapplied.com | brooksapplied.com

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

March 25, 2024

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

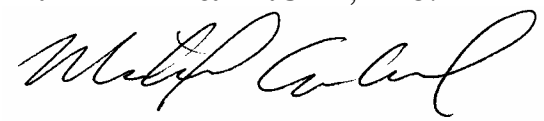
Dear Mr Jones:

Included are the results from the testing of material submitted on February 29, 2024 from the Bridge Point Seattle 130, F&BI 402446 project. There are 11 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: Grant Hainsworth, Jamie Stevens
CTC0325R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 29, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 402446 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
402446 -01	RI-SB-09 10-12.5'
402446 -02	RI-SB-09
402446 -03	RI-SB-08 5-10'
402446 -04	RI-SB-08 10.6-12.5'
402446 -05	RI-SB-08
402446 -06	RI-SB-07 5-6'
402446 -07	RI-SB-07 10-15'
402446 -08	RI-SB-07
402446 -09	DUP03-0224
402446 -10	DUP04-0224
402446 -11	DUP05-0224

Samples RI-SB-09 10-12.5', RI-SB-09, RI-SB-08 5-10', RI-SB-08, DUP03-0224, and DUP04-0224 were sent to Analytical Resources, Inc. for tributyltin analysis. The report is enclosed.

The reporting limits of sample RI-SB-09 10-12.5' were raised due to a high percent moisture present in the sample.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	RI-SB-09 10-12.5'	Client:	Crete Consulting
Date Received:	02/29/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/08/24	Lab ID:	402446-01
Date Analyzed:	03/08/24	Data File:	030812.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	86	114
Toluene-d8	98	86	115
4-Bromofluorobenzene	99	83	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.1
Chloroethane	<1
1,1-Dichloroethene	<0.1
Methylene chloride	<1
trans-1,2-Dichloroethene	<0.1
1,1-Dichloroethane	<0.1
cis-1,2-Dichloroethene	<0.1
1,2-Dichloroethane (EDC)	<0.1
1,1,1-Trichloroethane	<0.1
Trichloroethene	0.088
Tetrachloroethene	3.6

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	03/08/24	Lab ID:	04-0506 mb
Date Analyzed:	03/08/24	Data File:	030806.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	86	114
Toluene-d8	102	86	115
4-Bromofluorobenzene	103	83	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-09	Client:	Crete Consulting
Date Received:	02/29/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/05/24	Lab ID:	402446-02
Date Analyzed:	03/05/24	Data File:	030521.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	78	126
Toluene-d8	97	84	115
4-Bromofluorobenzene	95	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.022
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.4
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.76
Tetrachloroethene	2.9

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-08	Client:	Crete Consulting
Date Received:	02/29/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/05/24	Lab ID:	402446-05
Date Analyzed:	03/05/24	Data File:	030522.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	102	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.10
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-07	Client:	Crete Consulting
Date Received:	02/29/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/05/24	Lab ID:	402446-08
Date Analyzed:	03/05/24	Data File:	030523.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	78	126
Toluene-d8	101	84	115
4-Bromofluorobenzene	99	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP05-0224	Client:	Crete Consulting
Date Received:	02/29/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/05/24	Lab ID:	402446-11
Date Analyzed:	03/05/24	Data File:	030524.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	78	126
Toluene-d8	102	84	115
4-Bromofluorobenzene	104	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	03/05/24	Lab ID:	04-0497 mb
Date Analyzed:	03/05/24	Data File:	030509.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	104	84	115
4-Bromofluorobenzene	102	72	130

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

Date of Report: 03/25/24
Date Received: 02/29/24
Project: Bridge Point Seattle 130, F&BI 402446

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

Laboratory Code: 403052-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2	<0.05	69	75	10-138	8
Chloroethane	mg/kg (ppm)	2	<0.5	87	90	10-176	3
1,1-Dichloroethene	mg/kg (ppm)	2	<0.05	77	82	10-160	6
Methylene chloride	mg/kg (ppm)	2	<0.5	85	87	10-156	2
trans-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	80	84	14-137	5
1,1-Dichloroethane	mg/kg (ppm)	2	<0.05	84	87	19-140	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	82	89	25-135	8
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	<0.05	88	92	12-160	4
1,1,1-Trichloroethane	mg/kg (ppm)	2	<0.05	88	90	10-156	2
Trichloroethene	mg/kg (ppm)	2	<0.02	85	90	21-139	6
Tetrachloroethene	mg/kg (ppm)	2	<0.025	89	90	20-133	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2	85	22-139
Chloroethane	mg/kg (ppm)	2	104	10-163
1,1-Dichloroethene	mg/kg (ppm)	2	87	47-128
Methylene chloride	mg/kg (ppm)	2	96	10-184
trans-1,2-Dichloroethene	mg/kg (ppm)	2	91	64-132
1,1-Dichloroethane	mg/kg (ppm)	2	95	64-135
cis-1,2-Dichloroethene	mg/kg (ppm)	2	96	64-135
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	99	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2	97	62-131
Trichloroethene	mg/kg (ppm)	2	93	63-139
Tetrachloroethene	mg/kg (ppm)	2	90	68-128

Date of Report: 03/25/24
Date Received: 02/29/24
Project: Bridge Point Seattle 130, F&BI 402446

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

Laboratory Code: 403020-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	0.028	112	50-150
Chloroethane	ug/L (ppb)	10	<1	112	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	106	50-150
Methylene chloride	ug/L (ppb)	10	<5	104	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	108	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	110	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	2.1	110 b	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	106	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	108	50-150
Trichloroethene	ug/L (ppb)	10	1.9	103	35-149
Tetrachloroethene	ug/L (ppb)	10	4.2	101 b	50-150

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)	10	103	102	64-142	1
Chloroethane	ug/L (ppb)	10	102	102	70-130	0
1,1-Dichloroethene	ug/L (ppb)	10	98	98	64-140	0
Methylene chloride	ug/L (ppb)	10	96	99	43-134	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	101	98	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	101	100	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	103	102	70-130	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	99	98	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	101	99	70-130	2
Trichloroethene	ug/L (ppb)	10	99	95	70-130	4
Tetrachloroethene	ug/L (ppb)	10	104	99	70-130	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, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

402446

SAMPLE CHAIN OF CUSTODY

02/29/24 F3|VW2|VSB1|N2

Page # 1 of 2

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (signature) Rusty Jones R. Jones

PROJECT NAME Bridge Point Seattle 130

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME
- X Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	TBT			A-per RJ 03/07/24 ME Notes
RI-SB-09 10-12.5'	01 A-E	2/29/2024 ~~0935~~	0935	SOIL	5								A	X			~~HOLD cVOCs~~
RI-SB-09	02 A-D		0952	WATER	4								X	X			
RI-SB-08 5-10'	03 A-E		1135	SOIL	5									X			HOLD cVOCs
RI-SB-08 10.6-12.5'	04 A-D		1145	↓	4												HOLD
RI-SB-08	05 ↓		1208	WATER	4								X	X			
RI-SB-07 5-6'	06 A-D		1330	SOIL	4												HOLD
RI-SB-07 10-15'	07 ↓		1340	↓	4												HOLD
RI-SB-07	08 A-C		1402	WATER	3								X				
~~FB-0224~~			1430	↓													~~RJ~~
~~DUP01-0224~~		↓															~~RJ~~

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	2/29/2024	1525
Received by:	ANHPHAN	FSB	02/29/24	15:25
Relinquished by:		Samples received at 0 °C		
Received by:				

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

SAMPLE CHAIN OF CUSTODY

02/29/24 F3 | VW2 | USB1 | N2

402446

Page # 2 of 2

Report To [redacted] Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (signature) Rusty Jones R. Jones

PROJECT NAME Bridge Point Seattle 130

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	TBT			Notes
DUP03-0224	09	2/29/2024	0003	SOIL	1									X			
DUP04-0224	10	↓	0004	WATER	1									X			
DUP05-0224	11 A-C	↓	0005	↓	3								X				

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	2/29/2024	1525
Received by:	ANHPHAN	F&B	02/29/24	15:25
Relinquished by:		Samples received at 0 °C		
Received by:				

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

Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

21 March 2024

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

RE: 402446 (402446)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24C0035	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

24C0035

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER ARI	
PROJECT NAME/NO. 402446	PO # D-690
REMARKS EIM	

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

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

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	tributyltin	Nitrate	Nitrite	Sulfate	RSK-175						Notes
RI-SB-09 10-12.5'		2/29/2024	935	soil	1	x										
RI-SB-09		2/29/2024	952	water	1	x										
RI-SB-08 5-10'		2/29/2024	1135	soil	1	x										
RI-SB-08		2/29/2024	1208	water	1	x										
DUP03-0224		2/29/2024	0003	soil	1	x										
DUP04-0224		2/29/2024	0004	water	1	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:		Michael Erdahl	Friedman & Bruya	3/1/24	0800
Received by:					
Relinquished by:					
Received by:					

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RI-SB-09 10-12.5'	24C0035-01	Solid	29-Feb-2024 09:35	01-Mar-2024 11:15
RI-SB-09	24C0035-02	Water	29-Feb-2024 09:52	01-Mar-2024 11:15
RI-SB-08 5-10'	24C0035-03	Solid	29-Feb-2024 11:35	01-Mar-2024 11:15
RI-SB-08	24C0035-04	Water	29-Feb-2024 12:08	01-Mar-2024 11:15
DUP03-0224	24C0035-05	Solid	29-Feb-2024 00:03	01-Mar-2024 11:15
DUP04-0224	24C0035-06	Water	29-Feb-2024 00:04	01-Mar-2024 11:15

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

Work Order Case Narrative

Client: Friedman & Bruya Inc.
Project: 402446
Work Order: 24C0035

Sample receipt

Samples as listed on the preceding page were received 01-Mar-2024 11:15 under ARI work order 24C0035. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Butyl Tin(s) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries outside of control limits are flagged on the summary sheet.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Friedman and Bruya
Project Name: 402446 TIST
COC No(s): NA
Delivered by: Fed-Ex UPS Courier Hand Delivered Other:
Assigned ARI Job No: 24C0035
Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 2.3°

Time 1100

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 9708

Cooler Accepted by: Date: 3/1/24 Time: ~~08~~ 1100

Complete custody forms and attach all shipping documents 3/1/24

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: Equipment: Split by:

Samples Logged by: Date: 3/4/24 Time: 1215 Labels checked by: LB

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

RI-SB-09 10-12.5'
24C0035-01 (Solid)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/29/2024 09:35
Instrument: NT12 Analyst: JZ — Analyzed: 03/19/2024 13:23

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 24C0035-01 A 01
	Preparation Batch: BMC0255	Sample Size: 5.99 g (wet)	Dry Weight:5.03 g
	Prepared: 03/12/2024	Final Volume: 0.5 mL	% Solids: 84.01
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24C0035-01 A 01
	Cleanup Batch: CMC0112	Initial Volume: 500 uL	
	Cleaned: 18-Mar-2024	Final Volume: 500 uL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.447	3.84	ND	ug/kg	U
Surrogate: Tripentyltin				*30-160 %*	*74.6*	*%*	
Surrogate: Tripropyltin				*30-160 %*	*115*	*%*	

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

RI-SB-09

24C0035-02 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/29/2024 09:52

Instrument: NT18 Analyst: RT — Analyzed: 03/14/2024 10:53

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24C0035-02 A 01
	Preparation Batch: BMC0065	Sample Size: 150 mL	
	Prepared: 03/05/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24C0035-02 A 01
	Cleanup Batch: CMC0083	Initial Volume: 0.5 uL	
	Cleaned: 13-Mar-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*35.2*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*27.2*	*%*	*

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

RI-SB-08 5-10'

24C0035-03 (Solid)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/29/2024 11:35

Instrument: NT12 Analyst: JZ — Analyzed: 03/19/2024 13:52

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 24C0035-03 A 01
	Preparation Batch: BMC0255	Sample Size: 5.9 g (wet)	Dry Weight:5.18 g
	Prepared: 03/12/2024	Final Volume: 0.5 mL	% Solids: 87.84
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24C0035-03 A 01
	Cleanup Batch: CMC0112	Initial Volume: 500 uL	
	Cleaned: 18-Mar-2024	Final Volume: 500 uL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.434	3.72	ND	ug/kg	U
Surrogate: Tripentyltin				*30-160 %*	*57.9*	*%*	
Surrogate: Tripropyltin				*30-160 %*	*125*	*%*	

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

RI-SB-08

24C0035-04 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/29/2024 12:08
Instrument: NT18 Analyst: RT — Analyzed: 03/14/2024 11:07

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 24C0035-04 A 01
Preparation Batch: BMC0065 — Sample Size: 150 mL
Prepared: 03/05/2024 — Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel — Extract ID: 24C0035-04 A 01
Cleanup Batch: CMC0083 — Initial Volume: 0.5 uL
Cleaned: 13-Mar-2024 — Final Volume: 0.5 uL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*61.4*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*42.5*	*%*	

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

DUP03-0224

24C0035-05 (Solid)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/29/2024 00:03
Instrument: NT12 Analyst: JZ — Analyzed: 03/19/2024 14:08

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 24C0035-05 A 01
	Preparation Batch: BMC0255	Sample Size: 5.69 g (wet)	Dry Weight:5.01 g
	Prepared: 03/12/2024	Final Volume: 0.5 mL	% Solids: 88.13
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24C0035-05 A 01
	Cleanup Batch: CMC0112	Initial Volume: 500 uL	
	Cleaned: 18-Mar-2024	Final Volume: 500 uL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.449	3.85	ND	ug/kg	U
Surrogate: Tripentyltin				*30-160 %*	*53.7*	*%*	
Surrogate: Tripropyltin				*30-160 %*	*86.3*	*%*	

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

DUP04-0224

24C0035-06 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/29/2024 00:04
Instrument: NT18 Analyst: RT — Analyzed: 03/14/2024 11:21

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24C0035-06 A 01
	Preparation Batch: BMC0065	Sample Size: 150 mL	
	Prepared: 03/05/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24C0035-06 A 01
	Cleanup Batch: CMC0083	Initial Volume: 0.5 uL	
	Cleaned: 13-Mar-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*64.0*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*48.1*	*%*	

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0065 - EPA 8270E-SIM

Instrument: NT18 Analyst: RT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMC0065-BLK1)				Prepared: 05-Mar-2024 Analyzed: 14-Mar-2024 09:43						
Tributyltin Ion	ND	0.0052	ug/L							U
Surrogate: Tripentyltin	0.0277		ug/L	*0.0753*		*36.8*	*30-160*			
Surrogate: Tripropyltin	0.0176		ug/L	*0.0729*		*24.1*	*30-160*			*

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0065 - EPA 8270E-SIM

Instrument: NT18 Analyst: RT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMC0065-BS1)				Prepared: 05-Mar-2024 Analyzed: 14-Mar-2024 09:57						
Tributyltin Ion	0.0732	0.0052	ug/L	0.149		49.3	30-160			Q
Surrogate: Tripentyltin	0.0395		ug/L	*0.0753*		*52.5*	*30-160*			
Surrogate: Tripropyltin	0.0315		ug/L	*0.0729*		*43.2*	*30-160*			

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0065 - EPA 8270E-SIM

Instrument: NT18 Analyst: RT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BMC0065-BSD1)				Prepared: 05-Mar-2024 Analyzed: 14-Mar-2024 10:11						
Tributyltin Ion	0.0719	0.0052	ug/L	0.149		48.4	30-160	1.76	30	Q
Surrogate: Tripentyltin	0.0408		ug/L	*0.0753*		*54.2*	*30-160*			
Surrogate: Tripropyltin	0.0285		ug/L	*0.0729*		*39.1*	*30-160*			

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0065 - EPA 8270E-SIM

Butyl Tins - Quality Control

Batch BMC0255 - EPA 8270E-SIM

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMC0255-BLK1)				Prepared: 12-Mar-2024 Analyzed: 19-Mar-2024 12:50							
Tributyltin Ion	ND	0.450	3.86	ug/kg							U
Surrogate: Tripentyltin	32.2			ug/kg	*45.2*		*71.2*	*30-160*			
Surrogate: Tripropyltin	29.4			ug/kg	*43.7*		*67.2*	*30-160*			

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0255 - EPA 8270E-SIM

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMC0255-BS1)				Prepared: 12-Mar-2024 Analyzed: 19-Mar-2024 13:07							
Tributyltin Ion	32.9	0.450	3.86	ug/kg	44.6		73.9	30-160			
Surrogate: Tripentyltin	35.3			ug/kg	*45.2*		*78.2*	*30-160*			
Surrogate: Tripropyltin	29.7			ug/kg	*43.7*		*67.8*	*30-160*			

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270E-SIM in Solid	
Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Tributyltin Ion	WADOE,DoD-ELAP,NELAP
Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Tributyltin Ion	WADOE,DoD-ELAP,NELAP
EPA 8270E-SIM in Solid	
Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Tributyltin Ion	WADOE,DoD-ELAP,NELAP
Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Tributyltin Ion	WADOE,DoD-ELAP,NELAP
Tetrapentyltin	NELAP
Tetrapentyltin	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2024
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Friedman & Bruya Inc.	Project: 402446	
5500 4th Ave S	Project Number: 402446	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 14:05

Notes and Definitions

*	Flagged value is not within established control limits.
H	Hold time violation - Hold time was exceeded.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

BROOKS APPLIED LABS
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February 7, 2024

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Revision 1: After the original report was sent, the client requested the Zn results for the samples originally placed on hold, 2401159-05 and 2401159-06. The Zn results for those two samples are included in this revised report. No other changes were made to the original report.

Dear Rusty Jones,

On January 15, 2024, Brooks Applied Labs (BAL) received eighteen (18) aqueous samples in a sealed cooler at an acceptable temperature of 1.9°C. The samples were logged-in for total recoverable and dissolved (*arsenic [As], cadmium [Cd], chromium [Cr], copper [Cu], lead [Pb], nickel [Ni], zinc [Zn], and mercury [Hg]*) analyses, according to the issued quotation. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) were preserved to a pH <2 upon receipt at BAL.

The total and dissolved samples 'MW7-0124' were received but not included on the COC. Per client request, these samples were logged in, and were analyzed for the same analytes as the other samples listed on the COC.

The total and dissolved samples 'PD1-0124' were received but were placed on hold per client request. No results are included in this report for this set of samples.

Total Recoverable and Dissolved (As, Cd, Cr, Cu, Pb, Ni, and Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) content via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

Batch B240141
Sample results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs. All results were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

The method blank (BLK) B240141-BLK3 had a Zn concentration above the acceptance limit. All Zn results were either greater than 10x the concentration of this BLK or were less than the MRL. No further action was required.

Some of the total results were less than the corresponding dissolved result. In all of these cases, the total and dissolved samples meet RPD, or the results met secondary criteria (within 5x the MRL and within the MRL of each other) and no further action was required.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL, the relative percent difference (RPD) was not calculated (N/C).

In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision. When the spiking levels were ≤ 25% of the native sample concentrations, the recoveries were not reported **(NR)**. No sample results were qualified on the basis of the MS or MSD recoveries.

Total and Dissolved Hg Analysis by EPA Method 1631E

Each aqueous fraction submitted for Hg analysis was prepared and analyzed in accordance with EPA Method 1631. Samples were oxidized with bromine monochloride (BrCl) and then analyzed with stannous chloride ($SnCl_2$) reduction, dual gold amalgamation, and cold vapor atomic fluorescence spectroscopy (CVAFS) detection using a Brooks Rand Instrument's MERX-T CVAFS Mercury Automated-Analyzer.

Batch B240127

The Hg results were method blank corrected as described in the calculations section of the relevant BAL SOP and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific method detection limits (MDLs), method reporting limits (MRLs), and other details.

Except for concentration qualifiers, all data were reported without qualification. All associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
MW9-0124	2401159-01	Water	Sample	01/09/2024	01/15/2024
MW9-0124	2401159-02	Water	Sample	01/09/2024	01/15/2024
MW8-0124	2401159-03	Water	Sample	01/10/2024	01/15/2024
MW8-0124	2401159-04	Water	Sample	01/10/2024	01/15/2024
PD1-0124	2401159-05	Water	Sample	01/10/2024	01/15/2024
PD1-0124	2401159-06	Water	Sample	01/10/2024	01/15/2024
MW1-0124	2401159-07	Water	Sample	01/10/2024	01/15/2024
MW1-0124	2401159-08	Water	Sample	01/10/2024	01/15/2024
MW6-0124	2401159-09	Water	Sample	01/10/2024	01/15/2024
MW6-0124	2401159-10	Water	Sample	01/10/2024	01/15/2024
DUP-0124	2401159-11	Water	Field Duplicate	01/11/2024	01/15/2024
DUP-0124	2401159-12	Water	Field Duplicate	01/11/2024	01/15/2024
MW4-0124	2401159-13	Water	Sample	01/11/2024	01/15/2024
MW4-0124	2401159-14	Water	Sample	01/11/2024	01/15/2024
MW3-0124	2401159-15	Water	Sample	01/12/2024	01/15/2024
MW3-0124	2401159-16	Water	Sample	01/12/2024	01/15/2024
MW7-0124	2401159-17	Water	Sample	01/12/2024	01/15/2024
MW7-0124	2401159-18	Water	Sample	01/12/2024	01/15/2024

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Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
As	Water	EPA 1638 Mod	ISO,TNI	01/16/24	01/17/24	B240141	S240055
Cd	Water	EPA 1638 Mod	ISO,TNI	01/16/24	01/17/24	B240141	S240055
Cr	Water	EPA 1638 Mod	ISO,TNI	01/16/24	01/17/24	B240141	S240055
Cu	Water	EPA 1638 Mod	ISO,TNI	01/16/24	01/17/24	B240141	S240055
Hg	Water	EPA 1631 E	ISO,TNI	01/16/24	01/17/24	B240127	S240058
Ni	Water	EPA 1638 Mod	ISO,TNI	01/16/24	01/17/24	B240141	S240055
Pb	Water	EPA 1638 Mod	ISO,TNI	01/16/24	01/17/24	B240141	S240055
Zn	Water	EPA 1638 Mod	ISO,TNI	01/16/24	01/17/24	B240141	S240055

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW9-0124										
2401159-01	As	Water	TR	9.05		0.162	0.727	µg/L	B240141	S240055
2401159-01	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-01	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-01	Cu	Water	TR	0.699	J	0.505	1.01	µg/L	B240141	S240055
2401159-01	Hg	Water	TR	0.36	J	0.14	0.42	ng/L	B240127	S240058
2401159-01	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-01	Pb	Water	TR	0.099	J	0.061	0.121	µg/L	B240141	S240055
2401159-01	Zn	Water	TR	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055
MW9-0124										
2401159-02	As	Water	D	8.50		0.162	0.727	µg/L	B240141	S240055
2401159-02	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-02	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-02	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B240141	S240055
2401159-02	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B240127	S240058
2401159-02	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-02	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-02	Zn	Water	D	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055
MW8-0124										
2401159-03	As	Water	TR	5.08		0.162	0.727	µg/L	B240141	S240055
2401159-03	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-03	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-03	Cu	Water	TR	≤ 0.505	U	0.505	1.01	µg/L	B240141	S240055
2401159-03	Hg	Water	TR	0.80		0.14	0.42	ng/L	B240127	S240058
2401159-03	Ni	Water	TR	1.42	J	1.21	3.64	µg/L	B240141	S240055
2401159-03	Pb	Water	TR	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-03	Zn	Water	TR	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055
MW8-0124										
2401159-04	As	Water	D	5.61		0.162	0.727	µg/L	B240141	S240055
2401159-04	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-04	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-04	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B240141	S240055
2401159-04	Hg	Water	D	0.39	J	0.14	0.42	ng/L	B240127	S240058
2401159-04	Ni	Water	D	1.59	J	1.21	3.64	µg/L	B240141	S240055
2401159-04	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-04	Zn	Water	D	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
PD1-0124										
2401159-05	Zn	Water	TR	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055
PD1-0124										
2401159-06	Zn	Water	D	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055
MW1-0124										
2401159-07	As	Water	TR	1.65		0.162	0.727	µg/L	B240141	S240055
2401159-07	Cd	Water	TR	0.482		0.061	0.182	µg/L	B240141	S240055
2401159-07	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-07	Cu	Water	TR	2.38		0.505	1.01	µg/L	B240141	S240055
2401159-07	Hg	Water	TR	1.08		0.13	0.41	ng/L	B240127	S240058
2401159-07	Ni	Water	TR	1.29	J	1.21	3.64	µg/L	B240141	S240055
2401159-07	Pb	Water	TR	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-07	Zn	Water	TR	496		7.07	22.2	µg/L	B240141	S240055
MW1-0124										
2401159-08	As	Water	D	1.58		0.162	0.727	µg/L	B240141	S240055
2401159-08	Cd	Water	D	0.523		0.061	0.182	µg/L	B240141	S240055
2401159-08	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-08	Cu	Water	D	2.02		0.505	1.01	µg/L	B240141	S240055
2401159-08	Hg	Water	D	1.01		0.13	0.41	ng/L	B240127	S240058
2401159-08	Ni	Water	D	1.22	J	1.21	3.64	µg/L	B240141	S240055
2401159-08	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-08	Zn	Water	D	528		7.07	22.2	µg/L	B240141	S240055
MW6-0124										
2401159-09	As	Water	TR	0.195	J	0.162	0.727	µg/L	B240141	S240055
2401159-09	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-09	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-09	Cu	Water	TR	≤ 0.505	U	0.505	1.01	µg/L	B240141	S240055
2401159-09	Hg	Water	TR	0.31	J	0.14	0.42	ng/L	B240127	S240058
2401159-09	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-09	Pb	Water	TR	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-09	Zn	Water	TR	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW6-0124										
2401159-10	As	Water	D	≤ 0.162	U	0.162	0.727	µg/L	B240141	S240055
2401159-10	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-10	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-10	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B240141	S240055
2401159-10	Hg	Water	D	≤ 0.13	U	0.13	0.41	ng/L	B240127	S240058
2401159-10	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-10	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-10	Zn	Water	D	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055
DUP-0124										
2401159-11	As	Water	TR	≤ 0.162	U	0.162	0.727	µg/L	B240141	S240055
2401159-11	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-11	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-11	Cu	Water	TR	0.702	J	0.505	1.01	µg/L	B240141	S240055
2401159-11	Hg	Water	TR	0.19	J	0.13	0.41	ng/L	B240127	S240058
2401159-11	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-11	Pb	Water	TR	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-11	Zn	Water	TR	764		7.07	22.2	µg/L	B240141	S240055
DUP-0124										
2401159-12	As	Water	D	≤ 0.162	U	0.162	0.727	µg/L	B240141	S240055
2401159-12	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-12	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-12	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B240141	S240055
2401159-12	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B240127	S240058
2401159-12	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-12	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-12	Zn	Water	D	664		7.07	22.2	µg/L	B240141	S240055
MW4-0124										
2401159-13	As	Water	TR	≤ 0.162	U	0.162	0.727	µg/L	B240141	S240055
2401159-13	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-13	Cr	Water	TR	1.82	J	1.72	6.06	µg/L	B240141	S240055
2401159-13	Cu	Water	TR	0.841	J	0.505	1.01	µg/L	B240141	S240055
2401159-13	Hg	Water	TR	0.16	J	0.13	0.41	ng/L	B240127	S240058
2401159-13	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-13	Pb	Water	TR	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-13	Zn	Water	TR	687		7.07	22.2	µg/L	B240141	S240055

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW4-0124										
2401159-14	As	Water	D	≤ 0.162	U	0.162	0.727	µg/L	B240141	S240055
2401159-14	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-14	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-14	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B240141	S240055
2401159-14	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B240127	S240058
2401159-14	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-14	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-14	Zn	Water	D	627		7.07	22.2	µg/L	B240141	S240055
MW3-0124										
2401159-15	As	Water	TR	4.39		0.404	1.82	µg/L	B240141	S240055
2401159-15	Cd	Water	TR	≤ 0.152	U	0.152	0.455	µg/L	B240141	S240055
2401159-15	Cr	Water	TR	4.73	J	4.29	15.2	µg/L	B240141	S240055
2401159-15	Cu	Water	TR	10.9		1.26	2.53	µg/L	B240141	S240055
2401159-15	Hg	Water	TR	8.20		0.14	0.42	ng/L	B240127	S240058
2401159-15	Ni	Water	TR	4.81	J	3.03	9.09	µg/L	B240141	S240055
2401159-15	Pb	Water	TR	3.64		0.152	0.303	µg/L	B240141	S240055
2401159-15	Zn	Water	TR	≤ 17.7	U	17.7	55.6	µg/L	B240141	S240055
MW3-0124										
2401159-16	As	Water	D	1.95		0.404	1.82	µg/L	B240141	S240055
2401159-16	Cd	Water	D	≤ 0.152	U	0.152	0.455	µg/L	B240141	S240055
2401159-16	Cr	Water	D	≤ 4.29	U	4.29	15.2	µg/L	B240141	S240055
2401159-16	Cu	Water	D	≤ 1.26	U	1.26	2.53	µg/L	B240141	S240055
2401159-16	Hg	Water	D	0.31	J	0.13	0.41	ng/L	B240127	S240058
2401159-16	Ni	Water	D	≤ 3.03	U	3.03	9.09	µg/L	B240141	S240055
2401159-16	Pb	Water	D	≤ 0.152	U	0.152	0.303	µg/L	B240141	S240055
2401159-16	Zn	Water	D	≤ 17.7	U	17.7	55.6	µg/L	B240141	S240055
MW7-0124										
2401159-17	As	Water	TR	0.497	J	0.162	0.727	µg/L	B240141	S240055
2401159-17	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-17	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-17	Cu	Water	TR	0.570	J	0.505	1.01	µg/L	B240141	S240055
2401159-17	Hg	Water	TR	≤ 0.14	U	0.14	0.42	ng/L	B240127	S240058
2401159-17	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-17	Pb	Water	TR	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-17	Zn	Water	TR	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW7-0124										
2401159-18	As	Water	D	≤ 0.162	U	0.162	0.727	µg/L	B240141	S240055
2401159-18	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240141	S240055
2401159-18	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240141	S240055
2401159-18	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B240141	S240055
2401159-18	Hg	Water	D	0.19	J	0.13	0.41	ng/L	B240127	S240058
2401159-18	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240141	S240055
2401159-18	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240141	S240055
2401159-18	Zn	Water	D	≤ 7.07	U	7.07	22.2	µg/L	B240141	S240055

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B240127
Lab Matrix: Water
Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240127-MS1	**Matrix Spike (2401153-04)**						
	Hg	0.17	20.41	20.42	ng/L	99% 71-125	
B240127-MSD1	**Matrix Spike Duplicate (2401153-04)**						
	Hg	0.17	20.41	20.33	ng/L	99% 71-125	0.4% 24
B240127-MS2	**Matrix Spike (2401159-04)**						
	Hg	0.39	21.05	20.00	ng/L	93% 71-125	
B240127-MSD2	**Matrix Spike Duplicate (2401159-04)**						
	Hg	0.39	21.05	19.60	ng/L	91% 71-125	2% 24

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Accuracy & Precision Summary

Batch: B240141
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240141-BS1	**Blank Spike, (2248034)**						
	As		55.56	53.88	µg/L	97% 75-125	
	Cd		5.556	5.981	µg/L	108% 75-125	
	Cr		55.56	50.96	µg/L	92% 75-125	
	Cu		55.56	52.88	µg/L	95% 75-125	
	Ni		55.56	54.82	µg/L	99% 75-125	
	Pb		5.556	6.355	µg/L	114% 75-125	
	Zn		55.56	60.94	µg/L	110% 75-125	
B240141-SRM1	**Reference Material (2350020, NIST 1643f)**						
	As		57.42	54.15	µg/L	94% 75-125	
	Cd		5.890	5.723	µg/L	97% 75-125	
	Cr		18.50	19.14	µg/L	103% 75-125	
	Cu		21.66	21.06	µg/L	97% 75-125	
	Ni		59.80	54.04	µg/L	90% 75-125	
	Pb		18.49	19.17	µg/L	104% 75-125	
	Zn		74.40	78.72	µg/L	106% 75-125	
B240141-DUP1	**Duplicate, (2401159-01)**						
	As	9.045		9.035	µg/L		0.1% 20
	Cd	ND		ND	µg/L		N/C 20
	Cr	ND		ND	µg/L		N/C 20
	Cu	0.699		ND	µg/L		N/C 20
	Ni	ND		ND	µg/L		N/C 20
	Pb	0.099		ND	µg/L		N/C 20
	Zn	ND		ND	µg/L		N/C 20
B240141-MS1	**Matrix Spike, (2401159-01)**						
	As	9.045	56.12	66.99	µg/L	103% 75-125	
	Cd	ND	5.612	6.440	µg/L	115% 75-125	
	Cr	ND	56.12	55.82	µg/L	99% 75-125	
	Cu	0.699	56.12	56.69	µg/L	100% 75-125	
	Ni	ND	56.12	58.52	µg/L	104% 75-125	
	Pb	0.099	5.612	7.064	µg/L	124% 75-125	
	Zn	ND	56.12	59.93	µg/L	107% 75-125	

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B240141
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240141-MSD1	**Matrix Spike Duplicate, (2401159-01)**						
	As	9.045	56.12	65.88	µg/L	101% 75-125	2% 20
	Cd	ND	5.612	6.475	µg/L	115% 75-125	0.5% 20
	Cr	ND	56.12	52.18	µg/L	93% 75-125	7% 20
	Cu	0.699	56.12	52.60	µg/L	92% 75-125	7% 20
	Ni	ND	56.12	57.11	µg/L	102% 75-125	2% 20
	Pb	0.099	5.612	6.957	µg/L	122% 75-125	2% 20
	Zn	ND	56.12	56.24	µg/L	100% 75-125	6% 20
B240141-DUP2	**Duplicate, (2401159-07)**						
	As	1.650		1.625	µg/L		2% 20
	Cd	0.482		0.475	µg/L		1% 20
	Cr	ND		ND	µg/L		N/C 20
	Cu	2.382		2.182	µg/L		9% 20
	Ni	1.294		1.233	µg/L		5% 20
	Pb	ND		ND	µg/L		N/C 20
	Zn	495.9		515.9	µg/L		4% 20
B240141-MS2	**Matrix Spike, (2401159-07)**						
	As	1.650	56.12	62.44	µg/L	108% 75-125	
	Cd	0.482	5.612	6.666	µg/L	110% 75-125	
	Cr	ND	56.12	55.09	µg/L	98% 75-125	
	Cu	2.382	56.12	56.03	µg/L	96% 75-125	
	Ni	1.294	56.12	59.94	µg/L	105% 75-125	
	Pb	ND	5.612	6.206	µg/L	111% 75-125	
	Zn	495.9	56.12	566.5	µg/L	NR 75-125	
B240141-MSD2	**Matrix Spike Duplicate, (2401159-07)**						
	As	1.650	56.12	59.35	µg/L	103% 75-125	5% 20
	Cd	0.482	5.612	6.476	µg/L	107% 75-125	3% 20
	Cr	ND	56.12	59.16	µg/L	105% 75-125	7% 20
	Cu	2.382	56.12	59.88	µg/L	102% 75-125	7% 20
	Ni	1.294	56.12	56.46	µg/L	98% 75-125	6% 20
	Pb	ND	5.612	6.006	µg/L	107% 75-125	3% 20
	Zn	495.9	56.12	563.4	µg/L	NR 75-125	N/C 20

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Method Blanks & Reporting Limits

Batch: B240127
Matrix: Water
Method: EPA 1631 E
Analyte: Hg

Sample	Result	Units
B240127-BLK1	0.11	ng/L
B240127-BLK2	0.12	ng/L
B240127-BLK3	0.06	ng/L
B240127-BLK4	0.15	ng/L

Average: 0.11
Limit: 0.50

Standard Deviation: 0.04
Limit: 0.13

MDL: 0.13
MRL: 0.40

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Method Blanks & Reporting Limits

Batch: B240141
Matrix: Water
Method: EPA 1638 Mod
Analyte: As

Sample	Result	Units
B240141-BLK1	0.005	µg/L
B240141-BLK2	0.005	µg/L
B240141-BLK3	0.004	µg/L
B240141-BLK4	0.007	µg/L

Average: 0.005
Limit: 0.072
MDL: 0.016
MRL: 0.072

Analyte: Cd

Sample	Result	Units
B240141-BLK1	0.00004	µg/L
B240141-BLK2	0.0002	µg/L
B240141-BLK3	-0.0003	µg/L
B240141-BLK4	-0.0003	µg/L

Average: 0.000
Limit: 0.018
MDL: 0.006
MRL: 0.018

Analyte: Cr

Sample	Result	Units
B240141-BLK1	0.054	µg/L
B240141-BLK2	0.014	µg/L
B240141-BLK3	0.025	µg/L
B240141-BLK4	0.032	µg/L

Average: 0.031
Limit: 0.600
MDL: 0.170
MRL: 0.600

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Method Blanks & Reporting Limits

Analyte: Cu

Sample	Result	Units
B240141-BLK1	0.096	µg/L
B240141-BLK2	0.013	µg/L
B240141-BLK3	0.058	µg/L
B240141-BLK4	0.027	µg/L

Average: 0.048
Limit: 0.100
MDL: 0.050
MRL: 0.100

Analyte: Ni

Sample	Result	Units
B240141-BLK1	0.092	µg/L
B240141-BLK2	0.031	µg/L
B240141-BLK3	0.004	µg/L
B240141-BLK4	0.014	µg/L

Average: 0.035
Limit: 0.360
MDL: 0.120
MRL: 0.360

Analyte: Pb

Sample	Result	Units
B240141-BLK1	0.006	µg/L
B240141-BLK2	0.003	µg/L
B240141-BLK3	0.001	µg/L
B240141-BLK4	0.006	µg/L

Average: 0.004
Limit: 0.012
MDL: 0.006
MRL: 0.012

Analyte: Zn

Sample	Result	Units
B240141-BLK1	0.148	µg/L
B240141-BLK2	2.61	µg/L
B240141-BLK3	0.094	µg/L
B240141-BLK4	0.384	µg/L

Average: 0.810
Limit: 2.200
MDL: 0.700
MRL: 2.20

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2401159-01 **Report Matrix:** Water **Collected:** 01/09/2024
Sample: MW9-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-02 **Report Matrix:** Water **Collected:** 01/09/2024
Sample: MW9-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-03 **Report Matrix:** Water **Collected:** 01/10/2024
Sample: MW8-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-04 **Report Matrix:** Water **Collected:** 01/10/2024
Sample: MW8-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2401159-05 **Report Matrix:** Water **Collected:** 01/10/2024
Sample: PD1-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-06 **Report Matrix:** Water **Collected:** 01/10/2024
Sample: PD1-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-07 **Report Matrix:** Water **Collected:** 01/10/2024
Sample: MW1-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-08 **Report Matrix:** Water **Collected:** 01/10/2024
Sample: MW1-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2401159-09
Sample: MW6-0124
Report Matrix: Water
Sample Type: Sample
Collected: 01/10/2024
Received: 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-10
Sample: MW6-0124
Report Matrix: Water
Sample Type: Sample
Collected: 01/10/2024
Received: 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-11
Sample: DUP-0124
Report Matrix: Water
Sample Type: Field Duplicate
Collected: 01/11/2024
Received: 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-12
Sample: DUP-0124
Report Matrix: Water
Sample Type: Field Duplicate
Collected: 01/11/2024
Received: 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2401159-13 **Report Matrix:** Water **Collected:** 01/11/2024
Sample: MW4-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-14 **Report Matrix:** Water **Collected:** 01/11/2024
Sample: MW4-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-15 **Report Matrix:** Water **Collected:** 01/12/2024
Sample: MW3-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-16 **Report Matrix:** Water **Collected:** 01/12/2024
Sample: MW3-0124 **Sample Type:** Sample **Received:** 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2401159-17
Sample: MW7-0124
Report Matrix: Water
Sample Type: Sample
Collected: 01/12/2024
Received: 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Lab ID: 2401159-18
Sample: MW7-0124
Report Matrix: Water
Sample Type: Sample
Collected: 01/12/2024
Received: 01/15/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	23-0099	1% HNO3 (BAL)	2339029	<2	Cooler - 2401159
B	Bottle FLPE Hg	125 mL	23-0112	none	n/a	n/a	Cooler - 2401159

Shipping Containers

Cooler - 2401159

Received: January 15, 2024 12:43
Tracking No: 0 via Courier
Coolant Type: Ice
Temperature: 1.9 °C

Description: Cooler
Damaged in transit? No
Returned to client? No

Custody seals present? No
Custody seals intact? No
COC present? Yes

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only
Received by: [signature] Date: 1/15/24
Work Order ID: Time: 1243
Project ID:

Client: Crete Consulting Inc.
Contact: Rusty Jones
Client Project ID: Bridge Point Seattle 130
Samples Collected By: Rusty Jones

PO Number: BridgeSeattle 130
Phone: 832.330.1359
Email: rusty.jones@creteconsulting.com

Mailing Address:
Email Receipt Confirmation? (Yes/No)
BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl / HNO_3 / Other	BAL Analyses Required: Total Hg, EPA 1631 AND Dissolved	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) Dissolved 1638 Mod. FILTERED	Other (specify) TOTAL 1638 Mod. UNFILTERED	Comments
1	MW9-0124	1/9/2024	1956	WATER	4	Y+N	NONE	X						X	X	Project Metals List: As, Cd, Cr, Cu, Pb, Ni, Zn, Hg Conductivity: Specify Here 648 uS/cm
2	MW8-0124	1/10/2024	2045		4			X						X	X	687 uS/cm
3	PDI-0124		2150		4											1781 uS/cm
4	MW1-0124		2249		4			X						X	X	9865 uS/cm
5	MW6-0124	↓	2357	↓	4	↓	↓	X						X	X	17865 uS/cm
6	DUP-0124	1/11/2024	1200	WATER	4	Y+N	NONE	X						X	X	
7	MW4-0124	↓	2246	↓	4	↓	↓	X						X	X	1945 uS/cm
8	MW3-0124	1/12/2024	0023	↓	4	↓	↓	X						X	X	22831 uS/cm
9	~~MW5-0124~~	1/13/2024		WATER	4	Y+N	NONE	X						X	X	RJ
10	~~MW-2R MW2-0124~~	↓		↓	4	↓	↓	X						X	X	RJ
	Trip Blank															

Relinquished By: R. Jones	Date: 1/15/2024	Time: 1241	Relinquished By:	Date:	Time:
Received By:	Date:	Time:	Total Number of Packages:		

Page 1 of 1 List Hazardous Contaminants:

samples@brooksapplied.com | brooksapplied.com

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

January 30, 2024

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

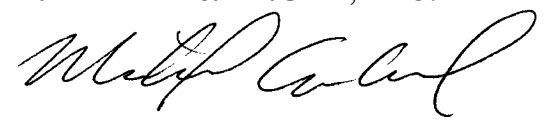
Dear Mr Jones:

Included are the results from the testing of material submitted on January 12, 2024 from the Bridge Point Seattle 130, F&BI 401158 project. There are 17 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: Grant Hainsworth, Jamie Stevens
CTC0130R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 12, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 401158 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
401158 -01	MW7-0124

The 8270E hexachlorocyclopentadiene calibration standard exceeded the acceptance criteria. The compound was not detected, therefore this did not represent an out of control condition.

Hexachloroethane and heachlorobutadiene in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 01/30/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401158
Date Extracted: 01/16/24
Date Analyzed: 01/16/24

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 50-150)
MW7-0124 401158-01	<1	<1	<1	<3	<100	68
Method Blank 04-0018 MB	<1	<1	<1	<3	<100	66

Date of Report: 01/30/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401158
Date Extracted: 01/15/24
Date Analyzed: 01/16/24

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW7-0124 401158-01	<50	<250	96
Method Blank 04-140 MB	<50	<250	88

Date of Report: 01/30/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401158
Date Extracted: 01/15/24
Date Analyzed: 01/15/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW7-0124 401158-01	<50	<250	95
Method Blank 04-0140 MB	<50	<250	94

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW7-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401158-01
Date Analyzed:	01/15/24	Data File:	011519.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	71	132
Toluene-d8	97	68	139
4-Bromofluorobenzene	103	62	136

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	04-0102 mb
Date Analyzed:	01/15/24	Data File:	011508.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	105	62	136

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

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW7-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401158-01
Date Analyzed:	01/15/24	Data File:	011518.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	33	11	65
Phenol-d6	24	11	65
Nitrobenzene-d5	71	11	173
2-Fluorobiphenyl	74	25	128
2,4,6-Tribromophenol	87	10	140
Terphenyl-d14	90	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	04-0141 mb
Date Analyzed:	01/15/24	Data File:	011508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	32	11	65
Phenol-d6	25	11	65
Nitrobenzene-d5	75	11	173
2-Fluorobiphenyl	74	25	128
2,4,6-Tribromophenol	67	10	140
Terphenyl-d14	88	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW7-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/16/24	Lab ID:	401158-01
Date Analyzed:	01/16/24	Data File:	011623.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	50	24	127
Decachlorobiphenyl	60	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/16/24	Lab ID:	04-0142 mb
Date Analyzed:	01/16/24	Data File:	011614.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	61	24	127
Decachlorobiphenyl	68	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Date of Report: 01/30/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401158

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: 401158-01 (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	88	70-130
Toluene	ug/L (ppb)	50	84	70-130
Ethylbenzene	ug/L (ppb)	50	86	70-130
Xylenes	ug/L (ppb)	150	87	70-130
Gasoline	ug/L (ppb)	1,000	100	70-130

Date of Report: 01/30/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401158

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

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	108	72-139	4

Date of Report: 01/30/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401158

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	112	65-151	11

Date of Report: 01/30/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401158

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

Laboratory Code: 401122-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	97	16-176
Chloroethane	ug/L (ppb)	10	<1	97	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	95	50-150
Methylene chloride	ug/L (ppb)	10	<5	90	40-143
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	97	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	91	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	94	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	93	43-133
Tetrachloroethene	ug/L (ppb)	10	<1	96	50-150

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)	10	90	96	43-149	6
Chloroethane	ug/L (ppb)	10	91	96	59-157	5
1,1-Dichloroethene	ug/L (ppb)	10	90	95	67-138	5
Methylene chloride	ug/L (ppb)	10	85	92	29-192	8
trans-1,2-Dichloroethene	ug/L (ppb)	10	91	96	70-130	5
1,1-Dichloroethane	ug/L (ppb)	10	93	98	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	98	70-130	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	87	93	70-130	7
1,1,1-Trichloroethane	ug/L (ppb)	10	92	97	70-130	5
Trichloroethene	ug/L (ppb)	10	88	93	70-130	6
Tetrachloroethene	ug/L (ppb)	10	89	92	70-130	3

Date of Report: 01/30/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401158

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	29	32	10-86	10
Bis(2-chloroethyl) ether	ug/L (ppb)	5	80	82	54-111	2
2-Chlorophenol	ug/L (ppb)	5	71	76	10-97	7
1,3-Dichlorobenzene	ug/L (ppb)	5	50	53	48-96	6
1,4-Dichlorobenzene	ug/L (ppb)	5	52	54	48-96	4
1,2-Dichlorobenzene	ug/L (ppb)	5	56	58	52-96	4
Benzyl alcohol	ug/L (ppb)	25	65	70	10-76	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	84	86	59-101	2
2-Methylphenol	ug/L (ppb)	5	63	68	11-93	8
Hexachloroethane	ug/L (ppb)	5	42 vo	46 vo	47-97	9
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	92	94	71-106	2
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	58	61	10-66	5
Nitrobenzene	ug/L (ppb)	5	76	80	57-109	5
Isophorone	ug/L (ppb)	5	84	86	64-116	2
2-Nitrophenol	ug/L (ppb)	5	84	89	27-120	6
2,4-Dimethylphenol	ug/L (ppb)	5	61	63	10-106	3
Benzoic acid	ug/L (ppb)	40	27	31	10-102	14
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	83	86	55-117	4
2,4-Dichlorophenol	ug/L (ppb)	5	77	82	23-116	6
1,2,4-Trichlorobenzene	ug/L (ppb)	5	56	57	56-98	2
Naphthalene	ug/L (ppb)	5	69	71	62-97	3
Hexachlorobutadiene	ug/L (ppb)	5	40 vo	42 vo	48-100	5
4-Chloroaniline	ug/L (ppb)	25	80	87	28-121	8
4-Chloro-3-methylphenol	ug/L (ppb)	5	78	83	18-113	6
2-Methylnaphthalene	ug/L (ppb)	5	71	71	64-101	0
1-Methylnaphthalene	ug/L (ppb)	5	69	68	64-103	1
Hexachlorocyclopentadiene	ug/L (ppb)	5	61	66	37-115	8
2,4,6-Trichlorophenol	ug/L (ppb)	5	91	98	16-131	7
2,4,5-Trichlorophenol	ug/L (ppb)	5	92	96	26-129	4
2-Chloronaphthalene	ug/L (ppb)	5	74	76	67-102	3
2-Nitroaniline	ug/L (ppb)	25	82	87	31-168	6
Dimethyl phthalate	ug/L (ppb)	5	81	86	70-130	6
Acenaphthylene	ug/L (ppb)	5	82	84	70-130	2
2,6-Dinitrotoluene	ug/L (ppb)	5	82	90	70-130	9
3-Nitroaniline	ug/L (ppb)	25	73	78	33-128	7
Acenaphthene	ug/L (ppb)	5	77	79	70-130	3
2,4-Dinitrophenol	ug/L (ppb)	10	104	113	10-137	8
Dibenzofuran	ug/L (ppb)	5	78	80	67-114	3
2,4-Dinitrotoluene	ug/L (ppb)	5	81	85	53-132	5
4-Nitrophenol	ug/L (ppb)	10	31	35	10-89	12
Diethyl phthalate	ug/L (ppb)	5	77	81	57-134	5
Fluorene	ug/L (ppb)	5	78	81	70-130	4
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	78	79	70-130	1
N-Nitrosodiphenylamine	ug/L (ppb)	5	91	96	70-130	5
4-Nitroaniline	ug/L (ppb)	25	84	89	32-124	6
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	113	123	14-167	8
4-Bromophenyl phenyl ether	ug/L (ppb)	5	88	92	70-130	4
Hexachlorobenzene	ug/L (ppb)	5	85	93	58-111	9
Pentachlorophenol	ug/L (ppb)	5	117	129	10-144	10
Phenanthrene	ug/L (ppb)	5	84	87	70-130	4
Anthracene	ug/L (ppb)	5	88	92	70-130	4
Carbazole	ug/L (ppb)	5	95	98	70-130	3
Di-n-butyl phthalate	ug/L (ppb)	5	85	91	28-147	7
Fluoranthene	ug/L (ppb)	5	89	91	70-130	2
Pyrene	ug/L (ppb)	5	90	100	70-130	11
Benzyl butyl phthalate	ug/L (ppb)	5	95	102	34-142	7
Benz(a)anthracene	ug/L (ppb)	5	96	99	70-130	3
Chrysene	ug/L (ppb)	5	93	97	70-130	4
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	90	94	44-140	4
Di-n-octyl phthalate	ug/L (ppb)	5	93	98	33-147	5
Benzo(a)pyrene	ug/L (ppb)	5	99	103	70-130	4
Benzo(b)fluoranthene	ug/L (ppb)	5	91	95	70-130	4
Benzo(k)fluoranthene	ug/L (ppb)	5	93	96	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	97	110	70-130	13
Dibenz(a,h)anthracene	ug/L (ppb)	5	96	109	70-130	13
Benzo(g,h,i)perylene	ug/L (ppb)	5	90	104	70-130	14

Date of Report: 01/30/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401158

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	62	70	20-94	12
Aroclor 1260	ug/L (ppb)	0.25	72	82	23-123	13

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

401158

SAMPLE CHAIN OF CUSTODY

01/12/24 VW2/C2

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company Crete Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*): Rusty Jones — R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: Bridge Point Seattle 130

REMARKS: with and without SGC

Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
- [X] Standard turnaround
- [ ] RUSH

Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	sVOCs 8270			Notes
MW7-0124	01A-J	1/12/2024	1204	WATER	10	X	X	Y				X	X	X			Hold extra jar
														Samples received at 1 °C			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	1/12/2024	1251
Received by:	Eric Crane	R+R	1/12/2024	12 51
Relinquished by:				
Received by:				

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

February 21, 2024

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

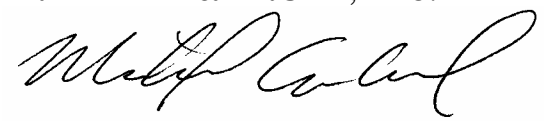
Dear Mr Jones:

Included are the results from the testing of material submitted on January 23, 2024 from the Bridge Point Seattle 130, F&BI 401274 project. There are 20 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: Grant Hainsworth, Jamie Stevens
CTC0221R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 23, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 401274 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
401274 -01	MW5-0124
401274 -02	MW2-0124

The samples were sent to Analytical Resources, Inc. for tributyltin analysis. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 02/21/24
Date Received: 01/23/24
Project: Bridge Point Seattle 130, F&BI 401274
Date Extracted: 01/25/24
Date Analyzed: 01/25/24

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 50-150)
MW5-0124 401274-01	<1	<1	<1	<3	<100	72
MW2-0124 401274-02	<1	<1	<1	<3	<100	70
Method Blank 04-0029 MB	<1	<1	<1	<3	<100	72

Date of Report: 02/21/24
Date Received: 01/23/24
Project: Bridge Point Seattle 130, F&BI 401274
Date Extracted: 01/23/24
Date Analyzed: 01/23/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW5-0124 401274-01	69 x	<250	120
MW2-0124 401274-02	<50	<250	106
Method Blank 04-0165 MB2	<50	<250	90

Date of Report: 02/21/24
Date Received: 01/23/24
Project: Bridge Point Seattle 130, F&BI 401274
Date Extracted: 01/23/24
Date Analyzed: 02/21/24

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW5-0124 401274-01	<50	<250	134
MW2-0124 401274-02	<50	<250	121
Method Blank 04-0165 MB2	<50	<250	85

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0124	Client:	Crete Consulting
Date Received:	01/23/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/25/24	Lab ID:	401274-01
Date Analyzed:	01/25/24	Data File:	012515.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	98	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	4.9
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.6
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	1.0

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW2-0124	Client:	Crete Consulting
Date Received:	01/23/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/25/24	Lab ID:	401274-02
Date Analyzed:	01/25/24	Data File:	012516.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	103	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/25/24	Lab ID:	04-0125 mb
Date Analyzed:	01/25/24	Data File:	012508.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	103	72	130

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

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW5-0124	Client:	Crete Consulting
Date Received:	01/23/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/25/24	Lab ID:	401274-01
Date Analyzed:	01/26/24	Data File:	012607.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	47	10	60
Phenol-d6	42	10	49
Nitrobenzene-d5	75	15	144
2-Fluorobiphenyl	71	25	128
2,4,6-Tribromophenol	86	10	142
Terphenyl-d14	87	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	0.030
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	0.024
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	0.020
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW2-0124	Client:	Crete Consulting
Date Received:	01/23/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/25/24	Lab ID:	401274-02
Date Analyzed:	01/26/24	Data File:	012608.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	49	10	60
Phenol-d6	49	10	49
Nitrobenzene-d5	77	15	144
2-Fluorobiphenyl	72	25	128
2,4,6-Tribromophenol	76	10	142
Terphenyl-d14	92	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/25/24	Lab ID:	04-0180 mb2
Date Analyzed:	01/26/24	Data File:	012606.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	29	10	60
Phenol-d6	21	10	49
Nitrobenzene-d5	70	15	144
2-Fluorobiphenyl	72	25	128
2,4,6-Tribromophenol	62	10	142
Terphenyl-d14	86	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW5-0124	Client:	Crete Consulting
Date Received:	01/23/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/25/24	Lab ID:	401274-01
Date Analyzed:	01/26/24	Data File:	012610.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	47	24	127
Decachlorobiphenyl	53	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW2-0124	Client:	Crete Consulting
Date Received:	01/23/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/25/24	Lab ID:	401274-02
Date Analyzed:	01/26/24	Data File:	012611.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	44	24	127
Decachlorobiphenyl	59	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/25/24	Lab ID:	04-0181 mb
Date Analyzed:	01/26/24	Data File:	012605.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	47	24	127
Decachlorobiphenyl	38	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Date of Report: 02/21/24
Date Received: 01/23/24
Project: Bridge Point Seattle 130, F&BI 401274

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: 401274-01 (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	92	70-130
Toluene	ug/L (ppb)	50	90	70-130
Ethylbenzene	ug/L (ppb)	50	92	70-130
Xylenes	ug/L (ppb)	150	93	70-130
Gasoline	ug/L (ppb)	1,000	100	70-130

Date of Report: 02/21/24
Date Received: 01/23/24
Project: Bridge Point Seattle 130, F&BI 401274

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	88	65-151	0

Date of Report: 02/21/24
Date Received: 01/23/24
Project: Bridge Point Seattle 130, F&BI 401274

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

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	88	72-139	9

Date of Report: 02/21/24
Date Received: 01/23/24
Project: Bridge Point Seattle 130, F&BI 401274

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

Laboratory Code: 401274-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	97	50-150
Chloroethane	ug/L (ppb)	10	<1	95	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	91	50-150
Methylene chloride	ug/L (ppb)	10	<5	98	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	93	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	98	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	95	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	110	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	98	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	96	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	103	50-150

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)	10	100	101	64-142	1
Chloroethane	ug/L (ppb)	10	99	101	70-130	2
1,1-Dichloroethene	ug/L (ppb)	10	93	94	64-140	1
Methylene chloride	ug/L (ppb)	10	92	99	43-134	7
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	98	70-130	4
1,1-Dichloroethane	ug/L (ppb)	10	99	103	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	96	100	70-130	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	103	107	70-130	4
1,1,1-Trichloroethane	ug/L (ppb)	10	98	100	70-130	2
Trichloroethene	ug/L (ppb)	10	92	95	70-130	3
Tetrachloroethene	ug/L (ppb)	10	100	102	70-130	2

Date of Report: 02/21/24
Date Received: 01/23/24
Project: Bridge Point Seattle 130, F&BI 401274

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	27	26	10-43	4
Bis(2-chloroethyl) ether	ug/L (ppb)	5	72	72	40-114	0
2-Chlorophenol	ug/L (ppb)	5	64	68	21-97	6
1,3-Dichlorobenzene	ug/L (ppb)	5	50	48	39-102	4
1,4-Dichlorobenzene	ug/L (ppb)	5	53	51	41-103	4
1,2-Dichlorobenzene	ug/L (ppb)	5	58	56	43-105	4
Benzyl alcohol	ug/L (ppb)	25	63	65	14-82	3
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	71	74	51-110	4
2-Methylphenol	ug/L (ppb)	5	58	64	19-77	10
Hexachloroethane	ug/L (ppb)	5	42	42	39-104	0
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	83	85	58-117	2
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	54	59	12-89	9
Nitrobenzene	ug/L (ppb)	5	80	80	52-111	0
Isophorone	ug/L (ppb)	5	84	87	62-117	4
2-Nitrophenol	ug/L (ppb)	5	79	82	41-117	4
2,4-Dimethylphenol	ug/L (ppb)	5	61	66	10-117	8
Benzoic acid	ug/L (ppb)	40	24	27	10-39	12
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	85	85	56-111	0
2,4-Dichlorophenol	ug/L (ppb)	5	78	83	34-113	6
1,2,4-Trichlorobenzene	ug/L (ppb)	5	62	60	48-104	3
Naphthalene	ug/L (ppb)	5	72	70	50-104	3
Hexachlorobutadiene	ug/L (ppb)	5	49	50	40-107	2
4-Chloroaniline	ug/L (ppb)	25	84	88	34-125	5
4-Chloro-3-methylphenol	ug/L (ppb)	5	80	88	34-111	10
2-Methylnaphthalene	ug/L (ppb)	5	76	73	52-113	4
1-Methylnaphthalene	ug/L (ppb)	5	73	71	51-115	3
Hexachlorocyclopentadiene	ug/L (ppb)	5	47	50	34-126	6
2,4,6-Trichlorophenol	ug/L (ppb)	5	86	88	28-125	2
2,4,5-Trichlorophenol	ug/L (ppb)	5	91	96	39-120	5
2-Chloronaphthalene	ug/L (ppb)	5	78	78	57-130	0
2-Nitroaniline	ug/L (ppb)	25	86	89	51-146	3
Dimethyl phthalate	ug/L (ppb)	5	89	95	64-118	7
Acenaphthylene	ug/L (ppb)	5	87	87	60-114	0
2,6-Dinitrotoluene	ug/L (ppb)	5	98	100	66-121	2
3-Nitroaniline	ug/L (ppb)	25	92	97	42-134	5
Acenaphthene	ug/L (ppb)	5	83	82	57-110	1
2,4-Dinitrophenol	ug/L (ppb)	10	95	101	20-151	6
Dibenzofuran	ug/L (ppb)	5	87	87	52-116	0
2,4-Dinitrotoluene	ug/L (ppb)	5	99	102	55-127	3
4-Nitrophenol	ug/L (ppb)	10	33	37	10-58	11
Diethyl phthalate	ug/L (ppb)	5	91	95	63-118	4
Fluorene	ug/L (ppb)	5	90	89	61-115	1
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	89	89	61-112	0
N-Nitrosodiphenylamine	ug/L (ppb)	5	93	94	60-123	1
4-Nitroaniline	ug/L (ppb)	25	83	87	42-150	5
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	115	113	13-152	2
4-Bromophenyl phenyl ether	ug/L (ppb)	5	95	92	63-123	3
Hexachlorobenzene	ug/L (ppb)	5	98	97	60-113	1
Pentachlorophenol	ug/L (ppb)	5	108	103	14-137	5
Phenanthrene	ug/L (ppb)	5	92	89	63-113	3
Anthracene	ug/L (ppb)	5	95	93	65-117	2
Carbazole	ug/L (ppb)	5	104	104	62-137	0
Di-n-butyl phthalate	ug/L (ppb)	5	87	92	36-137	6
Fluoranthene	ug/L (ppb)	5	103	102	68-121	1
Pyrene	ug/L (ppb)	5	89	85	62-133	5
Benzyl butyl phthalate	ug/L (ppb)	5	87	92	56-145	6
Benz(a)anthracene	ug/L (ppb)	5	95	95	66-131	0
Chrysene	ug/L (ppb)	5	98	99	66-129	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	88	97	52-142	10
Di-n-octyl phthalate	ug/L (ppb)	5	84	89	36-151	6
Benzo(a)pyrene	ug/L (ppb)	5	107	108	66-129	1
Benzo(b)fluoranthene	ug/L (ppb)	5	96	97	55-144	1
Benzo(k)fluoranthene	ug/L (ppb)	5	107	103	58-139	4
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	113	110	62-136	3
Dibenz(a,h)anthracene	ug/L (ppb)	5	108	105	55-146	3
Benzo(g,h,i)perylene	ug/L (ppb)	5	104	103	58-137	1

Date of Report: 02/21/24
Date Received: 01/23/24
Project: Bridge Point Seattle 130, F&BI 401274

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	63	58	20-94	8
Aroclor 1260	ug/L (ppb)	0.25	67	60	23-123	11

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

401274

SAMPLE CHAIN OF CUSTODY

01/23/24 VW2/C3

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company CRETE CONSULTING

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: Bridge Point Seattle 130

REMARKS: With and without SGC on all TPH-Dx

Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
- X Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

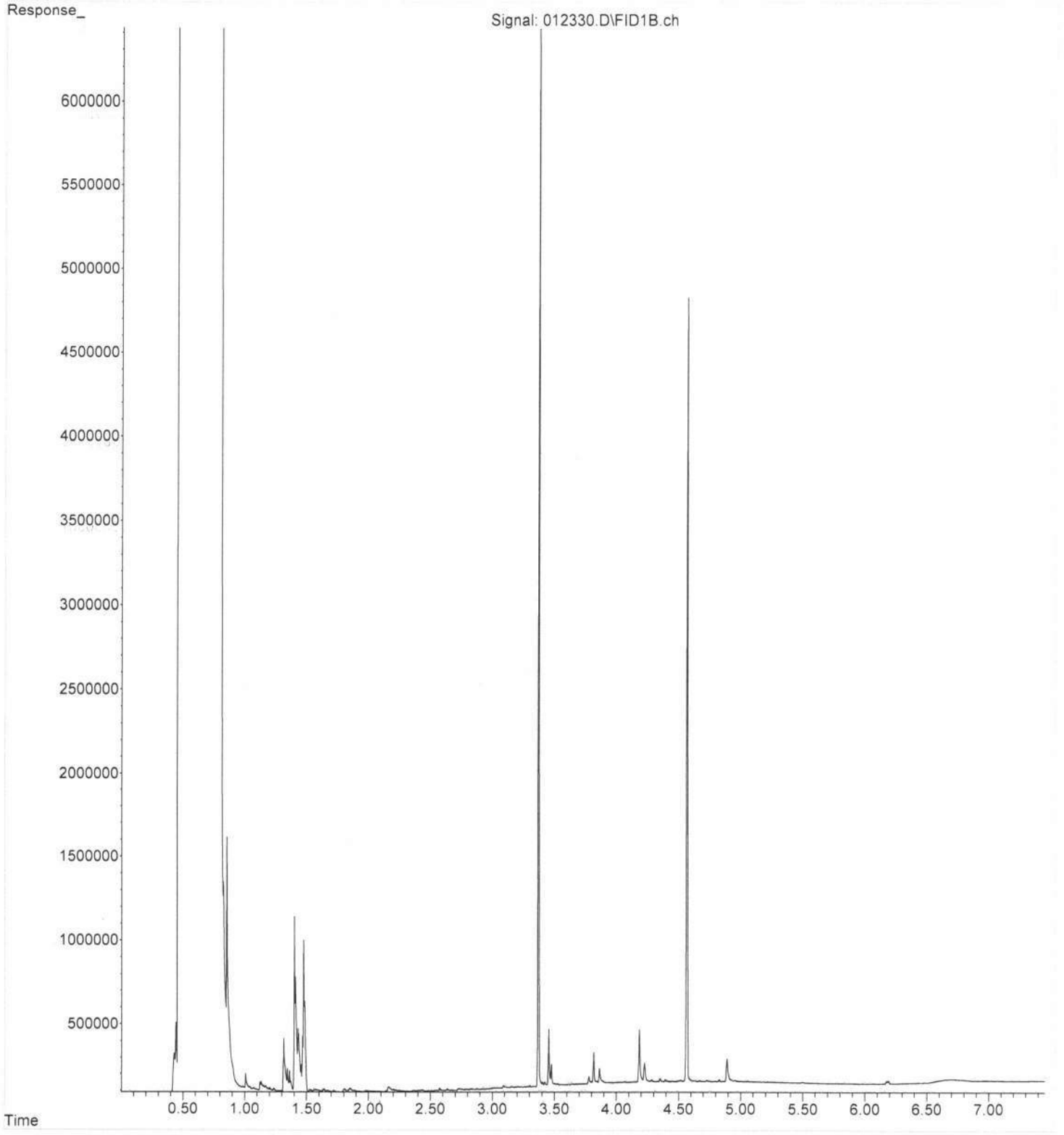
SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	TRACE SVOCs 8270	cVOCs 8260	TBT		Notes
MW5-0124	01 A-K	1.22.2024	2202	WATER	11	X	X	X				X	X	X	X		HOLD D/F
MW2-0124	02 A-K	↓	2257	↓	11	X	X	X				X	X	X	X		HOLD D/F
													Samples received at 2 °C				

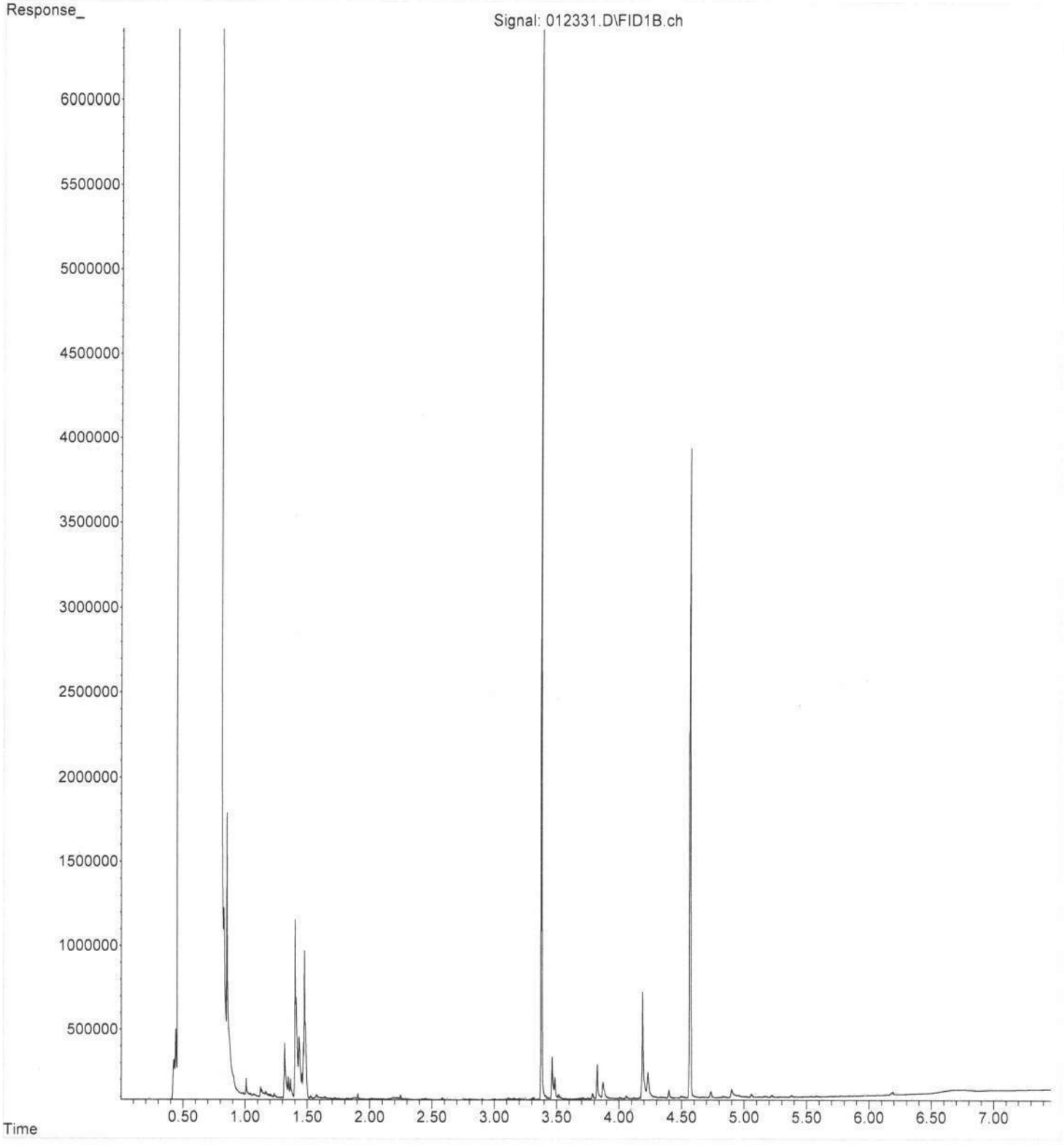
SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	1/23/24	0846
Received by:	Nhan Phan	FedEx	1/23/24	0846
Relinquished by:				
Received by:				

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

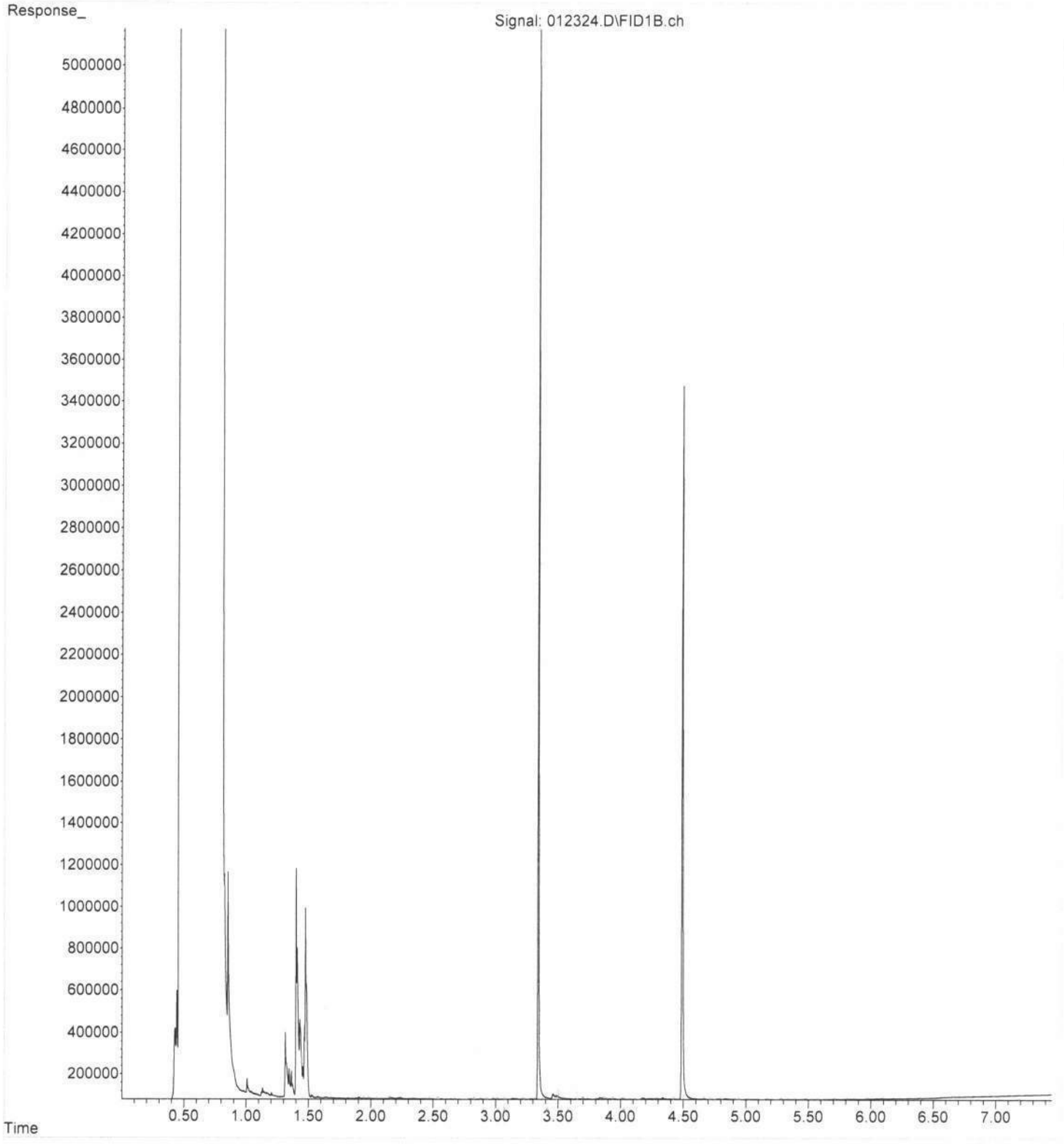
File :P:\Proc_GC10\01-23-24\012330.D
Operator : IJL
Acquired : 23 Jan 2024 04:09 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 401274-01
Misc Info :
Vial Number: 107



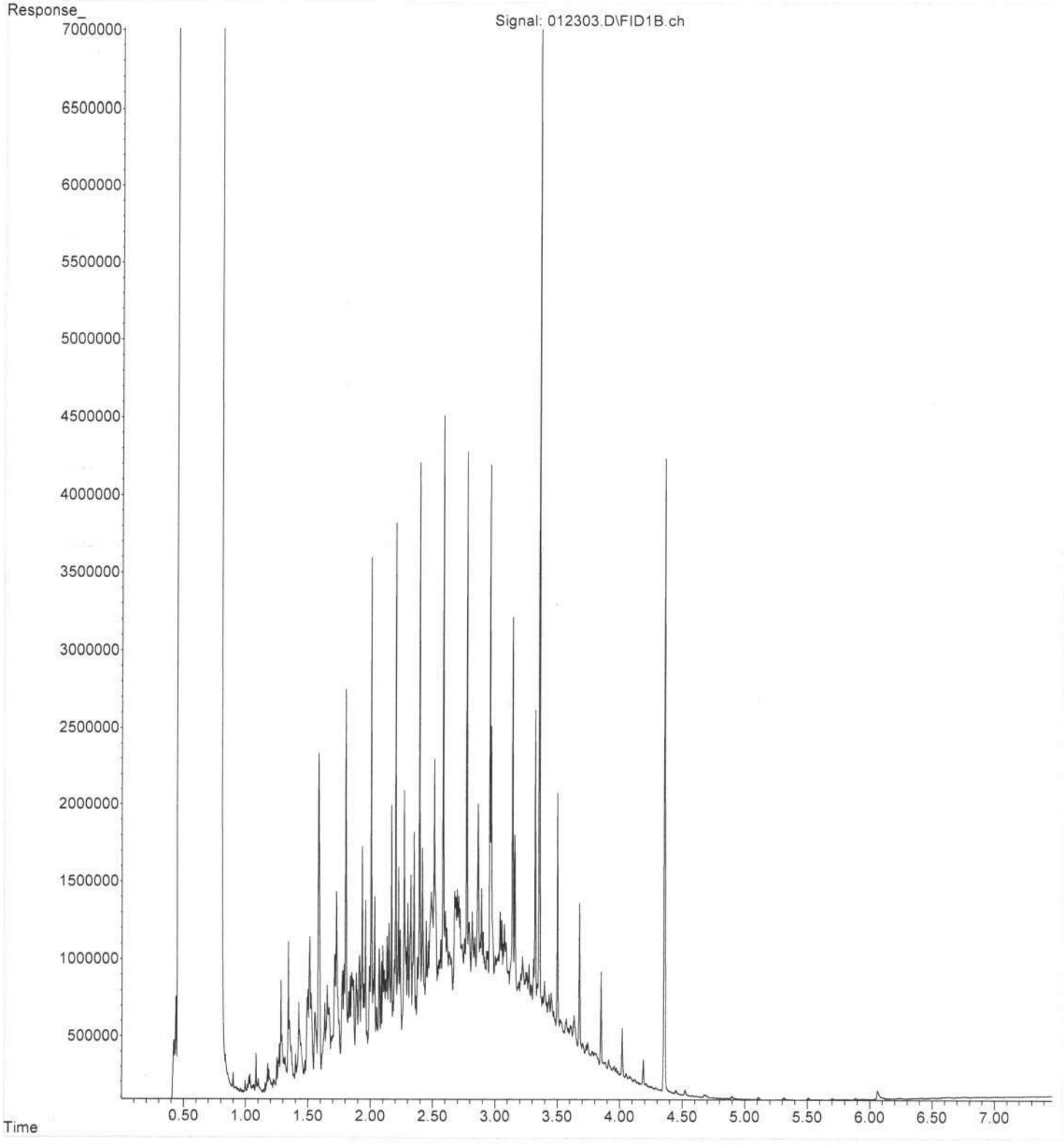
File :P:\Proc_GC10\01-23-24\012331.D
Operator : IJL
Acquired : 23 Jan 2024 04:21 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 401274-02
Misc Info :
Vial Number: 108



File :P:\Proc_GC10\01-23-24\012324.D
Operator : IJL
Acquired : 23 Jan 2024 02:59 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 04-0165 mb2
Misc Info :
Vial Number: 101



File :P:\Proc_GC10\01-23-24\012303.D
Operator : IJL
Acquired : 23 Jan 2024 08:01 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 500 DX 70-26F
Misc Info :
Vial Number: 3



Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

20 February 2024

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

RE: 401274 (401274)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24A0486	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Sheri Cruz For Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER ARI	24A0486
PROJECT NAME/NO. 401274	PO # D-642
REMARKS EIM	

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

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

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	tributyltin	D/F	Nitrite	Sulfate	RSK-175						Notes
MW5-0124		1/22/2024	2202	water	2	x										Hold D/F
MW2-0124		1/22/2024	2257	water	2	x										Hold D/F

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
~~Relinquished by:~~		Michael Erdahl	Friedman & Bruya	1/23/24	0916
Received by:	Matthew Daire	Matthew Daire	ARI	01/25/24	1015
Relinquished by:					
Received by:					

Friedman & Bruya Inc.	Project: 401274	
5500 4th Ave S	Project Number: 401274	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	20-Feb-2024 08:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW5-0124	24A0486-01	Water	22-Jan-2024 22:02	23-Jan-2024 10:15
MW2-0124	24A0486-02	Water	22-Jan-2024 22:57	23-Jan-2024 10:15

Friedman & Bruya Inc.	Project: 401274	
5500 4th Ave S	Project Number: 401274	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	20-Feb-2024 08:51

Work Order Case Narrative

Client: Friedman & Bruya Inc.
Project: 401274
Work Order: 24A0486

Sample receipt

Samples as listed on the preceding page were received 23-Jan-2024 10:15 under ARI work order 24A0486. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Butyl Tin(s) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits with the exception of BMA0690-BS1 LCS failed low for both surrogates. The associated data have been flagged on the summary sheet.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits with the exception of SMA0690-BS1 LCS failed low for Tributyltin ion. The associated data have been reported per client instruction and flagged on the summary sheet.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Friedman + Bruya
Project Name: 401274
COC No(s): NA
Delivered by: Fed-Ex UPS Courier Hand Delivered Other:
Assigned ARI Job No: 24A0486
Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 6.8°C

Time 1015

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: IR09201

Cooler Accepted by: MD Date: 01/23/24 Time: 1015

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: Equipment: Split by:

Samples Logged by: Date: 1/23/24 Time: 1232 Labels checked by: LB

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Friedman & Bruya Inc.	Project: 401274	
5500 4th Ave S	Project Number: 401274	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	20-Feb-2024 08:51

MW5-0124

24A0486-01 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 01/22/2024 22:02
Instrument: NT18 Analyst: VTS — Analyzed: 02/17/2024 10:12

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24A0486-01 A 01
	Preparation Batch: BMA0690	Sample Size: 150 mL	
	Prepared: 01/29/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24A0486-01 A 01
	Cleanup Batch: CMB0067	Initial Volume: 0.5 uL	
	Cleaned: 16-Feb-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Dibutyltin Ion	14488-53-0	1	0.0077	ND	ug/L	U
Butyltin Ion	78763-54-9	1	0.0060	0.0079	ug/L	
Tetrabutyltin	1461-25-2	1	0.0300	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*48.6*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*39.2*	*%*	

Friedman & Bruya Inc.	Project: 401274	
5500 4th Ave S	Project Number: 401274	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	20-Feb-2024 08:51

MW2-0124

24A0486-02 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 01/22/2024 22:57

Instrument: NT18 Analyst: VTS — Analyzed: 02/17/2024 10:25

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24A0486-02 A 01
	Preparation Batch: BMA0690	Sample Size: 150 mL	
	Prepared: 01/29/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24A0486-02 A 01
	Cleanup Batch: CMB0067	Initial Volume: 0.5 uL	
	Cleaned: 16-Feb-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Dibutyltin Ion	14488-53-0	1	0.0077	ND	ug/L	U
Butyltin Ion	78763-54-9	1	0.0060	0.0226	ug/L	
Tetrabutyltin	1461-25-2	1	0.0300	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*50.5*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*39.3*	*%*	

Friedman & Bruya Inc.	Project: 401274	
5500 4th Ave S	Project Number: 401274	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	20-Feb-2024 08:51

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0690 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMA0690-BLK1)			Prepared: 29-Jan-2024 Analyzed: 17-Feb-2024 09:44							
Tributyltin Ion	ND	0.0052	ug/L							U
Dibutyltin Ion	ND	0.0077	ug/L							U
Butyltin Ion	ND	0.0060	ug/L							U
Tetrabutyltin	ND	0.0300	ug/L							U
Surrogate: Tripentyltin	0.0353		ug/L	*0.0753*		*46.9*	*30-160*			
Surrogate: Tripropyltin	0.0287		ug/L	*0.0729*		*39.4*	*30-160*			

Friedman & Bruya Inc.	Project: 401274	
5500 4th Ave S	Project Number: 401274	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	20-Feb-2024 08:51

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0690 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMA0690-BS1)				Prepared: 29-Jan-2024 Analyzed: 17-Feb-2024 09:58						
Tributyltin Ion	0.0427	0.0052	ug/L	0.149		28.7	30-160			*
Dibutyltin Ion	0.0707	0.0077	ug/L	0.128		55.3	30-160			
Butyltin Ion	0.0380	0.0060	ug/L	0.104		36.6	30-160			
Surrogate: Tripentyltin	0.0222		ug/L	*0.0753*		*29.5*	*30-160*			*
Surrogate: Tripropyltin	0.0158		ug/L	*0.0729*		*21.7*	*30-160*			*

Friedman & Bruya Inc.	Project: 401274	
5500 4th Ave S	Project Number: 401274	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	20-Feb-2024 08:51

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270E-SIM in Water	
Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Dibutyltin Ion	NELAP,WADOE,DoD-ELAP
Butyltin Ion	NELAP,WADOE,DoD-ELAP
Tetrapentyltin	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2024
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Friedman & Bruya Inc.	Project: 401274	
5500 4th Ave S	Project Number: 401274	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	20-Feb-2024 08:51

Notes and Definitions

*	Flagged value is not within established control limits.
H	Hold time violation - Hold time was exceeded.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

March 25, 2024

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

Dear Mr Jones:

Included are the additional results from the testing of material submitted on January 12, 2024 from the Bridge Point Seattle 130, F&BI 401151 project. There is 1 page included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Grant Hainsworth, Jamie Stevens
CTC0325R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 12, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 401151 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
401151 -01	DUP-0124
401151 -02	MW4-0124
401151 -03	MW3-0124

Sample MW3-0124 was sent to Analytical Resources, Inc. for dioxin and furan analysis. The report is enclosed.

401151

SAMPLE CHAIN OF CUSTODY

01/12/24 VW2/C3

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company Crete Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: Bridge Point Seattle 130

REMARKS: With and without SGC and all TPH-Dx

Project specific RLs? - Yes / No

INVOICE TO: CRETE

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

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	D/F	TBT	sVOCs 8270	Notes
DUP-0124	01 A-I	1/11/2024	1200	WATER	9	X	X	X				X	X			X	
MW4-0124	02 A-K	↓	2246	|	11	X	X	X				X	X		X	X	Hold ~~TBT~~/F
MW3-0124	03 ↓	1/12/2024	0028	↓	11	X	X	X				X	X	A		X	Hold ~~D~~/F
							Samples received at 0 °C										

A-analyze per RJ 02/08/24 ME

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	1/12/24	1046
Received by:	ANH PHAN	FSL	01/12/24	10:46
Relinquished by:				
Received by:				

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

Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

02 February 2024

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

RE: 401151 (401151)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24A0272	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

24A0272

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER
ARI

PROJECT NAME/NO.	PO #
401151	D-629

REMARKS

EIM - Hold D/F Testing.

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

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

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	TBT	D/F									Notes
MW4-0124		1/11/2024	2246	water	2	x										
MW3-0124		1/11/2024	28	water	2											Hold

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	1/12/24	1130
Received by:		Matthew Danver	ARI	01/12/24	1151
Relinquished by:					
Received by:					

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW4-0124	24A0272-01	Water	11-Jan-2024 22:46	12-Jan-2024 11:51

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Work Order Case Narrative

Client: Friedman & Bruya Inc.
Project: 401151
Work Order: 24A0272

Sample receipt

Samples as listed on the preceding page were received 12-Jan-2024 11:51 under ARI work order 24A0272. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Butyl Tin(s) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Friedman & Bruya Project Name: 401151

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 24A0272 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.6 oc

Time 1151

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 200708

Cooler Accepted by: MD Date: 2/12/24 Time: 1151

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	Bubble Wrap Wet Ice (Gel Packs) Baggies Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
How were bottles sealed in plastic bags?	Individually	Grouped	(Not)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Were the sample(s) split by ARI? (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: PEB Date: 1/12/24 Time: ~~16:08~~ 16:36 PEB 1/12/24 Labels checked by: PIB

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

MW4-0124

24A0272-01 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 01/11/2024 22:46
Instrument: NT18 Analyst: VTS — Analyzed: 01/31/2024 13:30

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24A0272-01 A 01
	Preparation Batch: BMA0375	Sample Size: 150 mL	
	Prepared: 01/17/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24A0272-01 A 01
	Cleanup Batch: CMA0133	Initial Volume: 0.5 uL	
	Cleaned: 30-Jan-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Dibutyltin Ion	14488-53-0	1	0.0077	ND	ug/L	U
Butyltin Ion	78763-54-9	1	0.0060	0.0094	ug/L	
Tetrabutyltin	1461-25-2	1	0.0300	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*73.0*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*51.2*	*%*	

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0375 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMA0375-BLK1)			Prepared: 17-Jan-2024 Analyzed: 31-Jan-2024 13:02							
Tributyltin Ion	ND	0.0052	ug/L							U
Dibutyltin Ion	ND	0.0077	ug/L							U
Butyltin Ion	ND	0.0060	ug/L							U
Tetrabutyltin	ND	0.0300	ug/L							U
Surrogate: Tripentyltin	0.0437		ug/L	*0.0753*		*58.0*	*30-160*			
Surrogate: Tripropyltin	0.0397		ug/L	*0.0729*		*54.5*	*30-160*			

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0375 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMA0375-BS1)				Prepared: 17-Jan-2024 Analyzed: 31-Jan-2024 13:16						
Tributyltin Ion	0.118	0.0052	ug/L	0.149		79.6	30-160			
Dibutyltin Ion	0.105	0.0077	ug/L	0.128		81.9	30-160			
Butyltin Ion	0.0336	0.0060	ug/L	0.104		32.4	30-160			
Surrogate: Tripentyltin	0.0546		ug/L	*0.0753*		*72.5*	*30-160*			
Surrogate: Tripropyltin	0.0400		ug/L	*0.0729*		*54.9*	*30-160*			

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270E-SIM in Water	
Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Dibutyltin Ion	NELAP,WADOE,DoD-ELAP
Butyltin Ion	NELAP,WADOE,DoD-ELAP
Tetrapentyltin	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2024
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Notes and Definitions

*	Flagged value is not within established control limits.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
H	Hold time violation - Hold time was exceeded.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

March 7, 2024

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

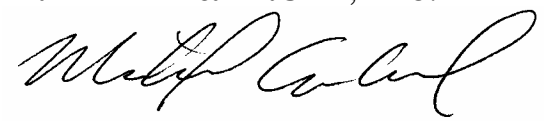
Dear Mr Jones:

Included are the results from the testing of material submitted on February 29, 2024 from the Bridge Point Seattle 130, F&BI 402420 project. There are 10 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: Grant Hainsworth, Jamie Stevens
CTC0307R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 29, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 402420 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
402420 -01	RI-SB-17 8-10'
402420 -02	RI-SB-17 13.5-15'
402420 -03	RI-SB-17
402420 -04	RI-SB-16 13.4-15'
402420 -05	RI-SB-16 15-20'
402420 -06	RI-SB-16
402420 -07	RI-SB-15 12-13'
402420 -08	RI-SB-15 18-20'
402420 -09	RI-SB-18 13.5-15'
402420 -10	RI-SB-18
402420 -11	RI-SB-15

All quality control requirements were acceptable.

Date of Report: 03/07/24
Date Received: 02/29/24
Project: Bridge Point Seattle 130, F&BI 402420
Date Extracted: 03/01/24
Date Analyzed: 03/04/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
RI-SB-18 402420-10	<100	95
Method Blank 04-429 MB	<100	95

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-17	Client:	Crete Consulting
Date Received:	02/29/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/01/24	Lab ID:	402420-03
Date Analyzed:	03/01/24	Data File:	030107.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	108	62	136

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	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-16	Client:	Crete Consulting
Date Received:	02/29/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/01/24	Lab ID:	402420-06
Date Analyzed:	03/01/24	Data File:	030108.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	71	132
Toluene-d8	94	68	139
4-Bromofluorobenzene	115	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.90
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-18	Client:	Crete Consulting
Date Received:	02/29/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/01/24	Lab ID:	402420-10
Date Analyzed:	03/01/24	Data File:	030109.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	106	68	139
4-Bromofluorobenzene	111	62	136

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-15	Client:	Crete Consulting
Date Received:	02/29/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/01/24	Lab ID:	402420-11
Date Analyzed:	03/01/24	Data File:	030110.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	93	68	139
4-Bromofluorobenzene	112	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.57
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	03/01/24	Lab ID:	04-0405 mb
Date Analyzed:	03/01/24	Data File:	030109.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	78	126
Toluene-d8	101	84	115
4-Bromofluorobenzene	106	72	130

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

Date of Report: 03/07/24
Date Received: 02/29/24
Project: Bridge Point Seattle 130, F&BI 402420

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

Laboratory Code: 402437-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	90	70-130

Date of Report: 03/07/24
Date Received: 02/29/24
Project: Bridge Point Seattle 130, F&BI 402420

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

Laboratory Code: 402415-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	111	50-150
Chloroethane	ug/L (ppb)	10	<1	110	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	106	50-150
Methylene chloride	ug/L (ppb)	10	<5	104	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	1.6	107	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	108	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	1.1	105	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	106	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	106	50-150
Trichloroethene	ug/L (ppb)	10	5.0	102 b	35-149
Tetrachloroethene	ug/L (ppb)	10	14	100 b	50-150

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)	10	108	121	64-142	11
Chloroethane	ug/L (ppb)	10	104	118	70-130	13
1,1-Dichloroethene	ug/L (ppb)	10	103	114	64-140	10
Methylene chloride	ug/L (ppb)	10	104	111	43-134	7
trans-1,2-Dichloroethene	ug/L (ppb)	10	101	113	70-130	11
1,1-Dichloroethane	ug/L (ppb)	10	104	115	70-130	10
cis-1,2-Dichloroethene	ug/L (ppb)	10	102	116	70-130	13
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	101	106	70-130	5
1,1,1-Trichloroethane	ug/L (ppb)	10	102	113	70-130	10
Trichloroethene	ug/L (ppb)	10	98	102	70-130	4
Tetrachloroethene	ug/L (ppb)	10	101	105	70-130	4

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

402420

SAMPLE CHAIN OF CUSTODY

02/29/24

VW21F21VSB1N2

Page # 1 of 2

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) Rusty Jones R. Jones

PROJECT NAME Bridge Point Seattle 130

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs				Notes
RI-SB-17 8-10'	01 A-D	2/28/2024	1045	SOIL	4												HOLD
RI-SB-17 13.5-15'	02 ↓		1055	↓	4												HOLD
RI-SB-17	03 A-C		1105	WATER	3								X	~~X~~			
RI-SB-16 13.4-15'	04 A-D		1200	SOIL	4												HOLD
RI-SB-16 15-20'	05 ↓		1205	↓	4												HOLD
RI-SB-16	06 A-C		1216	WATER	3								X	~~X~~			
RI-SB-15 12-13'	07 A-D		1325	SOIL	4												HOLD
RI-SB-15 18-20'	08 ↓		1340	↓	4												HOLD
RI-SB-18 13.5-15'	09 A-F		1440	↓	6												HOLD
RI-SB-18	10 A-G	↓	1502	WATER	7	*	X						X				* hold D, pcRJ 3/1/24 mL

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	2/29/2024	0733
Received by:	Nhan Pham	FBI	2/29/24	0733
Relinquished by:		Samples received at 4 °C		
Received by:				

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

AEN

402420

SAMPLE CHAIN OF CUSTODY

02/29/24

VW2/F2/VSB1/N2

Page # 2 of 2

Report To Jones, Hairsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO: CRETE

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

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs				Notes
RI-SB-15	11A-C	2/28/2024	1550	WATER	3								X				
											Samples received at						4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	~~2/28/24~~ 2/29/2024	0733
Received by:				
Relinquished by:				
Received by:	Nhan Phan	FEBI	2/29/24	0733

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

February 5, 2024

Grant Hainsworth, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

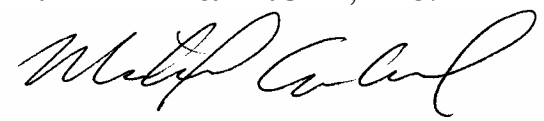
Dear Mr Hainsworth:

Included are the results from the testing of material submitted on January 11, 2024 from the Bridge Point Seattle 130, F&BI 401129 project. There are 28 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: Rusty Jones, Jamie Stevens
CTC0205R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 11, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 401129 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
401129 -01	MW9-0124
401129 -02	MW8-0124
401129 -03	PD1-0124
401129 -04	MW1-0124
401129 -05	MW6-0124

Samples PD1-0124, MW1-0124, and MW6-0124 were sent to Analytical Resources, LLC for tributyltin analysis. The report is enclosed.

Hexachloroethane and hexachlorobutadiene in the 8270E laboratory control sample and laboratory control sample duplicate did not meet the acceptance criteria. The data were flagged accordingly.

The 8270E hexachlorocyclopentadiene calibration standard exceeded the acceptance criteria. The compound was not detected, therefore this did not represent an out of control condition.

All other quality control requirements were acceptable.

Date of Report: 02/05/24
Date Received: 01/11/24
Project: Bridge Point Seattle 130, F&BI 401129
Date Extracted: 01/12/24
Date Analyzed: 01/12/24

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 50-150)
MW9-0124 401129-01	<1	<1	<1	<3	<100	74
MW8-0124 401129-02	<1	6.5	2.5	6.1	1,900	71
PD1-0124 401129-03	<1	<1	<1	<3	<100	71
MW1-0124 401129-04	<1	<1	<1	<3	<100	67
MW6-0124 401129-05	<1	<1	<1	<3	<100	71
Method Blank 04-0012 MB	<1	<1	<1	<3	<100	69

Date of Report: 02/05/24
Date Received: 01/11/24
Project: Bridge Point Seattle 130, F&BI 401129
Date Extracted: 01/12/24
Date Analyzed: 01/16/24

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW9-0124 401129-01	<50	<250	106
MW8-0124 401129-02	550 x	<250	104
PD1-0124 401129-03	<50	<250	101
MW1-0124 401129-04	<50	<250	101
MW6-0124 401129-05	<50	<250	101
Method Blank 04-0091 MB	<50	<250	89

Date of Report: 02/05/24
Date Received: 01/11/24
Project: Bridge Point Seattle 130, F&BI 401129
Date Extracted: 01/12/24
Date Analyzed: 01/15/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW9-0124 401129-01	<50	<250	102
MW8-0124 401129-02	650 x	<250	104
PD1-0124 401129-03	<50	<250	105
MW1-0124 401129-04	<50	<250	105
MW6-0124 401129-05	<50	<250	100
Method Blank 04-0091 MB	<50	<250	91

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW9-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/12/24	Lab ID:	401129-01
Date Analyzed:	01/12/24	Data File:	011236.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	19
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	11
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW8-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/12/24	Lab ID:	401129-02
Date Analyzed:	01/12/24	Data File:	011237.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	71	132
Toluene-d8	116	68	139
4-Bromofluorobenzene	104	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	22
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	1.4
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	30
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	1.2
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	PD1-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/12/24	Lab ID:	401129-03
Date Analyzed:	01/15/24	Data File:	011517.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.037
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW1-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/12/24	Lab ID:	401129-04
Date Analyzed:	01/12/24	Data File:	011239.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	104	62	136

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW6-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/12/24	Lab ID:	401129-05
Date Analyzed:	01/12/24	Data File:	011240.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	102	62	136

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/12/24	Lab ID:	04-0067 mb
Date Analyzed:	01/12/24	Data File:	011214.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	95	68	139
4-Bromofluorobenzene	104	62	136

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

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW9-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401129-01
Date Analyzed:	01/15/24	Data File:	011511.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	34	11	65
Phenol-d6	26	11	65
Nitrobenzene-d5	73	11	173
2-Fluorobiphenyl	79	25	128
2,4,6-Tribromophenol	86	10	140
Terphenyl-d14	83	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW8-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401129-02
Date Analyzed:	01/15/24	Data File:	011512.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	33	11	65
Phenol-d6	25	11	65
Nitrobenzene-d5	75	11	173
2-Fluorobiphenyl	75	25	128
2,4,6-Tribromophenol	87	10	140
Terphenyl-d14	85	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	5.9	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	PD1-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401129-03
Date Analyzed:	01/15/24	Data File:	011513.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	35	11	65
Phenol-d6	25	11	65
Nitrobenzene-d5	80	11	173
2-Fluorobiphenyl	83	25	128
2,4,6-Tribromophenol	84	10	140
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW1-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401129-04
Date Analyzed:	01/15/24	Data File:	011514.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	33	11	65
Phenol-d6	26	11	65
Nitrobenzene-d5	75	11	173
2-Fluorobiphenyl	81	25	128
2,4,6-Tribromophenol	81	10	140
Terphenyl-d14	97	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW6-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401129-05
Date Analyzed:	01/15/24	Data File:	011515.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	38	11	65
Phenol-d6	32	11	65
Nitrobenzene-d5	78	11	173
2-Fluorobiphenyl	81	25	128
2,4,6-Tribromophenol	87	10	140
Terphenyl-d14	94	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	04-0141 mb
Date Analyzed:	01/15/24	Data File:	011508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	32	11	65
Phenol-d6	25	11	65
Nitrobenzene-d5	75	11	173
2-Fluorobiphenyl	74	25	128
2,4,6-Tribromophenol	67	10	140
Terphenyl-d14	88	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW9-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/11/24	Lab ID:	401129-01
Date Analyzed:	01/12/24	Data File:	011224.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	63	24	127
Decachlorobiphenyl	69	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW8-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/11/24	Lab ID:	401129-02
Date Analyzed:	01/12/24	Data File:	011225.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	64	24	127
Decachlorobiphenyl	82	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW1-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/11/24	Lab ID:	401129-04
Date Analyzed:	01/12/24	Data File:	011226.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	47	24	127
Decachlorobiphenyl	63	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW6-0124	Client:	Crete Consulting
Date Received:	01/11/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/11/24	Lab ID:	401129-05
Date Analyzed:	01/12/24	Data File:	011227.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	70	24	127
Decachlorobiphenyl	66	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/11/24	Lab ID:	04-0093 mb
Date Analyzed:	01/12/24	Data File:	011207.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	61	24	127
Decachlorobiphenyl	65	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Date of Report: 02/05/24
Date Received: 01/11/24
Project: Bridge Point Seattle 130, F&BI 401129

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: 401129-01 (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	86	70-130
Toluene	ug/L (ppb)	50	82	70-130
Ethylbenzene	ug/L (ppb)	50	84	70-130
Xylenes	ug/L (ppb)	150	87	70-130
Gasoline	ug/L (ppb)	1,000	100	70-130

Date of Report: 02/05/24
Date Received: 01/11/24
Project: Bridge Point Seattle 130, F&BI 401129

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

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	116	72-139	19

Date of Report: 02/05/24
Date Received: 01/11/24
Project: Bridge Point Seattle 130, F&BI 401129

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	116	72-139	15

Date of Report: 02/05/24
Date Received: 01/11/24
Project: Bridge Point Seattle 130, F&BI 401129

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

Laboratory Code: 401121-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	0.13	98	16-176
Chloroethane	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
Methylene chloride	ug/L (ppb)	10	<5	93	40-143
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	99	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	95	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	96	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	94	43-133
Tetrachloroethene	ug/L (ppb)	10	<1	99	50-150

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)	10	98	98	43-149	0
Chloroethane	ug/L (ppb)	10	95	95	59-157	0
1,1-Dichloroethene	ug/L (ppb)	10	94	94	67-138	0
Methylene chloride	ug/L (ppb)	10	90	88	29-192	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	95	96	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	97	97	70-130	0
cis-1,2-Dichloroethene	ug/L (ppb)	10	96	96	70-130	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	91	91	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	95	95	70-130	0
Trichloroethene	ug/L (ppb)	10	92	91	70-130	1
Tetrachloroethene	ug/L (ppb)	10	94	94	70-130	0

Date of Report: 02/05/24
Date Received: 01/11/24
Project: Bridge Point Seattle 130, F&BI 401129

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	29	32	10-86	10
Bis(2-chloroethyl) ether	ug/L (ppb)	5	80	82	54-111	2
2-Chlorophenol	ug/L (ppb)	5	71	76	10-97	7
1,3-Dichlorobenzene	ug/L (ppb)	5	50	53	48-96	6
1,4-Dichlorobenzene	ug/L (ppb)	5	52	54	48-96	4
1,2-Dichlorobenzene	ug/L (ppb)	5	56	58	52-96	4
Benzyl alcohol	ug/L (ppb)	25	65	70	10-76	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	84	86	59-101	2
2-Methylphenol	ug/L (ppb)	5	63	68	11-93	8
Hexachloroethane	ug/L (ppb)	5	42 vo	46 vo	47-97	9
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	92	94	71-106	2
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	58	61	10-66	5
Nitrobenzene	ug/L (ppb)	5	76	80	57-109	5
Isophorone	ug/L (ppb)	5	84	86	64-116	2
2-Nitrophenol	ug/L (ppb)	5	84	89	27-120	6
2,4-Dimethylphenol	ug/L (ppb)	5	61	63	10-106	3
Benzoic acid	ug/L (ppb)	40	27	31	10-102	14
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	83	86	55-117	4
2,4-Dichlorophenol	ug/L (ppb)	5	77	82	23-116	6
1,2,4-Trichlorobenzene	ug/L (ppb)	5	56	57	56-98	2
Naphthalene	ug/L (ppb)	5	69	71	62-97	3
Hexachlorobutadiene	ug/L (ppb)	5	40 vo	42 vo	48-100	5
4-Chloroaniline	ug/L (ppb)	25	80	87	28-121	8
4-Chloro-3-methylphenol	ug/L (ppb)	5	78	83	18-113	6
2-Methylnaphthalene	ug/L (ppb)	5	71	71	64-101	0
1-Methylnaphthalene	ug/L (ppb)	5	69	68	64-103	1
Hexachlorocyclopentadiene	ug/L (ppb)	5	61	66	37-115	8
2,4,6-Trichlorophenol	ug/L (ppb)	5	91	98	16-131	7
2,4,5-Trichlorophenol	ug/L (ppb)	5	92	96	26-129	4
2-Chloronaphthalene	ug/L (ppb)	5	74	76	67-102	3
2-Nitroaniline	ug/L (ppb)	25	82	87	31-168	6
Dimethyl phthalate	ug/L (ppb)	5	81	86	70-130	6
Acenaphthylene	ug/L (ppb)	5	82	84	70-130	2
2,6-Dinitrotoluene	ug/L (ppb)	5	82	90	70-130	9
3-Nitroaniline	ug/L (ppb)	25	73	78	33-128	7
Acenaphthene	ug/L (ppb)	5	77	79	70-130	3
2,4-Dinitrophenol	ug/L (ppb)	10	104	113	10-137	8
Dibenzofuran	ug/L (ppb)	5	78	80	67-114	3
2,4-Dinitrotoluene	ug/L (ppb)	5	81	85	53-132	5
4-Nitrophenol	ug/L (ppb)	10	31	35	10-89	12
Diethyl phthalate	ug/L (ppb)	5	77	81	57-134	5
Fluorene	ug/L (ppb)	5	78	81	70-130	4
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	78	79	70-130	1
N-Nitrosodiphenylamine	ug/L (ppb)	5	91	96	70-130	5
4-Nitroaniline	ug/L (ppb)	25	84	89	32-124	6
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	113	123	14-167	8
4-Bromophenyl phenyl ether	ug/L (ppb)	5	88	92	70-130	4
Hexachlorobenzene	ug/L (ppb)	5	85	93	58-111	9
Pentachlorophenol	ug/L (ppb)	5	117	129	10-144	10
Phenanthrene	ug/L (ppb)	5	84	87	70-130	4
Anthracene	ug/L (ppb)	5	88	92	70-130	4
Carbazole	ug/L (ppb)	5	95	98	70-130	3
Di-n-butyl phthalate	ug/L (ppb)	5	85	91	28-147	7
Fluoranthene	ug/L (ppb)	5	89	91	70-130	2
Pyrene	ug/L (ppb)	5	90	100	70-130	11
Benzyl butyl phthalate	ug/L (ppb)	5	95	102	34-142	7
Benz(a)anthracene	ug/L (ppb)	5	96	99	70-130	3
Chrysene	ug/L (ppb)	5	93	97	70-130	4
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	90	94	44-140	4
Di-n-octyl phthalate	ug/L (ppb)	5	93	98	33-147	5
Benzo(a)pyrene	ug/L (ppb)	5	99	103	70-130	4
Benzo(b)fluoranthene	ug/L (ppb)	5	91	95	70-130	4
Benzo(k)fluoranthene	ug/L (ppb)	5	93	96	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	97	110	70-130	13
Dibenz(a,h)anthracene	ug/L (ppb)	5	96	109	70-130	13
Benzo(g,h,i)perylene	ug/L (ppb)	5	90	104	70-130	14

Date of Report: 02/05/24
Date Received: 01/11/24
Project: Bridge Point Seattle 130, F&BI 401129

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	54	65	20-94	18
Aroclor 1260	ug/L (ppb)	0.25	77	81	23-123	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, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SAMPLE CHAIN OF CUSTODY

401129 — 01/11/24 — VW2/C4

Page # 1 of 1

Report To Hainsworth, Jones, Stevens

Company Crete Consulting Inc

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (signature): Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: Seattle 130

REMARKS: With and w/out SGC on all TPH-Dx

Project Specific RLs - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
- ☒ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

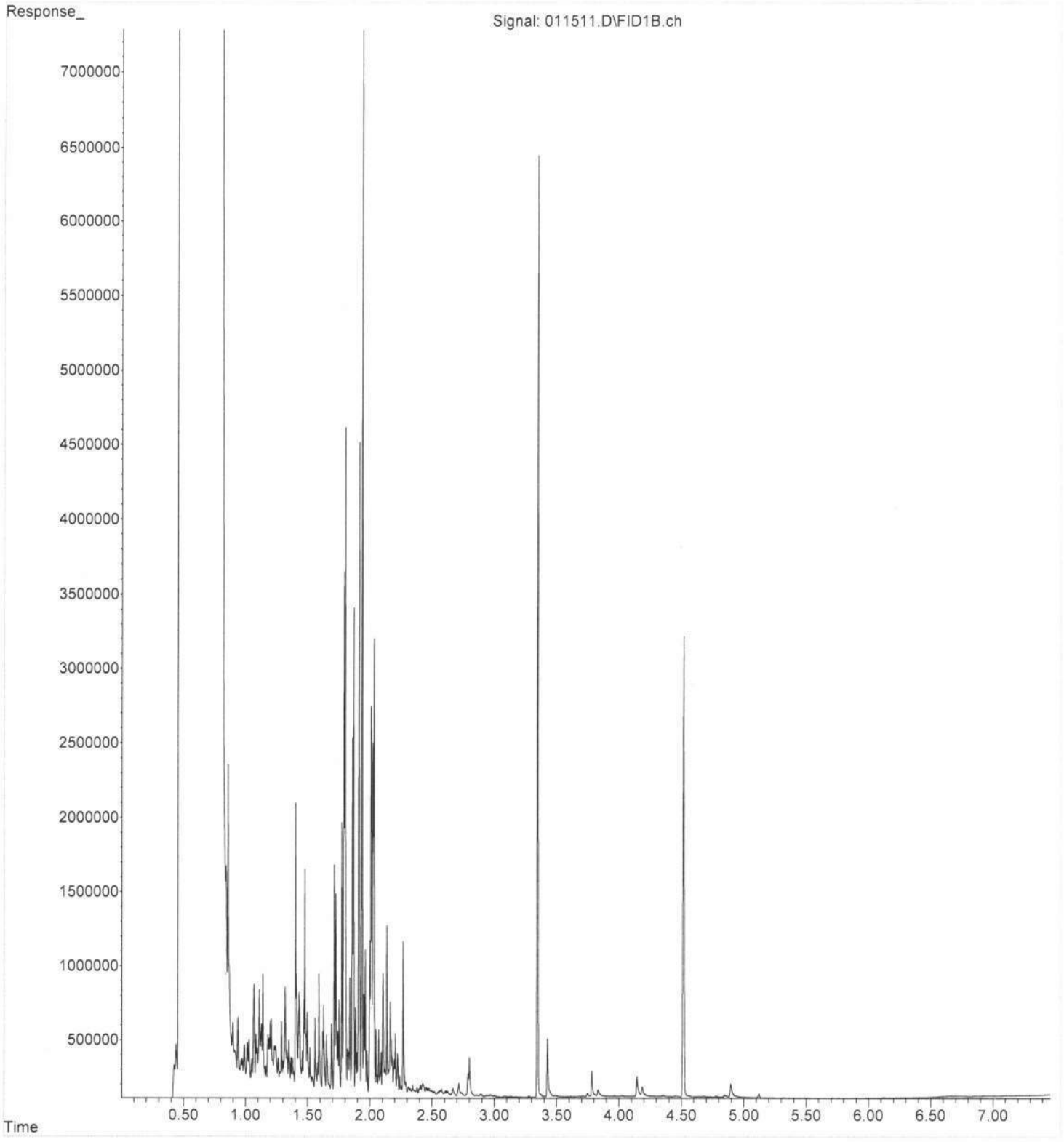
SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	sVOCs 8270	TBT	D/F		Notes
						ANALYSES REQUESTED											* w/ and w/out SGC on all TPH-Dx *
MW9-0124	01 A-J	1/9/2024	1956	WATER	10	X	X	X			X	X	X				w/+w/out SGC
MW8-0124	02	1/10/2024	2045		10	X	X	X			X	X	X				
PDI-0124	03 A-K		2150		11	X	X	X			X	X	X	X			HOLD D/F, PCBs
MW1-0124	04		2249		11	X	X	X			X	X	X	X			HOLD D/F
MW6-0124	05		2357		11	X	X	X			X	X	X	X			HOLD D/F
														Samples received at 0 °C			

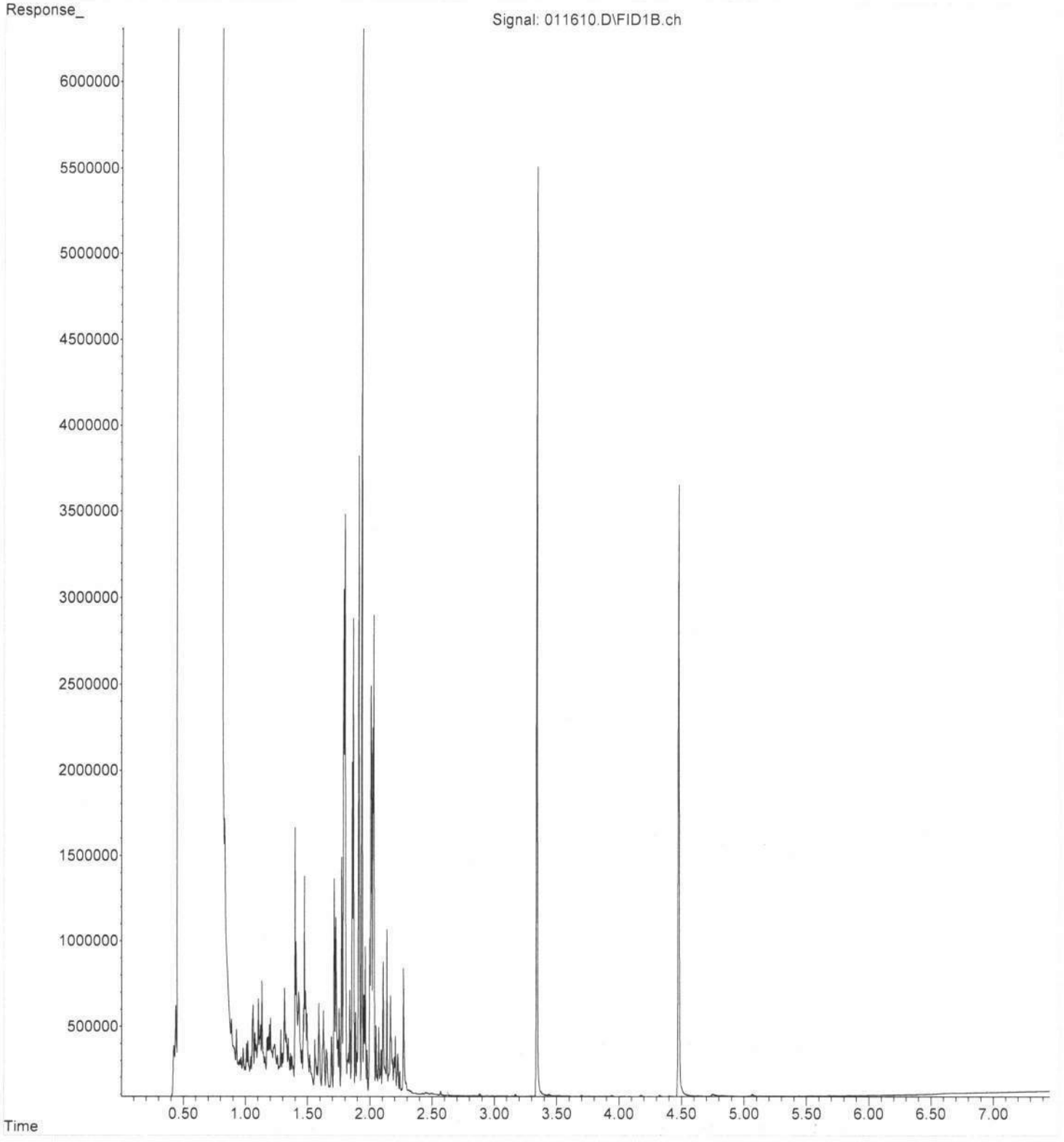
SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	1/11/2024	1115
Received by:	Eric Young	F&B	1/11/24	1115
Relinquished by:				
Received by:				

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

File :P:\Proc_GC10\01-15-24\011511.D
Operator : IJL
Acquired : 15 Jan 2024 11:22 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 401129-02 rr
Misc Info :
Vial Number: 12



File :P:\Proc_GC10\01-16-24\011610.D
Operator : IJL
Acquired : 16 Jan 2024 02:51 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 401129-02 sg
Misc Info :
Vial Number: 12



Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

02 February 2024

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

RE: 401129 (401129)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24A0274	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Sheri Cruz For Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

24A0274

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER ARI	
PROJECT NAME/NO. 401129	PO # D-629 ME
REMARKS Hold D/F Testing	

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: TBT	Dioxins and Furans									Notes
PD01-0124		1/10/2024	2150	water	2	x										
MW1-0124		1/10/2024	2249	water	2	x										
MW6-0124		1/10/2024	2357	water	2	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:		Michael Erdahl	Friedman & Bruya	1/11/24	1204
Received by:		Lauren Bull	ARLC	1/11/24	1455
Relinquished by:					
Received by:					

Friedman & Bruya Inc.	Project: 401129	
5500 4th Ave S	Project Number: 401129	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PD01-0124	24A0274-01	Water	10-Jan-2024 21:50	11-Jan-2024 14:55
MW1-0124	24A0274-02	Water	10-Jan-2024 22:49	11-Jan-2024 14:55
MW6-0124	24A0274-03	Water	10-Jan-2024 23:57	11-Jan-2024 14:55

Friedman & Bruya Inc.	Project: 401129	
5500 4th Ave S	Project Number: 401129	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:40

Work Order Case Narrative

Client: Friedman & Bruya Inc.
Project: 401129
Work Order: 24A0274

Sample receipt

Samples as listed on the preceding page were received 11-Jan-2024 14:55 under ARI work order 24A0274. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Butyl Tin(s) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Friedman + Bruya
COC No(s): NA
Assigned ARI Job No: 24A0274

Project Name: 401129
Delivered by: Fed-Ex UPS Courier Hand Delivered Other:
Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
Were custody papers included with the cooler? YES NO
Were custody papers properly filled out (ink, signed, etc.) YES NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 1.2

Time 1455
If cooler temperature is out of compliance fill out form 00070F

Cooler Accepted by: Date: 1/11/24 Time: 1455 Temp Gun ID#: 8117

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:
Was sufficient ice used (if appropriate)? NA YES NO
How were bottles sealed in plastic bags? Individually Grouped Not
Did all bottles arrive in good condition (unbroken)? YES NO
Were all bottle labels complete and legible? YES NO
Did the number of containers listed on COC match with the number of containers received? YES NO
Did all bottle labels and tags agree with custody papers? YES NO
Were all bottles used correct for the requested analyses? YES NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) YES NO
Were all VOC vials free of air bubbles? NA YES NO
Was sufficient amount of sample sent in each bottle? NA YES NO
Date VOC Trip Blank was made at ARI YES NO
Were the sample(s) split by ARI? NA YES Date/Time: Equipment: NA Split by:

Samples Logged by: PIB Date: 1/12/24 Time: 16:46 Labels checked by: PIB

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

dropped off by courier who did not sign

By: Date:

Friedman & Bruya Inc.	Project: 401129	
5500 4th Ave S	Project Number: 401129	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:40

PD01-0124

24A0274-01 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 01/10/2024 21:50

Instrument: NT18 Analyst: VTS — Analyzed: 01/31/2024 13:44

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24A0274-01 A 01
	Preparation Batch: BMA0375	Sample Size: 150 mL	
	Prepared: 01/17/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24A0274-01 A 01
	Cleanup Batch: CMA0133	Initial Volume: 0.5 uL	
	Cleaned: 30-Jan-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Dibutyltin Ion	14488-53-0	1	0.0077	0.0157	ug/L	
Butyltin Ion	78763-54-9	1	0.0060	0.0077	ug/L	
Tetrabutyltin	1461-25-2	1	0.0300	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*88.8*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*60.7*	*%*	

Friedman & Bruya Inc.	Project: 401129	
5500 4th Ave S	Project Number: 401129	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:40

MW1-0124

24A0274-02 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 01/10/2024 22:49

Instrument: NT18 Analyst: VTS — Analyzed: 01/31/2024 13:58

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24A0274-02 A 01
	Preparation Batch: BMA0375	Sample Size: 150 mL	
	Prepared: 01/17/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24A0274-02 A 01
	Cleanup Batch: CMA0133	Initial Volume: 0.5 uL	
	Cleaned: 30-Jan-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Dibutyltin Ion	14488-53-0	1	0.0077	ND	ug/L	U
Butyltin Ion	78763-54-9	1	0.0060	0.0559	ug/L	
Tetrabutyltin	1461-25-2	1	0.0300	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*70.7*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*42.4*	*%*	

Friedman & Bruya Inc.	Project: 401129	
5500 4th Ave S	Project Number: 401129	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:40

MW6-0124

24A0274-03 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 01/10/2024 23:57
Instrument: NT18 Analyst: VTS — Analyzed: 01/31/2024 14:12

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24A0274-03 A 01
	Preparation Batch: BMA0375	Sample Size: 150 mL	
	Prepared: 01/17/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24A0274-03 A 01
	Cleanup Batch: CMA0133	Initial Volume: 0.5 uL	
	Cleaned: 30-Jan-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Dibutyltin Ion	14488-53-0	1	0.0077	ND	ug/L	U
Butyltin Ion	78763-54-9	1	0.0060	0.0180	ug/L	
Tetrabutyltin	1461-25-2	1	0.0300	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*77.9*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*46.4*	*%*	

Friedman & Bruya Inc.	Project: 401129	
5500 4th Ave S	Project Number: 401129	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:40

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0375 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMA0375-BLK1)			Prepared: 17-Jan-2024 Analyzed: 31-Jan-2024 13:02							
Tributyltin Ion	ND	0.0052	ug/L							U
Dibutyltin Ion	ND	0.0077	ug/L							U
Butyltin Ion	ND	0.0060	ug/L							U
Tetrabutyltin	ND	0.0300	ug/L							U
Surrogate: Tripentyltin	0.0437		ug/L	*0.0753*		*58.0*	*30-160*			
Surrogate: Tripropyltin	0.0397		ug/L	*0.0729*		*54.5*	*30-160*			

Friedman & Bruya Inc.	Project: 401129	
5500 4th Ave S	Project Number: 401129	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:40

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0375 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMA0375-BS1)				Prepared: 17-Jan-2024 Analyzed: 31-Jan-2024 13:16						
Tributyltin Ion	0.118	0.0052	ug/L	0.149		79.6	30-160			
Dibutyltin Ion	0.105	0.0077	ug/L	0.128		81.9	30-160			
Butyltin Ion	0.0336	0.0060	ug/L	0.104		32.4	30-160			
Surrogate: Tripentyltin	0.0546		ug/L	*0.0753*		*72.5*	*30-160*			
Surrogate: Tripropyltin	0.0400		ug/L	*0.0729*		*54.9*	*30-160*			

Friedman & Bruya Inc.	Project: 401129	
5500 4th Ave S	Project Number: 401129	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:40

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270E-SIM in Water	
Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Dibutyltin Ion	NELAP,WADOE,DoD-ELAP
Butyltin Ion	NELAP,WADOE,DoD-ELAP
Tetrapentyltin	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2024
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Friedman & Bruya Inc.	Project: 401129	
5500 4th Ave S	Project Number: 401129	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:40

Notes and Definitions

*	Flagged value is not within established control limits.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
H	Hold time violation - Hold time was exceeded.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

September 6, 2023

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

Dear Mr Jones:

Included are the results from the testing of material submitted on August 30, 2023 from the Bridge Point Seattle 130, F&BI 308466 project. There are 15 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: Grant Hainsworth, Jamie Stevens
CTC0906R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 30, 2023 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 308466 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
308466 -01	DUP01-0823
308466 -02	MW5-0823
308466 -03	MW9-0823
308466 -04	MW7-0823
308466 -05	MW8-0823
308466 -06	MW1-0823
308466 -07	MW3-0823
308466 -08	MW2-0823
308466 -09	MW4-0823
308466 -10	MW6-0823

All quality control requirements were acceptable.

Date of Report: 09/06/23
Date Received: 08/30/23
Project: Bridge Point Seattle 130, F&BI 308466
Date Extracted: 08/31/23
Date Analyzed: 08/31/23

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW9-0823 308466-03	<100	102
MW8-0823 308466-05	1,300	111
Method Blank 03-1666 MB	<100	98

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP01-0823	Client:	Crete Consulting
Date Received:	08/30/23	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	308466-01
Date Analyzed:	08/31/23	Data File:	083138.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	97	84	115
4-Bromofluorobenzene	99	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.59
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0823	Client:	Crete Consulting
Date Received:	08/30/23	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	308466-02
Date Analyzed:	08/31/23	Data File:	083139.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	101	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	8.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.8
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.58
Tetrachloroethene	20

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW9-0823	Client:	Crete Consulting
Date Received:	08/30/23	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	308466-03
Date Analyzed:	08/31/23	Data File:	083140.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	19
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	6.1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW7-0823	Client:	Crete Consulting
Date Received:	08/30/23	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	308466-04
Date Analyzed:	08/31/23	Data File:	083141.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	78	126
Toluene-d8	97	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.61
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW8-0823	Client:	Crete Consulting
Date Received:	08/30/23	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	308466-05
Date Analyzed:	08/31/23	Data File:	083142.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	102	84	115
4-Bromofluorobenzene	108	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.4
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4.4
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	1.1
Tetrachloroethene	5.6

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW1-0823	Client:	Crete Consulting
Date Received:	08/30/23	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	308466-06
Date Analyzed:	08/31/23	Data File:	083143.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	99	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW3-0823	Client:	Crete Consulting
Date Received:	08/30/23	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	308466-07
Date Analyzed:	08/31/23	Data File:	083144.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	101	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0823	Client:	Crete Consulting
Date Received:	08/30/23	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	308466-09
Date Analyzed:	08/31/23	Data File:	083145.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	97	84	115
4-Bromofluorobenzene	98	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.41
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.5
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	4.8

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW6-0823	Client:	Crete Consulting
Date Received:	08/30/23	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	308466-10
Date Analyzed:	08/31/23	Data File:	083146.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	78	126
Toluene-d8	94	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.094
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	08/31/23	Lab ID:	03-1971 mb
Date Analyzed:	08/31/23	Data File:	083107.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	98	72	130

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

Date of Report: 09/06/23
Date Received: 08/30/23
Project: Bridge Point Seattle 130, F&BI 308466

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

Laboratory Code: 308453-01 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

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

Date of Report: 09/06/23
Date Received: 08/30/23
Project: Bridge Point Seattle 130, F&BI 308466

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

Laboratory Code: 308466-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	8.2	102 b	50-150
Chloroethane	ug/L (ppb)	10	<1	108	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	101	50-150
Methylene chloride	ug/L (ppb)	10	<5	98	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	111	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	109	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	2.8	103 b	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	114	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	111	50-150
Trichloroethene	ug/L (ppb)	10	0.58	107	35-149
Tetrachloroethene	ug/L (ppb)	10	20	105 b	50-150

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)	10	105	104	64-142	1
Chloroethane	ug/L (ppb)	10	107	108	70-130	1
1,1-Dichloroethene	ug/L (ppb)	10	100	99	64-140	1
Methylene chloride	ug/L (ppb)	10	100	96	43-134	4
trans-1,2-Dichloroethene	ug/L (ppb)	10	110	108	70-130	2
1,1-Dichloroethane	ug/L (ppb)	10	107	105	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	103	101	70-130	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	112	110	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	109	107	70-130	2
Trichloroethene	ug/L (ppb)	10	104	103	70-130	1
Tetrachloroethene	ug/L (ppb)	10	108	106	70-130	2

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SAMPLE CHAIN OF CUSTODY 08/30/23 VW4

309466

Report To R. Jones / G. Hainsworth / J. Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #

REMARKS: ~~Metal RJ~~

Project specific RLs? - Yes / No

INVOICE TO: CRETE

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

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs				Notes
DUP01-0823	01 A-C	8.29.2023	0001	WATER	3								X				
~~DUP02-0823~~			~~0002~~				X										RJ
MW5-0823	02 A-C		1050		3								X				
MW9-0823	03 A-F		1158		6		X						X				
MW7-0823	04 A-C		1306		3								X				
MW8-0823	05 A-F	↓	1359		6		X						X				
~~DUP03-0823~~		~~8.29.2023~~	0001														RJ
MW1-0823	06 A-C	8.29.2023	1024		3								X				
MW3-0823	07	↓	1115		3								X				
MW2-0823	08 ↓	↓	1155	↓													HOLD

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	8.30.2023	1258
Received by:	ANH PHAN	F&B	08/30/23	12:58
Relinquished by:		Samples received at 0 °C		
Received by:				

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

308466

SAMPLE CHAIN OF CUSTODY 08/30/23 VW4

Page # 2 of 2

Report To Jones, Hainsworth, Stevens

Company Crete Consulting

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*): Rusty Jones R Jones

PROJECT NAME: Bridge Point Seattle 130

PO #:

REMARKS: Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs				Notes
MW4-0823	09 A-C	8.30.2023	1129	WATER	3								X				
MW6-0823	10 ↓	↓	1218	↓	3								X				
							Samples received at 0 °C										

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE Consult.	8.30.23	1258
Received by:	ANHPHAN	F&B	08/30/23	12:58
Relinquished by:				
Received by:				

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

February 5, 2024

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

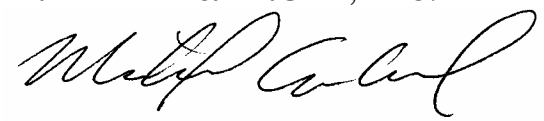
Dear Mr Jones:

Included are the results from the testing of material submitted on January 12, 2024 from the Bridge Point Seattle 130, F&BI 401151 project. There are 24 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Grant Hainsworth, Jamie Stevens
CTC0205R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 12, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 401151 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
401151 -01	DUP-0124
401151 -02	MW4-0124
401151 -03	MW3-0124

Sample MW4-0124 was sent to Analytical Resources, Inc. for tributyltin analysis. The report is enclosed.

Hexachloroethane and hexachlorobutadiene in the 8270E laboratory control sample and laboratory control sample duplicate did not meet the acceptance criteria. The data were flagged accordingly.

The 8270E hexachlorocyclopentadiene calibration standard exceeded the acceptance criteria. The compound was not detected, therefore this did not represent an out of control condition.

All other quality control requirements were acceptable.

Date of Report: 02/05/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401151
Date Extracted: 01/16/24
Date Analyzed: 01/16/24

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 50-150)
DUP-0124 401151-01	<1	<1	<1	<3	<100	68
MW4-0124 401151-02	<1	<1	<1	<3	<100	69
MW3-0124 401151-03	<1	<1	<1	<3	<100	69
Method Blank 04-0018 MB	<1	<1	<1	<3	<100	66

Date of Report: 02/05/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401151
Date Extracted: 01/15/24
Date Analyzed: 01/16/24

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
DUP-0124 401151-01	<50	<250	99
MW4-0124 401151-02	<50	<250	91
MW3-0124 401151-03	<50	<250	84
Method Blank 04-140 MB	<50	<250	88

Date of Report: 02/05/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401151
Date Extracted: 01/15/24
Date Analyzed: 01/15/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
DUP-0124 401151-01	<50	<250	92
MW4-0124 401151-02	<50	<250	92
MW3-0124 401151-03	<50	<250	88
Method Blank 04-0140 MB	<50	<250	94

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401151-01
Date Analyzed:	01/15/24	Data File:	011522.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	93	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.28
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401151-02
Date Analyzed:	01/15/24	Data File:	011523.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	71	132
Toluene-d8	97	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.30
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW3-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401151-03
Date Analyzed:	01/15/24	Data File:	011524.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	71	132
Toluene-d8	94	68	139
4-Bromofluorobenzene	99	62	136

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	04-0102 mb
Date Analyzed:	01/15/24	Data File:	011508.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	105	62	136

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

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	DUP-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401151-01
Date Analyzed:	01/15/24	Data File:	011516.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	29	11	65
Phenol-d6	22	11	65
Nitrobenzene-d5	61	11	173
2-Fluorobiphenyl	61	25	128
2,4,6-Tribromophenol	73	10	140
Terphenyl-d14	69	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW4-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401151-02
Date Analyzed:	01/15/24	Data File:	011517.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	37	11	65
Phenol-d6	27	11	65
Nitrobenzene-d5	74	11	173
2-Fluorobiphenyl	77	25	128
2,4,6-Tribromophenol	87	10	140
Terphenyl-d14	90	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW3-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401151-03
Date Analyzed:	01/16/24	Data File:	011622.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	29	11	65
Phenol-d6	25	11	65
Nitrobenzene-d5	65	11	173
2-Fluorobiphenyl	69	25	128
2,4,6-Tribromophenol	79	10	140
Terphenyl-d14	87	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 k
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1 k
Benzoic acid	<10 k	Phenanthrene	0.023
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	0.026
Hexachlorobutadiene	<0.2 jl	Pyrene	0.024
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2 J
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02 J
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	0.024 J
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02 J
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02 J
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02 J
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04 J

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW3-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	401151-03 1/50
Date Analyzed:	01/17/24	Data File:	011719.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	24 d	11	65
Phenol-d6	20 d	11	65
Nitrobenzene-d5	55 d	11	173
2-Fluorobiphenyl	60 d	25	128
2,4,6-Tribromophenol	184 d	10	140
Terphenyl-d14	70 d	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<100	2,6-Dinitrotoluene	<50
Bis(2-chloroethyl) ether	<10	3-Nitroaniline	<1,000
2-Chlorophenol	<100	Acenaphthene	<1
1,3-Dichlorobenzene	<10	2,4-Dinitrophenol	<300
1,4-Dichlorobenzene	<10	Dibenzofuran	<1
1,2-Dichlorobenzene	<10	2,4-Dinitrotoluene	<50
Benzyl alcohol	<100	4-Nitrophenol	<300
2,2'-Oxybis(1-chloropropane)	<10	Diethyl phthalate	<100
2-Methylphenol	<100	Fluorene	<1
Hexachloroethane	<10 jl	4-Chlorophenyl phenyl ether	<10
N-Nitroso-di-n-propylamine	<10	N-Nitrosodiphenylamine	<10
3-Methylphenol + 4-Methylphenol	<200	4-Nitroaniline	<1,000
Nitrobenzene	<10	4,6-Dinitro-2-methylphenol	<300
Isophorone	<10	4-Bromophenyl phenyl ether	<10
2-Nitrophenol	<100	Hexachlorobenzene	<10
2,4-Dimethylphenol	<100	Pentachlorophenol	<50
Benzoic acid	<500	Phenanthrene	<1
Bis(2-chloroethoxy)methane	<10	Anthracene	<1
2,4-Dichlorophenol	<100	Carbazole	<1
1,2,4-Trichlorobenzene	<10	Di-n-butyl phthalate	<100
Naphthalene	<10	Fluoranthene	<1
Hexachlorobutadiene	<10 jl	Pyrene	<1
4-Chloroaniline	<1,000	Benzyl butyl phthalate	<100
4-Chloro-3-methylphenol	<100	Benz(a)anthracene	<1
2-Methylnaphthalene	<10	Chrysene	<1
1-Methylnaphthalene	<10	Bis(2-ethylhexyl) phthalate	<160
Hexachlorocyclopentadiene	<30	Di-n-octyl phthalate	<100
2,4,6-Trichlorophenol	<100	Benzo(a)pyrene	<1
2,4,5-Trichlorophenol	<100	Benzo(b)fluoranthene	<1
2-Chloronaphthalene	<10	Benzo(k)fluoranthene	<1
2-Nitroaniline	<50	Indeno(1,2,3-cd)pyrene	<1
Dimethyl phthalate	<100	Dibenz(a,h)anthracene	<1
Acenaphthylene	<1	Benzo(g,h,i)perylene	<2

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/15/24	Lab ID:	04-0141 mb
Date Analyzed:	01/15/24	Data File:	011508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	32	11	65
Phenol-d6	25	11	65
Nitrobenzene-d5	75	11	173
2-Fluorobiphenyl	74	25	128
2,4,6-Tribromophenol	67	10	140
Terphenyl-d14	88	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2 jl	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.02
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2 jl	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 k	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	DUP-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/16/24	Lab ID:	401151-01
Date Analyzed:	01/16/24	Data File:	011620.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	58	24	127
Decachlorobiphenyl	65	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW4-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/16/24	Lab ID:	401151-02
Date Analyzed:	01/16/24	Data File:	011621.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	45	24	127
Decachlorobiphenyl	61	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW3-0124	Client:	Crete Consulting
Date Received:	01/12/24	Project:	Bridge Point Seattle 130
Date Extracted:	01/16/24	Lab ID:	401151-03
Date Analyzed:	01/16/24	Data File:	011622.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	24	127
Decachlorobiphenyl	42	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	0.04 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	01/16/24	Lab ID:	04-0142 mb
Date Analyzed:	01/16/24	Data File:	011614.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	61	24	127
Decachlorobiphenyl	68	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.03 j
Aroclor 1232	<0.03 j
Aroclor 1016	<0.03 j
Aroclor 1242	<0.03 j
Aroclor 1248	<0.03 j
Aroclor 1254	<0.03 j
Aroclor 1260	<0.03 j
Aroclor 1262	<0.03 j
Aroclor 1268	<0.03 j

Date of Report: 02/05/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401151

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: 401158-01 (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	88	70-130
Toluene	ug/L (ppb)	50	84	70-130
Ethylbenzene	ug/L (ppb)	50	86	70-130
Xylenes	ug/L (ppb)	150	87	70-130
Gasoline	ug/L (ppb)	1,000	100	70-130

Date of Report: 02/05/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401151

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

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	108	72-139	4

Date of Report: 02/05/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401151

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	112	65-151	11

Date of Report: 02/05/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401151

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

Laboratory Code: 401122-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	97	16-176
Chloroethane	ug/L (ppb)	10	<1	97	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	95	50-150
Methylene chloride	ug/L (ppb)	10	<5	90	40-143
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	97	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	91	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	94	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	93	43-133
Tetrachloroethene	ug/L (ppb)	10	<1	96	50-150

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)	10	90	96	43-149	6
Chloroethane	ug/L (ppb)	10	91	96	59-157	5
1,1-Dichloroethene	ug/L (ppb)	10	90	95	67-138	5
Methylene chloride	ug/L (ppb)	10	85	92	29-192	8
trans-1,2-Dichloroethene	ug/L (ppb)	10	91	96	70-130	5
1,1-Dichloroethane	ug/L (ppb)	10	93	98	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	98	70-130	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	87	93	70-130	7
1,1,1-Trichloroethane	ug/L (ppb)	10	92	97	70-130	5
Trichloroethene	ug/L (ppb)	10	88	93	70-130	6
Tetrachloroethene	ug/L (ppb)	10	89	92	70-130	3

Date of Report: 02/05/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401151

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	29	32	10-86	10
Bis(2-chloroethyl) ether	ug/L (ppb)	5	80	82	54-111	2
2-Chlorophenol	ug/L (ppb)	5	71	76	10-97	7
1,3-Dichlorobenzene	ug/L (ppb)	5	50	53	48-96	6
1,4-Dichlorobenzene	ug/L (ppb)	5	52	54	48-96	4
1,2-Dichlorobenzene	ug/L (ppb)	5	56	58	52-96	4
Benzyl alcohol	ug/L (ppb)	25	65	70	10-76	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	84	86	59-101	2
2-Methylphenol	ug/L (ppb)	5	63	68	11-93	8
Hexachloroethane	ug/L (ppb)	5	42 vo	46 vo	47-97	9
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	92	94	71-106	2
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	58	61	10-66	5
Nitrobenzene	ug/L (ppb)	5	76	80	57-109	5
Isophorone	ug/L (ppb)	5	84	86	64-116	2
2-Nitrophenol	ug/L (ppb)	5	84	89	27-120	6
2,4-Dimethylphenol	ug/L (ppb)	5	61	63	10-106	3
Benzoic acid	ug/L (ppb)	40	27	31	10-102	14
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	83	86	55-117	4
2,4-Dichlorophenol	ug/L (ppb)	5	77	82	23-116	6
1,2,4-Trichlorobenzene	ug/L (ppb)	5	56	57	56-98	2
Naphthalene	ug/L (ppb)	5	69	71	62-97	3
Hexachlorobutadiene	ug/L (ppb)	5	40 vo	42 vo	48-100	5
4-Chloroaniline	ug/L (ppb)	25	80	87	28-121	8
4-Chloro-3-methylphenol	ug/L (ppb)	5	78	83	18-113	6
2-Methylnaphthalene	ug/L (ppb)	5	71	71	64-101	0
1-Methylnaphthalene	ug/L (ppb)	5	69	68	64-103	1
Hexachlorocyclopentadiene	ug/L (ppb)	5	61	66	37-115	8
2,4,6-Trichlorophenol	ug/L (ppb)	5	91	98	16-131	7
2,4,5-Trichlorophenol	ug/L (ppb)	5	92	96	26-129	4
2-Chloronaphthalene	ug/L (ppb)	5	74	76	67-102	3
2-Nitroaniline	ug/L (ppb)	25	82	87	31-168	6
Dimethyl phthalate	ug/L (ppb)	5	81	86	70-130	6
Acenaphthylene	ug/L (ppb)	5	82	84	70-130	2
2,6-Dinitrotoluene	ug/L (ppb)	5	82	90	70-130	9
3-Nitroaniline	ug/L (ppb)	25	73	78	33-128	7
Acenaphthene	ug/L (ppb)	5	77	79	70-130	3
2,4-Dinitrophenol	ug/L (ppb)	10	104	113	10-137	8
Dibenzofuran	ug/L (ppb)	5	78	80	67-114	3
2,4-Dinitrotoluene	ug/L (ppb)	5	81	85	53-132	5
4-Nitrophenol	ug/L (ppb)	10	31	35	10-89	12
Diethyl phthalate	ug/L (ppb)	5	77	81	57-134	5
Fluorene	ug/L (ppb)	5	78	81	70-130	4
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	78	79	70-130	1
N-Nitrosodiphenylamine	ug/L (ppb)	5	91	96	70-130	5
4-Nitroaniline	ug/L (ppb)	25	84	89	32-124	6
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	113	123	14-167	8
4-Bromophenyl phenyl ether	ug/L (ppb)	5	88	92	70-130	4
Hexachlorobenzene	ug/L (ppb)	5	85	93	58-111	9
Pentachlorophenol	ug/L (ppb)	5	117	129	10-144	10
Phenanthrene	ug/L (ppb)	5	84	87	70-130	4
Anthracene	ug/L (ppb)	5	88	92	70-130	4
Carbazole	ug/L (ppb)	5	95	98	70-130	3
Di-n-butyl phthalate	ug/L (ppb)	5	85	91	28-147	7
Fluoranthene	ug/L (ppb)	5	89	91	70-130	2
Pyrene	ug/L (ppb)	5	90	100	70-130	11
Benzyl butyl phthalate	ug/L (ppb)	5	95	102	34-142	7
Benz(a)anthracene	ug/L (ppb)	5	96	99	70-130	3
Chrysene	ug/L (ppb)	5	93	97	70-130	4
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	90	94	44-140	4
Di-n-octyl phthalate	ug/L (ppb)	5	93	98	33-147	5
Benzo(a)pyrene	ug/L (ppb)	5	99	103	70-130	4
Benzo(b)fluoranthene	ug/L (ppb)	5	91	95	70-130	4
Benzo(k)fluoranthene	ug/L (ppb)	5	93	96	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	97	110	70-130	13
Dibenz(a,h)anthracene	ug/L (ppb)	5	96	109	70-130	13
Benzo(g,h,i)perylene	ug/L (ppb)	5	90	104	70-130	14

Date of Report: 02/05/24
Date Received: 01/12/24
Project: Bridge Point Seattle 130, F&BI 401151

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	62	70	20-94	12
Aroclor 1260	ug/L (ppb)	0.25	72	82	23-123	13

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

401151

SAMPLE CHAIN OF CUSTODY

01/12/24 VW2/C3

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company Crete Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: Bridge Point Seattle 130

REMARKS: With and without SGC and all TPH-Dx

Project specific RLs? - Yes / No

INVOICE TO: CRETE

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

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	D/F	TBT	sVOCs 8270	Notes
DUP-0124	01 A-I	1/11/2024	1200	WATER	9	X	X	X				X	X			X	
MW4-0124	02 A-K	↓	2246	|	11	X	X	X				X	X		X	X	Hold D/F
MW3-0124	03 ↓	1/12/2024	0028	↓	11	X	X	X				X	X			X	Hold D/F
							Samples received at 0 °C										

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	1/12/24	1046
Received by:	ANH PHAN	FSL	01/12/24	10:46
Relinquished by:				
Received by:				

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

Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

02 February 2024

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

RE: 401151 (401151)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24A0272	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

24A0272

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER
ARI

PROJECT NAME/NO.	PO #
401151	D-629

REMARKS

EIM - Hold D/F Testing.

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

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

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	TBT	D/F									Notes
MW4-0124		1/11/2024	2246	water	2	x										
MW3-0124		1/11/2024	28	water	2											Hold

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	1/12/24	1130
Received by:		Matthew Danver	ARI	01/12/24	1151
Relinquished by:					
Received by:					

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW4-0124	24A0272-01	Water	11-Jan-2024 22:46	12-Jan-2024 11:51

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Work Order Case Narrative

Client: Friedman & Bruya Inc.
Project: 401151
Work Order: 24A0272

Sample receipt

Samples as listed on the preceding page were received 12-Jan-2024 11:51 under ARI work order 24A0272. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Butyl Tin(s) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Friedman & Bruya Project Name: 401151

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 24A0272 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.6 oc

Time 1151

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 200708

Cooler Accepted by: MD Date: 2/12/24 Time: 1151

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	Bubble Wrap Wet Ice (Gel Packs) Baggies Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
How were bottles sealed in plastic bags?	Individually	Grouped	(Not)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Were the sample(s) split by ARI? (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: PEB Date: 1/12/24 Time: ~~16:08~~ 16:36 PEB 1/12/24 Labels checked by: PIB

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

MW4-0124

24A0272-01 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 01/11/2024 22:46
Instrument: NT18 Analyst: VTS — Analyzed: 01/31/2024 13:30

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24A0272-01 A 01
	Preparation Batch: BMA0375	Sample Size: 150 mL	
	Prepared: 01/17/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24A0272-01 A 01
	Cleanup Batch: CMA0133	Initial Volume: 0.5 uL	
	Cleaned: 30-Jan-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Dibutyltin Ion	14488-53-0	1	0.0077	ND	ug/L	U
Butyltin Ion	78763-54-9	1	0.0060	0.0094	ug/L	
Tetrabutyltin	1461-25-2	1	0.0300	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*73.0*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*51.2*	*%*	

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0375 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMA0375-BLK1)			Prepared: 17-Jan-2024 Analyzed: 31-Jan-2024 13:02							
Tributyltin Ion	ND	0.0052	ug/L							U
Dibutyltin Ion	ND	0.0077	ug/L							U
Butyltin Ion	ND	0.0060	ug/L							U
Tetrabutyltin	ND	0.0300	ug/L							U
Surrogate: Tripentyltin	0.0437		ug/L	*0.0753*		*58.0*	*30-160*			
Surrogate: Tripropyltin	0.0397		ug/L	*0.0729*		*54.5*	*30-160*			

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0375 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMA0375-BS1)				Prepared: 17-Jan-2024 Analyzed: 31-Jan-2024 13:16						
Tributyltin Ion	0.118	0.0052	ug/L	0.149		79.6	30-160			
Dibutyltin Ion	0.105	0.0077	ug/L	0.128		81.9	30-160			
Butyltin Ion	0.0336	0.0060	ug/L	0.104		32.4	30-160			
Surrogate: Tripentyltin	0.0546		ug/L	*0.0753*		*72.5*	*30-160*			
Surrogate: Tripropyltin	0.0400		ug/L	*0.0729*		*54.9*	*30-160*			

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270E-SIM in Water	
Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Dibutyltin Ion	NELAP,WADOE,DoD-ELAP
Butyltin Ion	NELAP,WADOE,DoD-ELAP
Tetrapentyltin	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2024
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	02-Feb-2024 09:08

Notes and Definitions

*	Flagged value is not within established control limits.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
H	Hold time violation - Hold time was exceeded.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

BROOKS APPLIED LABS
13751 Lake City Way NE, Ste 108, Seattle, WA 98125 • USA • T:206-632-6206 • info@brooksapplied.com

May 30, 2024

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Revision 1: The samples 2404405-20 and 2404405-21 were not originally analyzed for mercury (Hg) due to confusion regarding the COC. After the original report was issued, the client notified BAL that these two samples did require mercury and these two samples were analyzed. The mercury results for the samples and the associated batch QC are included in this revised report. The narrative was also updated to include narration on the holding time qualifiers for these samples. No other changes were made to this report.

Dear Rusty Jones,

On April 29, 2024, Brooks Applied Labs (BAL) received thirteen (13) sets of aqueous samples in a sealed cooler at an acceptable temperature of 2.1°C. The samples were logged-in for total recoverable and dissolved (*arsenic [As], cadmium [Cd], chromium [Cr], copper [Cu], lead [Pb], nickel [Ni], zinc [Zn], and mercury [Hg]*) analyses, according to the issued quotation. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) were preserved to a pH <2 upon receipt at BAL.

No samples were received for sample set 'PDI-0424' (2404405-18 and 2404405-19). This sample set was received at BAL on 5/9/2024 and was logged in under BAL work order 2405130. The results for this sample set will be reported in a separate report and are not included in this report.

Total Recoverable and Dissolved (As, Cd, Cr, Cu, Pb, Ni, and Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) content via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

Batch B240991
Sample results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs. All results were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Some of the total results were less than the corresponding dissolved result. In all of these cases, the total and dissolved samples meet RPD, or the results met secondary criteria (within 5x the MRL and within the MRL of each other) and no further action was required.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL, the relative percent difference (RPD) was not calculated (N/C).

Total and Dissolved Hg Analysis by EPA Method 1631E

Each aqueous fraction submitted for Hg analysis was prepared and analyzed in accordance with EPA Method 1631. Samples were oxidized with bromine monochloride (BrCl) and then analyzed with stannous chloride ($SnCl_2$) reduction, dual gold amalgamation, and cold vapor atomic fluorescence spectroscopy (CVAFS) detection using a Brooks Rand Instrument's MERX-T CVAFS Mercury Automated-Analyzer.

Batch B240987

The Hg results were method blank corrected as described in the calculations section of the relevant BAL SOP and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific method detection limits (MDLs), method reporting limits (MRLs), and other details.

Batch B241223

EPA method 1631 has a 28-day holding time for preservation. These two samples (2404405-20 and 2404405-21) were sampled on 4/26/2024 and were preserved on 5/28/2024. Consequently, the Hg results were qualified (H), indicating that the samples were preserved outside the holding time.

The Hg results were method blank corrected as described in the calculations section of the relevant BAL SOP and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific method detection limits (MDLs), method reporting limits (MRLs), and other details.

Except for concentration qualifiers, all data were reported without qualification. All associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
MW8-0424	2404405-01	Water	Sample	04/24/2024	04/29/2024
MW8-0424	2404405-02	Water	Sample	04/24/2024	04/29/2024
MW4-0424	2404405-03	Water	Sample	04/24/2024	04/29/2024
MW4-0424	2404405-04	Water	Sample	04/24/2024	04/29/2024
MW6-0424	2404405-05	Water	Sample	04/24/2024	04/29/2024
MW6-0424	2404405-06	Water	Sample	04/24/2024	04/29/2024
MW2-0426	2404405-07	Water	Sample	04/24/2024	04/29/2024
MW2-0426	2404405-08	Water	Sample	04/24/2024	04/29/2024
MW9-0424	2404405-09	Water	Sample	04/25/2024	04/29/2024
MW9-0424	2404405-10	Water	Sample	04/25/2024	04/29/2024
MW5-0424	2404405-11	Water	Sample	04/25/2024	04/29/2024
MW5-0424	2404405-12	Water	Sample	04/25/2024	04/29/2024
MW3-0424	2404405-13	Water	Sample	04/25/2024	04/29/2024
MW3-0424	2404405-14	Water	Sample	04/25/2024	04/29/2024
Dup-0424	2404405-15	Water	Field Duplicate	04/26/2024	04/29/2024
Dup-0424	2404405-16	Water	Field Duplicate	04/26/2024	04/29/2024
FB-0424	2404405-17	Water	Field Blank	04/26/2024	04/29/2024
PDI-0424	2404405-18	Water	Sample	04/26/2024	04/29/2024
PDI-0424	2404405-19	Water	Sample	04/26/2024	04/29/2024
MW1-0424	2404405-20	Water	Sample	04/26/2024	04/29/2024
MW1-0424	2404405-21	Water	Sample	04/26/2024	04/29/2024
MW7-0424	2404405-22	Water	Sample	04/26/2024	04/29/2024
MW7-0424	2404405-23	Water	Sample	04/26/2024	04/29/2024
SEEP-0424	2404405-24	Water	Sample	04/26/2024	04/29/2024
SEEP-0424	2404405-25	Water	Sample	04/26/2024	04/29/2024

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
As	Water	EPA 1638 Mod	ISO,TNI	05/01/24	05/02/24	B240991	S240422
Cd	Water	EPA 1638 Mod	ISO,TNI	05/01/24	05/02/24	B240991	S240422
Cr	Water	EPA 1638 Mod	ISO,TNI	05/01/24	05/02/24	B240991	S240422
Cu	Water	EPA 1638 Mod	ISO,TNI	05/01/24	05/02/24	B240991	S240422
Hg	Water	EPA 1631 E	ISO,TNI	05/01/24	05/02/24	B240987	S240423
Hg	Water	EPA 1631 E	ISO,TNI	05/28/24	05/29/24	B241223	S240514
Ni	Water	EPA 1638 Mod	ISO,TNI	05/01/24	05/02/24	B240991	S240422
Pb	Water	EPA 1638 Mod	ISO,TNI	05/01/24	05/02/24	B240991	S240422
Zn	Water	EPA 1638 Mod	ISO,TNI	05/01/24	05/02/24	B240991	S240422

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW8-0424										
2404405-01	As	Water	TR	2.99		0.222	0.727	µg/L	B240991	S240422
2404405-01	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-01	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-01	Cu	Water	TR	1.15	J	0.909	1.82	µg/L	B240991	S240422
2404405-01	Hg	Water	TR	0.16	J	0.14	0.42	ng/L	B240987	S240423
2404405-01	Ni	Water	TR	1.94	J	1.21	3.64	µg/L	B240991	S240422
2404405-01	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-01	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422
MW8-0424										
2404405-02	As	Water	D	2.74		0.222	0.727	µg/L	B240991	S240422
2404405-02	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-02	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-02	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-02	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B240987	S240423
2404405-02	Ni	Water	D	1.91	J	1.21	3.64	µg/L	B240991	S240422
2404405-02	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-02	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422
MW4-0424										
2404405-03	As	Water	TR	0.288	J	0.222	0.727	µg/L	B240991	S240422
2404405-03	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-03	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-03	Cu	Water	TR	1.04	J	0.909	1.82	µg/L	B240991	S240422
2404405-03	Hg	Water	TR	≤ 0.13	U	0.13	0.41	ng/L	B240987	S240423
2404405-03	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-03	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-03	Zn	Water	TR	1170		12.1	24.2	µg/L	B240991	S240422
MW4-0424										
2404405-04	As	Water	D	≤ 0.222	U	0.222	0.727	µg/L	B240991	S240422
2404405-04	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-04	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-04	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-04	Hg	Water	D	≤ 0.13	U	0.13	0.41	ng/L	B240987	S240423
2404405-04	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-04	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-04	Zn	Water	D	1080		12.1	24.2	µg/L	B240991	S240422

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW6-0424										
2404405-05	As	Water	TR	0.248	J	0.222	0.727	µg/L	B240991	S240422
2404405-05	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-05	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-05	Cu	Water	TR	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-05	Hg	Water	TR	0.30	J	0.13	0.41	ng/L	B240987	S240423
2404405-05	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-05	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-05	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422
MW6-0424										
2404405-06	As	Water	D	≤ 0.222	U	0.222	0.727	µg/L	B240991	S240422
2404405-06	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-06	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-06	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-06	Hg	Water	D	≤ 0.13	U	0.13	0.41	ng/L	B240987	S240423
2404405-06	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-06	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-06	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422
MW2-0426										
2404405-07	As	Water	TR	3.56		0.222	0.727	µg/L	B240991	S240422
2404405-07	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-07	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-07	Cu	Water	TR	1.33	J	0.909	1.82	µg/L	B240991	S240422
2404405-07	Hg	Water	TR	0.43		0.13	0.41	ng/L	B240987	S240423
2404405-07	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-07	Pb	Water	TR	0.137	J	0.091	0.182	µg/L	B240991	S240422
2404405-07	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422
MW2-0426										
2404405-08	As	Water	D	3.58		0.222	0.727	µg/L	B240991	S240422
2404405-08	Cd	Water	D	0.077	J	0.061	0.182	µg/L	B240991	S240422
2404405-08	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-08	Cu	Water	D	0.935	J	0.909	1.82	µg/L	B240991	S240422
2404405-08	Hg	Water	D	0.31	J	0.13	0.41	ng/L	B240987	S240423
2404405-08	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-08	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-08	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW9-0424										
2404405-09	As	Water	TR	10.4		0.222	0.727	µg/L	B240991	S240422
2404405-09	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-09	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-09	Cu	Water	TR	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-09	Hg	Water	TR	≤ 0.14	U	0.14	0.42	ng/L	B240987	S240423
2404405-09	Ni	Water	TR	1.59	J	1.21	3.64	µg/L	B240991	S240422
2404405-09	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-09	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422
MW9-0424										
2404405-10	As	Water	D	10.6		0.222	0.727	µg/L	B240991	S240422
2404405-10	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-10	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-10	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-10	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B240987	S240423
2404405-10	Ni	Water	D	1.59	J	1.21	3.64	µg/L	B240991	S240422
2404405-10	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-10	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422
MW5-0424										
2404405-11	As	Water	TR	0.434	J	0.222	0.727	µg/L	B240991	S240422
2404405-11	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-11	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-11	Cu	Water	TR	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-11	Hg	Water	TR	≤ 0.14	U	0.14	0.42	ng/L	B240987	S240423
2404405-11	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-11	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-11	Zn	Water	TR	56.3		12.1	24.2	µg/L	B240991	S240422
MW5-0424										
2404405-12	As	Water	D	0.408	J	0.222	0.727	µg/L	B240991	S240422
2404405-12	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-12	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-12	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-12	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B240987	S240423
2404405-12	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-12	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-12	Zn	Water	D	37.0		12.1	24.2	µg/L	B240991	S240422

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW3-0424										
2404405-13	As	Water	TR	2.95		0.556	1.82	µg/L	B240991	S240422
2404405-13	Cd	Water	TR	≤ 0.152	U	0.152	0.455	µg/L	B240991	S240422
2404405-13	Cr	Water	TR	≤ 4.29	U	4.29	15.2	µg/L	B240991	S240422
2404405-13	Cu	Water	TR	≤ 2.27	U	2.27	4.55	µg/L	B240991	S240422
2404405-13	Hg	Water	TR	0.62		0.13	0.41	ng/L	B240987	S240423
2404405-13	Ni	Water	TR	≤ 3.03	U	3.03	9.09	µg/L	B240991	S240422
2404405-13	Pb	Water	TR	≤ 0.227	U	0.227	0.455	µg/L	B240991	S240422
2404405-13	Zn	Water	TR	≤ 30.3	U	30.3	60.6	µg/L	B240991	S240422
MW3-0424										
2404405-14	As	Water	D	2.45		0.556	1.82	µg/L	B240991	S240422
2404405-14	Cd	Water	D	≤ 0.152	U	0.152	0.455	µg/L	B240991	S240422
2404405-14	Cr	Water	D	≤ 4.29	U	4.29	15.2	µg/L	B240991	S240422
2404405-14	Cu	Water	D	≤ 2.27	U	2.27	4.55	µg/L	B240991	S240422
2404405-14	Hg	Water	D	≤ 0.13	U	0.13	0.41	ng/L	B240987	S240423
2404405-14	Ni	Water	D	≤ 3.03	U	3.03	9.09	µg/L	B240991	S240422
2404405-14	Pb	Water	D	≤ 0.227	U	0.227	0.455	µg/L	B240991	S240422
2404405-14	Zn	Water	D	≤ 30.3	U	30.3	60.6	µg/L	B240991	S240422
Dup-0424										
2404405-15	As	Water	TR	0.763		0.222	0.727	µg/L	B240991	S240422
2404405-15	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-15	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-15	Cu	Water	TR	1.32	J	0.909	1.82	µg/L	B240991	S240422
2404405-15	Hg	Water	TR	0.39	J	0.13	0.41	ng/L	B240987	S240423
2404405-15	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-15	Pb	Water	TR	0.158	J	0.091	0.182	µg/L	B240991	S240422
2404405-15	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422
Dup-0424										
2404405-16	As	Water	D	≤ 0.222	U	0.222	0.727	µg/L	B240991	S240422
2404405-16	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-16	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-16	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-16	Hg	Water	D	≤ 0.13	U	0.13	0.41	ng/L	B240987	S240423
2404405-16	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-16	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-16	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
FB-0424										
2404405-17	As	Water	D	≤ 0.022	U	0.022	0.073	µg/L	B240991	S240422
2404405-17	Cd	Water	D	≤ 0.006	U	0.006	0.018	µg/L	B240991	S240422
2404405-17	Cr	Water	D	0.422	J	0.172	0.606	µg/L	B240991	S240422
2404405-17	Cu	Water	D	0.094	J	0.091	0.182	µg/L	B240991	S240422
2404405-17	Hg	Water	D	≤ 0.13	U	0.13	0.41	ng/L	B240987	S240423
2404405-17	Ni	Water	D	0.179	J	0.121	0.364	µg/L	B240991	S240422
2404405-17	Pb	Water	D	0.018	J	0.009	0.018	µg/L	B240991	S240422
2404405-17	Zn	Water	D	≤ 1.21	U	1.21	2.42	µg/L	B240991	S240422
MW1-0424										
2404405-20	As	Water	TR	1.38		0.222	0.727	µg/L	B240991	S240422
2404405-20	Cd	Water	TR	0.164	J	0.061	0.182	µg/L	B240991	S240422
2404405-20	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-20	Cu	Water	TR	1.60	J	0.909	1.82	µg/L	B240991	S240422
2404405-20	Hg	Water	TR	0.73	H	0.13	0.41	ng/L	B241223	S240514
2404405-20	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-20	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-20	Zn	Water	TR	289		12.1	24.2	µg/L	B240991	S240422
MW1-0424										
2404405-21	As	Water	D	1.40		0.222	0.727	µg/L	B240991	S240422
2404405-21	Cd	Water	D	0.162	J	0.061	0.182	µg/L	B240991	S240422
2404405-21	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-21	Cu	Water	D	1.63	J	0.909	1.82	µg/L	B240991	S240422
2404405-21	Hg	Water	D	0.72	H	0.13	0.41	ng/L	B241223	S240514
2404405-21	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-21	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-21	Zn	Water	D	290		12.1	24.2	µg/L	B240991	S240422
MW7-0424										
2404405-22	As	Water	TR	0.772		0.222	0.727	µg/L	B240991	S240422
2404405-22	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-22	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-22	Cu	Water	TR	1.21	J	0.909	1.82	µg/L	B240991	S240422
2404405-22	Hg	Water	TR	0.40	J	0.13	0.41	ng/L	B240987	S240423
2404405-22	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-22	Pb	Water	TR	0.105	J	0.091	0.182	µg/L	B240991	S240422
2404405-22	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW7-0424										
2404405-23	As	Water	D	≤ 0.222	U	0.222	0.727	µg/L	B240991	S240422
2404405-23	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240991	S240422
2404405-23	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240991	S240422
2404405-23	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B240991	S240422
2404405-23	Hg	Water	D	≤ 0.13	U	0.13	0.41	ng/L	B240987	S240423
2404405-23	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240991	S240422
2404405-23	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B240991	S240422
2404405-23	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B240991	S240422
SEEP-0424										
2404405-24	Zn	Water	TR	28.3		12.1	24.2	µg/L	B240991	S240422
SEEP-0424										
2404405-25	Zn	Water	D	26.6		12.1	24.2	µg/L	B240991	S240422

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B240987
Lab Matrix: Water
Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240987-MS2	**Matrix Spike (2404405-07)**						
	Hg	0.43	40.82	33.63	ng/L	81% 71-125	
B240987-MSD2	**Matrix Spike Duplicate (2404405-07)**						
	Hg	0.43	40.82	33.10	ng/L	80% 71-125	2% 24
B240987-MS3	**Matrix Spike (2404405-14)**						
	Hg	ND	40.82	31.95	ng/L	78% 71-125	
B240987-MSD3	**Matrix Spike Duplicate (2404405-14)**						
	Hg	ND	40.82	33.92	ng/L	83% 71-125	6% 24

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Accuracy & Precision Summary

Batch: B240991
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240991-BS1	**Blank Spike, (2401032)**						
	As		55.56	55.94	µg/L	101% 75-125	
	Cd		5.556	5.826	µg/L	105% 75-125	
	Cr		55.56	59.00	µg/L	106% 75-125	
	Cu		55.56	58.99	µg/L	106% 75-125	
	Ni		55.56	55.66	µg/L	100% 75-125	
	Pb		5.556	5.746	µg/L	103% 75-125	
	Zn		55.56	58.81	µg/L	106% 75-125	
B240991-BS2	**Blank Spike, (2401032)**						
	As		55.56	55.79	µg/L	100% 75-125	
	Cd		5.556	5.581	µg/L	100% 75-125	
	Cr		55.56	57.54	µg/L	104% 75-125	
	Cu		55.56	57.73	µg/L	104% 75-125	
	Ni		55.56	54.09	µg/L	97% 75-125	
	Pb		5.556	5.542	µg/L	100% 75-125	
	Zn		55.56	57.54	µg/L	104% 75-125	
B240991-SRM1	**Reference Material (2408018, NIST 1643f)**						
	As		57.42	59.78	µg/L	104% 75-125	
	Cd		5.890	5.958	µg/L	101% 75-125	
	Cr		18.50	19.89	µg/L	108% 75-125	
	Cu		21.66	22.53	µg/L	104% 75-125	
	Ni		59.80	60.33	µg/L	101% 75-125	
	Pb		18.49	18.70	µg/L	101% 75-125	
	Zn		74.40	77.23	µg/L	104% 75-125	
B240991-SRM2	**Reference Material (2408018, NIST 1643f)**						
	As		57.42	59.83	µg/L	104% 75-125	
	Cd		5.890	5.967	µg/L	101% 75-125	
	Cr		18.50	19.86	µg/L	107% 75-125	
	Cu		21.66	22.31	µg/L	103% 75-125	
	Ni		59.80	59.41	µg/L	99% 75-125	
	Pb		18.49	18.79	µg/L	102% 75-125	
	Zn		74.40	76.33	µg/L	103% 75-125	

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B240991
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240991-DUP1	**Duplicate, (2404405-05)**						
	As	0.248		ND	µg/L		N/C 20
	Cd	ND		ND	µg/L		N/C 20
	Cr	ND		ND	µg/L		N/C 20
	Cu	ND		ND	µg/L		N/C 20
	Ni	ND		ND	µg/L		N/C 20
	Pb	ND		ND	µg/L		N/C 20
	Zn	ND		ND	µg/L		N/C 20
B240991-MS1	**Matrix Spike, (2404405-05)**						
	As	0.248	56.12	56.43	µg/L	100% 75-125	
	Cd	ND	5.612	5.386	µg/L	96% 75-125	
	Cr	ND	56.12	59.68	µg/L	106% 75-125	
	Cu	ND	56.12	56.10	µg/L	100% 75-125	
	Ni	ND	56.12	53.27	µg/L	95% 75-125	
	Pb	ND	5.612	5.393	µg/L	96% 75-125	
	Zn	ND	56.12	56.30	µg/L	100% 75-125	
B240991-MSD1	**Matrix Spike Duplicate, (2404405-05)**						
	As	0.248	56.12	58.33	µg/L	104% 75-125	3% 20
	Cd	ND	5.612	5.704	µg/L	102% 75-125	6% 20
	Cr	ND	56.12	57.71	µg/L	103% 75-125	3% 20
	Cu	ND	56.12	56.36	µg/L	100% 75-125	0.5% 20
	Ni	ND	56.12	56.31	µg/L	100% 75-125	6% 20
	Pb	ND	5.612	5.454	µg/L	97% 75-125	1% 20
	Zn	ND	56.12	59.96	µg/L	107% 75-125	6% 20
B240991-DUP2	**Duplicate, (2404405-15)**						
	As	0.763		0.746	µg/L		2% 20
	Cd	ND		ND	µg/L		N/C 20
	Cr	ND		ND	µg/L		N/C 20
	Cu	1.322		1.334	µg/L		1% 20
	Ni	ND		ND	µg/L		N/C 20
	Pb	0.158		0.179	µg/L		12% 20
	Zn	ND		ND	µg/L		N/C 20

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B240991
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240991-MS2	**Matrix Spike, (2404405-15)**						
	As	0.763	56.12	56.14	µg/L	99% 75-125	
	Cd	ND	5.612	5.630	µg/L	100% 75-125	
	Cr	ND	56.12	59.53	µg/L	106% 75-125	
	Cu	1.322	56.12	59.80	µg/L	104% 75-125	
	Ni	ND	56.12	55.58	µg/L	99% 75-125	
	Pb	0.158	5.612	5.605	µg/L	97% 75-125	
	Zn	ND	56.12	61.32	µg/L	109% 75-125	
B240991-MSD2	**Matrix Spike Duplicate, (2404405-15)**						
	As	0.763	56.12	56.06	µg/L	99% 75-125	0.1% 20
	Cd	ND	5.612	5.643	µg/L	101% 75-125	0.2% 20
	Cr	ND	56.12	59.59	µg/L	106% 75-125	0.1% 20
	Cu	1.322	56.12	58.95	µg/L	103% 75-125	1% 20
	Ni	ND	56.12	54.84	µg/L	98% 75-125	1% 20
	Pb	0.158	5.612	5.747	µg/L	100% 75-125	3% 20
	Zn	ND	56.12	58.80	µg/L	105% 75-125	4% 20
B240991-DUP3	**Duplicate, (2404405-24)**						
	As	1.249		1.350	µg/L		8% 20
	Cd	ND		0.071	µg/L		N/C 20
	Cr	ND		ND	µg/L		N/C 20
	Cu	4.686		4.770	µg/L		2% 20
	Ni	ND		ND	µg/L		N/C 20
	Pb	0.319		0.309	µg/L		3% 20
	Zn	28.32		29.20	µg/L		3% 20
B240991-MS3	**Matrix Spike, (2404405-24)**						
	As	1.249	56.12	59.47	µg/L	104% 75-125	
	Cd	ND	5.612	5.543	µg/L	99% 75-125	
	Cr	ND	56.12	67.48	µg/L	120% 75-125	
	Cu	4.686	56.12	64.96	µg/L	107% 75-125	
	Ni	ND	56.12	60.97	µg/L	109% 75-125	
	Pb	0.319	5.612	5.510	µg/L	93% 75-125	
	Zn	28.32	56.12	91.95	µg/L	113% 75-125	

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B240991
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240991-MSD3	**Matrix Spike Duplicate, (2404405-24)**						
	As	1.249	56.12	62.99	µg/L	110% 75-125	6% 20
	Cd	ND	5.612	5.888	µg/L	105% 75-125	6% 20
	Cr	ND	56.12	62.15	µg/L	111% 75-125	8% 20
	Cu	4.686	56.12	63.52	µg/L	105% 75-125	2% 20
	Ni	ND	56.12	58.56	µg/L	104% 75-125	4% 20
	Pb	0.319	5.612	5.853	µg/L	99% 75-125	6% 20
	Zn	28.32	56.12	88.51	µg/L	107% 75-125	4% 20

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B241223
Lab Matrix: Water
Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B241223-MS1	**Matrix Spike (2404405-21)**						
	Hg	0.72	20.41	19.97	ng/L	94% 71-125	
B241223-MSD1	**Matrix Spike Duplicate (2404405-21)**						
	Hg	0.72	20.41	20.06	ng/L	95% 71-125	0.5% 24

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Method Blanks & Reporting Limits

Batch: B240987
Matrix: Water
Method: EPA 1631 E
Analyte: Hg

Sample	Result	Units
B240987-BLK1	0.17	ng/L
B240987-BLK2	0.17	ng/L
B240987-BLK3	0.17	ng/L
B240987-BLK4	0.16	ng/L

Average: 0.17 **Standard Deviation:** 0.01 **MDL:** 0.13
Limit: 0.50 **Limit:** 0.13 **MRL:** 0.40

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Method Blanks & Reporting Limits

Batch: B240991
Matrix: Water
Method: EPA 1638 Mod
Analyte: As

Sample	Result	Units
B240991-BLK1	0.005	µg/L
B240991-BLK2	0.006	µg/L
B240991-BLK3	0.007	µg/L
B240991-BLK4	0.007	µg/L

Average: 0.006
Limit: 0.072
MDL: 0.022
MRL: 0.072

Analyte: Cd

Sample	Result	Units
B240991-BLK1	-0.0008	µg/L
B240991-BLK2	-0.001	µg/L
B240991-BLK3	-0.0007	µg/L
B240991-BLK4	-0.001	µg/L

Average: -0.001
Limit: 0.018
MDL: 0.006
MRL: 0.018

Analyte: Cr

Sample	Result	Units
B240991-BLK1	-0.005	µg/L
B240991-BLK2	0.0002	µg/L
B240991-BLK3	0.007	µg/L
B240991-BLK4	0.010	µg/L

Average: 0.003
Limit: 0.600
MDL: 0.170
MRL: 0.600

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Method Blanks & Reporting Limits

Analyte: Cu

Sample	Result	Units
B240991-BLK1	0.010	µg/L
B240991-BLK2	0.006	µg/L
B240991-BLK3	0.036	µg/L
B240991-BLK4	0.056	µg/L

Average: 0.027
Limit: 0.180
MDL: 0.090
MRL: 0.180

Analyte: Ni

Sample	Result	Units
B240991-BLK1	0.012	µg/L
B240991-BLK2	0.007	µg/L
B240991-BLK3	0.031	µg/L
B240991-BLK4	0.022	µg/L

Average: 0.018
Limit: 0.360
MDL: 0.120
MRL: 0.360

Analyte: Pb

Sample	Result	Units
B240991-BLK1	0.0004	µg/L
B240991-BLK2	0.00004	µg/L
B240991-BLK3	0.001	µg/L
B240991-BLK4	0.001	µg/L

Average: 0.001
Limit: 0.018
MDL: 0.009
MRL: 0.018

Analyte: Zn

Sample	Result	Units
B240991-BLK1	0.240	µg/L
B240991-BLK2	0.159	µg/L
B240991-BLK3	0.561	µg/L
B240991-BLK4	0.747	µg/L

Average: 0.427
Limit: 2.400
MDL: 1.20
MRL: 2.40

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Method Blanks & Reporting Limits

Batch: B241223
Matrix: Water
Method: EPA 1631 E
Analyte: Hg

Sample	Result	Units
B241223-BLK1	0.16	ng/L
B241223-BLK2	0.18	ng/L
B241223-BLK3	0.15	ng/L
B241223-BLK4	0.15	ng/L

Average: 0.16 **Standard Deviation:** 0.01 **MDL:** 0.13
Limit: 0.50 **Limit:** 0.13 **MRL:** 0.40

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2404405-01 **Report Matrix:** Water **Collected:** 04/24/2024
Sample: MW8-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-02 **Report Matrix:** Water **Collected:** 04/24/2024
Sample: MW8-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-03 **Report Matrix:** Water **Collected:** 04/24/2024
Sample: MW4-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-04 **Report Matrix:** Water **Collected:** 04/24/2024
Sample: MW4-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2404405-05 **Report Matrix:** Water **Collected:** 04/24/2024
Sample: MW6-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-06 **Report Matrix:** Water **Collected:** 04/24/2024
Sample: MW6-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-07 **Report Matrix:** Water **Collected:** 04/24/2024
Sample: MW2-0426 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0002	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-08 **Report Matrix:** Water **Collected:** 04/24/2024
Sample: MW2-0426 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0002	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2404405-09 **Report Matrix:** Water **Collected:** 04/25/2024
Sample: MW9-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0002	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-10 **Report Matrix:** Water **Collected:** 04/25/2024
Sample: MW9-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0002	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-11 **Report Matrix:** Water **Collected:** 04/25/2024
Sample: MW5-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0002	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-12 **Report Matrix:** Water **Collected:** 04/25/2024
Sample: MW5-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2404405-13 **Report Matrix:** Water **Collected:** 04/25/2024
Sample: MW3-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-14 **Report Matrix:** Water **Collected:** 04/25/2024
Sample: MW3-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-15 **Report Matrix:** Water **Collected:** 04/26/2024
Sample: Dup-0424 **Sample Type:** Field Duplicate **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-16 **Report Matrix:** Water **Collected:** 04/26/2024
Sample: Dup-0424 **Sample Type:** Field Duplicate **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2404405-17
Sample: FB-0424
Report Matrix: Water
Sample Type: Field Blank
Collected: 04/26/2024
Received: 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0063	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-20
Sample: MW1-0424
Report Matrix: Water
Sample Type: Sample
Collected: 04/26/2024
Received: 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0017	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125ml	23-0120	none	na/	n/a	Cooler - 2404405

Lab ID: 2404405-21
Sample: MW1-0424
Report Matrix: Water
Sample Type: Sample
Collected: 04/26/2024
Received: 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0017	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0120	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-22
Sample: MW7-0424
Report Matrix: Water
Sample Type: Sample
Collected: 04/26/2024
Received: 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0017	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0120	none	n/a	n/a	Cooler - 2404405

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2404405-23 **Report Matrix:** Water **Collected:** 04/26/2024
Sample: MW7-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0017	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0120	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-24 **Report Matrix:** Water **Collected:** 04/26/2024
Sample: SEEP-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0017	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0120	none	n/a	n/a	Cooler - 2404405

Lab ID: 2404405-25 **Report Matrix:** Water **Collected:** 04/26/2024
Sample: SEEP-0424 **Sample Type:** Sample **Received:** 04/29/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0017	1% HNO3 (BAL)	2351006	<2	Cooler - 2404405
B	Bottle FLPE Hg	125 mL	23-0120	none	n/a	n/a	Cooler - 2404405

Shipping Containers

Cooler - 2404405

Received: April 29, 2024 11:42
Tracking No: n/a via Customer Drop-Off
Coolant Type: Ice
Temperature: 2.1 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: R-IR-3

Custody seals present? No
Custody seals intact? No
COC present? Yes

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BROOKS APPLIED LABS

Chain-of-Custody Form

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only
Received by: [signature] Date: 4/29/24
Work Order ID: _____ Time: 1142
Project ID: _____

Client: Crete Consulting, Inc. PO Number: Seattle 130 Mailing Address: _____
Contact: Rusty Jones Phone: 832.330.1359
Client Project ID: Bridge Point Seattle 130 Email: rusty.jones@creteconsulting.com Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones R. Jones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO_3/Other	Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Dissolved Filtration – Hg EPA 1631	Other (specify) Total Hg, As, Cd, Cr, Cu, Pb, Zn	Other (specify) Dissolved Hg, As, Cd, Cr, Cu, Pb, Zn	Comments: Specify Here
1	MW8-0424	4/24/2024	1137	WATER	4	Y+N	NONE	X					X	X	X	5660 uS/cm
2	MW4-0424		1232		4			X					X	X	X	1568 uS/cm
3	MW6-0424		1322		4			X					X	X	X	10138 uS/cm
4	MW2-0426		1407		4			X					X	X	X	17164 uS/cm
5	MW9-0424	4/25/2024	1231		4			X					X	X	X	~~714~~ 746 uS/cm
6	MW5-0424		1331		4			X					X	X	X	1242 uS/cm
7	MW3-0424		1418		4			X					X	X	X	23054 uS/cm
8	DUP-0424	4/26/2024	0001		4			X					X	X	X	
9	FB-0424			WATER	2	Y							X		X	Dissolved only
10	PDI-0424		1311	WATER	4	Y+N		X RS					X RS	X	X	Report Zinc only
	Trip Blank															

Relinquished By: R. Jones	Date: 4/29/2024	Time: 1140	Relinquished By:	Date:	Time:
Received By:	Date:	Time:	Total Number of Packages:		

Page 1 of 2 List Hazardous Contaminants: _____

Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only
Received by: [signature] Date: 4/29/24
Work Order ID: _____ Time: 1142
Project ID: _____

Client: CRETE Consulting PO Number: Seattle 130 Mailing Address: _____
Contact: Rusty Jones Phone: 8283301359 _____
Client Project ID: Bridge Point Seattle Bo Email: _____ Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones RJones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO_3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Ukmown	Dissolved Filtration for EPA 1631	Other (specify) 10/24 16 Metals As Cd Cr Cu Pb Zn	Other (specify) Dissolved 16 Metals As Cd Cr Cu Pb Zn	Comments: Specify Here
1	MW1-0424	4/26/2024	1346	WATER	4	Y+N	NONE	X					X	X	X	MW1-0424 SpC is 6834 uS/cm ~~DUP-0424 SpC is R~~ ~~Report Zinc only~~
2	MW7-0424	↓	1449	↓	4	↓	↓	X					X	X	X	113.5 uS/cm
3	SEEP-0424	4/26/2024		WATER	4	Y+N	NONE	X					X	X	X	Report Zinc only
4																
5																
6																
7																
8																
9																
10																
	Trip Blank															

Relinquished By: R. Jones	Date: 4/29/2024	Time: 1140	Relinquished By:	Date: Time:
Received By:	Date:	Time:	Total Number of Packages:	

Page 2 of 2 List Hazardous Contaminants: _____

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March 15, 2024

Crete Consulting
ATTN: Rusty Jones
16300 Christensen Rd, Suite 214
Tukwila, WA 98188
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Revision 1: Report was revised per client request. In this revised report, the prefixes of all sample IDs were corrected to 'RI' from 'R1'. The sample date was also corrected for samples 2403014-14 through 2403014-17 from 2/28/2024 to 2/29/2024. No other changes were made to the original report.

Dear Rusty Jones,

On March 4, 2024, Brooks Applied Labs (BAL) received nine (9) soil samples and six (6) sets of water samples. The water samples were logged-in for the analyses of total recoverable and dissolved arsenic [As], cadmium [Cd], chromium [Cr], copper [Cu], lead [Pb], nickel [Ni], zinc [Zn], and mercury [Hg] analyses, according to the chain-of-custody forms. The soil samples were logged-in for the analyses of total recoverable arsenic [As], cadmium [Cd], chromium [Cr], copper [Cu], lead [Pb], nickel [Ni], zinc [Zn], mercury [Hg] and % total solids (%TS) analyses, according to the chain-of-custody forms. All samples were received and stored according to BAL SOPs and EPA methodology.

The water samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) were preserved to a pH <2 upon receipt at BAL.

Per the COC request, three of the soil samples were placed on hold and were not analyzed. There are no results for these samples (2403014-01, 2403014-28, and 2403014-29) included in this report.

Total and Dissolved Metals (As, Cd, Cr, Cu, Ni, Pb, Zn) Quantitation by ICP-QQQ-MS
All water samples were digested on a hotblock via modified EPA Method 1638 with nitric and hydrochloric acids. All soil samples were digested via modified EPA Method 3050B with a mixture of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide.

Trace metals were analyzed using inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the *Interference Reduction Technology* section on our website,www.brooksapplied.com.

B240476 & B240499 (waters)
All water samples were originally digested in batch B240476 and analyzed in sequence S240211. The duplicate (DUP) B240476-DUP3 performed on sample 2403014-26 had a relative percent difference (RPD) for Cu above the acceptance limit (38%). The Cu result for this sample (2403014-26) and the

associated batch QC were not reported from the original analysis due to this QC failure and were redigested in batch B240499 and analyzed in sequence S240220. The reported Cu result for sample 2403014-26 was from this reanalysis.

The duplicate (DUP) B240476-DUP2 performed on sample 2403013-10 had a relative percent difference (RPD) for Cd above the acceptance limit (46%). The DUP result and the native result met secondary criteria (within 5x the MRL and within the MRL of each other) and no further action was required.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (**N/C**).

B240484 (soils)
The matrix spike (MS) B240484-MS1 performed on sample 2403010-01 had a recovery for Pb below the acceptance limit. In addition, the RPD this MS/MSD set was above the acceptance limit (62%). In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision.

Total and Dissolved Mercury using MERX
All water samples were preserved with bromine monochloride in their initial container and analyzed in accordance with EPA Method 1631. All solid samples were digested via modified EPA Method 1631, Appendix with a mixture of concentrated nitric acid and concentrated hydrochloric acid. Prior to analysis, digestions are preserved with bromine monochloride.

B240472 (waters)
All water samples were originally analyzed in sequence S240212. The Hg result for sample 2403014-08 was above the calibration curve and could not be reported. This sample was reanalyzed at a dilution in sequence S240219. The reported Hg result for sample 2403014-08 was from this reanalysis.

B240486 (soils)
All data was reported without qualification and all associated quality control sample results met the acceptance criteria.

Total Solids
The soil samples were homogenized, and an aliquot of each sample was measured into a pre-weighed vessel and dried in an oven for at least 12 hours. The vessels were removed from the oven, weighed again, and the percent of dried solid material was calculated.

B240478
The absolute value of the blanks was greater than the MRL. All samples had results greater than 10x the absolute value of the highest blank and no further action was required.

Sample results reported for mercury were method blank corrected, while all other results were not method blank corrected, as described in the calculations section of the relevant BAL SOP(s). All results were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Except for concentration qualifiers, all data were reported without qualification. All associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

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Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
RI-SB-11 0.5-2'	2403014-01	Soil	Sample	02/27/2024	03/04/2024
RI-SB-11 5-7.5'	2403014-02	Soil	Sample	02/27/2024	03/04/2024
RI-SB-11	2403014-03	Water	Sample	02/27/2024	03/04/2024
RI-SB-11	2403014-04	Water	Sample	02/27/2024	03/04/2024
RI-SB-11	2403014-05	Water	Sample	02/27/2024	03/04/2024
RI-SB-11	2403014-06	Water	Sample	02/27/2024	03/04/2024
RI-SB-10 5-8'	2403014-07	Soil	Sample	02/27/2024	03/04/2024
RI-SB-10	2403014-08	Water	Sample	02/27/2024	03/04/2024
RI-SB-10	2403014-09	Water	Sample	02/27/2024	03/04/2024
RI-SB-10	2403014-10	Water	Sample	02/27/2024	03/04/2024
RI-SB-10	2403014-11	Water	Sample	02/27/2024	03/04/2024
DUP01-0224	2403014-12	Soil	Field Duplicate	02/29/2024	03/04/2024
RI-SB-09 10-12.5'	2403014-13	Soil	Sample	02/29/2024	03/04/2024
RI-SB-09	2403014-14	Water	Sample	02/29/2024	03/04/2024
RI-SB-09	2403014-15	Water	Sample	02/29/2024	03/04/2024
RI-SB-09	2403014-16	Water	Sample	02/29/2024	03/04/2024
RI-SB-09	2403014-17	Water	Sample	02/29/2024	03/04/2024
DUP02-0224	2403014-18	Water	Field Duplicate	02/28/2024	03/04/2024
DUP02-0224	2403014-19	Water	Field Duplicate	02/28/2024	03/04/2024
DUP02-0224	2403014-20	Water	Field Duplicate	02/28/2024	03/04/2024
DUP02-0224	2403014-21	Water	Field Duplicate	02/28/2024	03/04/2024
RI-SB-08 5-10'	2403014-22	Soil	Sample	02/29/2024	03/04/2024
RI-SB-08 10.6-12.5'	2403014-23	Soil	Sample	02/29/2024	03/04/2024
RI-SB-08	2403014-24	Water	Sample	02/29/2024	03/04/2024
RI-SB-08	2403014-25	Water	Sample	02/29/2024	03/04/2024
RI-SB-08	2403014-26	Water	Sample	02/29/2024	03/04/2024
RI-SB-08	2403014-27	Water	Sample	02/29/2024	03/04/2024
RI-SB-07 5-6'	2403014-28	Soil	Sample	02/29/2024	03/04/2024
RI-SB-07 10-15'	2403014-29	Soil	Sample	02/29/2024	03/04/2024
FB-0224	2403014-30	Water	Field Blank	02/29/2024	03/04/2024
FB-0224	2403014-31	Water	Field Blank	02/29/2024	03/04/2024

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Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SOP BAL-0501	ISO	03/06/24	03/07/24	B240478	N/A
As	Water	EPA 1638 Mod	ISO,TNI	03/05/24	03/06/24	B240476	S240211
As	Soil/Sediment	EPA 6020B Mod	ISO,TNI	03/06/24	03/07/24	B240484	S240213
Cd	Water	EPA 1638 Mod	ISO,TNI	03/05/24	03/06/24	B240476	S240211
Cd	Soil/Sediment	EPA 6020B Mod	ISO,TNI	03/06/24	03/07/24	B240484	S240213
Cr	Water	EPA 1638 Mod	ISO,TNI	03/05/24	03/06/24	B240476	S240211
Cr	Soil/Sediment	EPA 6020B Mod	ISO,TNI	03/06/24	03/07/24	B240484	S240213
Cu	Water	EPA 1638 Mod	ISO,TNI	03/05/24	03/06/24	B240476	S240211
Cu	Soil/Sediment	EPA 6020B Mod	ISO,TNI	03/06/24	03/07/24	B240484	S240213
Cu	Water	EPA 1638 Mod	ISO,TNI	03/07/24	03/08/24	B240499	S240220
Hg	Water	EPA 1631 E	ISO,TNI	03/05/24	03/06/24	B240472	S240212
Hg	Water	EPA 1631 E	ISO,TNI	03/05/24	03/07/24	B240472	S240219
Hg	Soil/Sediment	EPA 1631 Appendix	ISO,TNI	03/08/24	03/11/24	B240486	S240222
Ni	Water	EPA 1638 Mod	ISO,TNI	03/05/24	03/06/24	B240476	S240211
Ni	Soil/Sediment	EPA 6020B Mod	ISO,TNI	03/06/24	03/07/24	B240484	S240213
Pb	Water	EPA 1638 Mod	ISO,TNI	03/05/24	03/06/24	B240476	S240211
Pb	Soil/Sediment	EPA 6020B Mod	ISO,TNI	03/06/24	03/07/24	B240484	S240213
Zn	Water	EPA 1638 Mod	ISO,TNI	03/05/24	03/06/24	B240476	S240211
Zn	Soil/Sediment	EPA 6020B Mod	ISO,TNI	03/06/24	03/07/24	B240484	S240213

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
RI-SB-11 5-7.5'										
2403014-02	%TS	Soil	NA	88.79		0.005	0.02	%	B240478	N/A
2403014-02	As	Soil	dry	7.37		0.038	0.089	mg/kg	B240484	S240213
2403014-02	Cd	Soil	dry	0.670		0.017	0.038	mg/kg	B240484	S240213
2403014-02	Cr	Soil	dry	28.9		0.382	0.764	mg/kg	B240484	S240213
2403014-02	Cu	Soil	dry	460		0.90	1.80	mg/kg	B240484	S240213
2403014-02	Hg	Soil	dry	231		0.169	0.562	ng/g	B240486	S240222
2403014-02	Ni	Soil	dry	16.8		0.106	0.212	mg/kg	B240484	S240213
2403014-02	Pb	Soil	dry	133		0.153	0.458	mg/kg	B240484	S240213
2403014-02	Zn	Soil	dry	335		3.74	7.47	mg/kg	B240484	S240213
RI-SB-11										
2403014-03	Hg	Water	TR	27.6		0.14	0.42	ng/L	B240472	S240212
RI-SB-11										
2403014-04	Hg	Water	D	3.73		0.14	0.42	ng/L	B240472	S240212
RI-SB-11										
2403014-05	As	Water	TR	1.58		0.162	0.727	µg/L	B240476	S240211
2403014-05	Cd	Water	TR	0.097	J	0.061	0.182	µg/L	B240476	S240211
2403014-05	Cr	Water	TR	3.13	J	1.72	6.06	µg/L	B240476	S240211
2403014-05	Cu	Water	TR	5.89		0.505	1.01	µg/L	B240476	S240211
2403014-05	Ni	Water	TR	2.08	J	1.21	3.64	µg/L	B240476	S240211
2403014-05	Pb	Water	TR	2.79		0.061	0.121	µg/L	B240476	S240211
2403014-05	Zn	Water	TR	114		7.07	22.2	µg/L	B240476	S240211
RI-SB-11										
2403014-06	As	Water	D	0.996		0.162	0.727	µg/L	B240476	S240211
2403014-06	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240476	S240211
2403014-06	Cr	Water	D	1.81	J	1.72	6.06	µg/L	B240476	S240211
2403014-06	Cu	Water	D	1.14		0.505	1.01	µg/L	B240476	S240211
2403014-06	Ni	Water	D	2.30	J	1.21	3.64	µg/L	B240476	S240211
2403014-06	Pb	Water	D	0.257		0.061	0.121	µg/L	B240476	S240211
2403014-06	Zn	Water	D	102		7.07	22.2	µg/L	B240476	S240211

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
RI-SB-10 5-8'										
2403014-07	%TS	Soil	NA	83.70		0.006	0.02	%	B240478	N/A
2403014-07	As	Soil	dry	28.7		0.052	0.121	mg/kg	B240484	S240213
2403014-07	Cd	Soil	dry	0.472		0.023	0.052	mg/kg	B240484	S240213
2403014-07	Cr	Soil	dry	698		2.07	4.13	mg/kg	B240484	S240213
2403014-07	Cu	Soil	dry	206		0.30	0.61	mg/kg	B240484	S240213
2403014-07	Hg	Soil	dry	44.0		0.179	0.595	ng/g	B240486	S240222
2403014-07	Ni	Soil	dry	477		0.144	0.287	mg/kg	B240484	S240213
2403014-07	Pb	Soil	dry	91.4		0.207	0.620	mg/kg	B240484	S240213
2403014-07	Zn	Soil	dry	412		1.26	2.53	mg/kg	B240484	S240213
RI-SB-10										
2403014-08	Hg	Water	TR	625		0.68	2.11	ng/L	B240472	S240219
RI-SB-10										
2403014-09	Hg	Water	D	2.49		0.14	0.42	ng/L	B240472	S240212
RI-SB-10										
2403014-10	As	Water	TR	3.04		0.162	0.727	µg/L	B240476	S240211
2403014-10	Cd	Water	TR	0.075	J	0.061	0.182	µg/L	B240476	S240211
2403014-10	Cr	Water	TR	3.63	J	1.72	6.06	µg/L	B240476	S240211
2403014-10	Cu	Water	TR	53.0		0.505	1.01	µg/L	B240476	S240211
2403014-10	Ni	Water	TR	2.23	J	1.21	3.64	µg/L	B240476	S240211
2403014-10	Pb	Water	TR	25.9		0.061	0.121	µg/L	B240476	S240211
2403014-10	Zn	Water	TR	38.9		7.07	22.2	µg/L	B240476	S240211
RI-SB-10										
2403014-11	As	Water	D	1.13		0.162	0.727	µg/L	B240476	S240211
2403014-11	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240476	S240211
2403014-11	Cr	Water	D	1.92	J	1.72	6.06	µg/L	B240476	S240211
2403014-11	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B240476	S240211
2403014-11	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240476	S240211
2403014-11	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240476	S240211
2403014-11	Zn	Water	D	7.29	J	7.07	22.2	µg/L	B240476	S240211

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DUP01-0224										
2403014-12	%TS	Soil	NA	79.66		0.004	0.01	%	B240478	N/A
2403014-12	As	Soil	dry	4.81		0.042	0.099	mg/kg	B240484	S240213
2403014-12	Cd	Soil	dry	0.082		0.019	0.042	mg/kg	B240484	S240213
2403014-12	Cr	Soil	dry	15.4		0.424	0.847	mg/kg	B240484	S240213
2403014-12	Cu	Soil	dry	22.7		0.25	0.50	mg/kg	B240484	S240213
2403014-12	Hg	Soil	dry	18.3		0.188	0.628	ng/g	B240486	S240222
2403014-12	Ni	Soil	dry	13.6		0.118	0.235	mg/kg	B240484	S240213
2403014-12	Pb	Soil	dry	4.74		0.042	0.127	mg/kg	B240484	S240213
2403014-12	Zn	Soil	dry	47.9		1.04	2.07	mg/kg	B240484	S240213
RI-SB-09 10-12.5'										
2403014-13	%TS	Soil	NA	82.50		0.004	0.01	%	B240478	N/A
2403014-13	As	Soil	dry	3.88		0.047	0.110	mg/kg	B240484	S240213
2403014-13	Cd	Soil	dry	0.070		0.021	0.047	mg/kg	B240484	S240213
2403014-13	Cr	Soil	dry	18.5		0.473	0.946	mg/kg	B240484	S240213
2403014-13	Cu	Soil	dry	23.7		0.28	0.56	mg/kg	B240484	S240213
2403014-13	Hg	Soil	dry	112		0.181	0.605	ng/g	B240486	S240222
2403014-13	Ni	Soil	dry	12.2		0.131	0.263	mg/kg	B240484	S240213
2403014-13	Pb	Soil	dry	5.38		0.047	0.142	mg/kg	B240484	S240213
2403014-13	Zn	Soil	dry	45.5		1.16	2.31	mg/kg	B240484	S240213
RI-SB-09										
2403014-14	Hg	Water	TR	5.24		0.14	0.42	ng/L	B240472	S240212
RI-SB-09										
2403014-15	Hg	Water	D	0.19	J	0.13	0.41	ng/L	B240472	S240212
RI-SB-09										
2403014-16	As	Water	TR	2.47		0.404	1.82	µg/L	B240476	S240211
2403014-16	Cd	Water	TR	≤ 0.152	U	0.152	0.455	µg/L	B240476	S240211
2403014-16	Cr	Water	TR	≤ 4.29	U	4.29	15.2	µg/L	B240476	S240211
2403014-16	Cu	Water	TR	6.66		1.26	2.53	µg/L	B240476	S240211
2403014-16	Ni	Water	TR	≤ 3.03	U	3.03	9.09	µg/L	B240476	S240211
2403014-16	Pb	Water	TR	2.34		0.152	0.303	µg/L	B240476	S240211
2403014-16	Zn	Water	TR	≤ 17.7	U	17.7	55.6	µg/L	B240476	S240211

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
RI-SB-09										
2403014-17	As	Water	D	1.93		0.404	1.82	µg/L	B240476	S240211
2403014-17	Cd	Water	D	≤ 0.152	U	0.152	0.455	µg/L	B240476	S240211
2403014-17	Cr	Water	D	≤ 4.29	U	4.29	15.2	µg/L	B240476	S240211
2403014-17	Cu	Water	D	≤ 1.26	U	1.26	2.53	µg/L	B240476	S240211
2403014-17	Ni	Water	D	≤ 3.03	U	3.03	9.09	µg/L	B240476	S240211
2403014-17	Pb	Water	D	≤ 0.152	U	0.152	0.303	µg/L	B240476	S240211
2403014-17	Zn	Water	D	≤ 17.7	U	17.7	55.6	µg/L	B240476	S240211
DUP02-0224										
2403014-18	Hg	Water	TR	6.09		0.14	0.42	ng/L	B240472	S240212
DUP02-0224										
2403014-19	Hg	Water	D	≤ 0.13	U	0.13	0.41	ng/L	B240472	S240212
DUP02-0224										
2403014-20	As	Water	TR	2.68		0.162	0.727	µg/L	B240476	S240211
2403014-20	Cd	Water	TR	0.075	J	0.061	0.182	µg/L	B240476	S240211
2403014-20	Cr	Water	TR	2.87	J	1.72	6.06	µg/L	B240476	S240211
2403014-20	Cu	Water	TR	5.85		0.505	1.01	µg/L	B240476	S240211
2403014-20	Ni	Water	TR	2.04	J	1.21	3.64	µg/L	B240476	S240211
2403014-20	Pb	Water	TR	2.33		0.061	0.121	µg/L	B240476	S240211
2403014-20	Zn	Water	TR	9.93	J	7.07	22.2	µg/L	B240476	S240211
DUP02-0224										
2403014-21	As	Water	D	1.84		0.162	0.727	µg/L	B240476	S240211
2403014-21	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240476	S240211
2403014-21	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240476	S240211
2403014-21	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B240476	S240211
2403014-21	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240476	S240211
2403014-21	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240476	S240211
2403014-21	Zn	Water	D	≤ 7.07	U	7.07	22.2	µg/L	B240476	S240211

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
RI-SB-08 5-10'										
2403014-22	%TS	Soil	NA	88.31		0.006	0.02	%	B240478	N/A
2403014-22	As	Soil	dry	10.6		0.040	0.094	mg/kg	B240484	S240213
2403014-22	Cd	Soil	dry	0.150		0.018	0.040	mg/kg	B240484	S240213
2403014-22	Cr	Soil	dry	20.8		0.401	0.802	mg/kg	B240484	S240213
2403014-22	Cu	Soil	dry	53.7		0.24	0.47	mg/kg	B240484	S240213
2403014-22	Hg	Soil	dry	19.5		0.170	0.568	ng/g	B240486	S240222
2403014-22	Ni	Soil	dry	20.5		0.111	0.223	mg/kg	B240484	S240213
2403014-22	Pb	Soil	dry	8.90		0.040	0.120	mg/kg	B240484	S240213
2403014-22	Zn	Soil	dry	107		0.980	1.96	mg/kg	B240484	S240213
RI-SB-08 10.6-12.5'										
2403014-23	%TS	Soil	NA	76.45		0.008	0.03	%	B240478	N/A
2403014-23	As	Soil	dry	4.54		0.042	0.098	mg/kg	B240484	S240213
2403014-23	Cd	Soil	dry	0.041	J	0.019	0.042	mg/kg	B240484	S240213
2403014-23	Cr	Soil	dry	14.1		0.418	0.836	mg/kg	B240484	S240213
2403014-23	Cu	Soil	dry	23.6		0.25	0.49	mg/kg	B240484	S240213
2403014-23	Hg	Soil	dry	55.2		0.196	0.652	ng/g	B240486	S240222
2403014-23	Ni	Soil	dry	7.99		0.116	0.232	mg/kg	B240484	S240213
2403014-23	Pb	Soil	dry	38.2		0.042	0.125	mg/kg	B240484	S240213
2403014-23	Zn	Soil	dry	45.3		1.02	2.04	mg/kg	B240484	S240213
RI-SB-08										
2403014-24	Hg	Water	TR	5.23		0.14	0.42	ng/L	B240472	S240212
RI-SB-08										
2403014-25	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B240472	S240212
RI-SB-08										
2403014-26	As	Water	TR	4.89		0.162	0.727	µg/L	B240476	S240211
2403014-26	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B240476	S240211
2403014-26	Cr	Water	TR	2.22	J	1.72	6.06	µg/L	B240476	S240211
2403014-26	Cu	Water	TR	2.86		0.505	1.01	µg/L	B240499	S240220
2403014-26	Ni	Water	TR	1.54	J	1.21	3.64	µg/L	B240476	S240211
2403014-26	Pb	Water	TR	1.30		0.061	0.121	µg/L	B240476	S240211
2403014-26	Zn	Water	TR	31.0		7.07	22.2	µg/L	B240476	S240211

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
RI-SB-08										
2403014-27	As	Water	D	4.30		0.162	0.727	µg/L	B240476	S240211
2403014-27	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B240476	S240211
2403014-27	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B240476	S240211
2403014-27	Cu	Water	D	≤ 0.505	U	0.505	1.01	µg/L	B240476	S240211
2403014-27	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B240476	S240211
2403014-27	Pb	Water	D	≤ 0.061	U	0.061	0.121	µg/L	B240476	S240211
2403014-27	Zn	Water	D	21.7	J	7.07	22.2	µg/L	B240476	S240211
FB-0224										
2403014-30	Hg	Water	D	0.24	J	0.13	0.40	ng/L	B240472	S240212
FB-0224										
2403014-31	As	Water	D	≤ 0.016	U	0.016	0.073	µg/L	B240476	S240211
2403014-31	Cd	Water	D	≤ 0.006	U	0.006	0.018	µg/L	B240476	S240211
2403014-31	Cr	Water	D	≤ 0.172	U	0.172	0.606	µg/L	B240476	S240211
2403014-31	Cu	Water	D	≤ 0.051	U	0.051	0.101	µg/L	B240476	S240211
2403014-31	Ni	Water	D	≤ 0.121	U	0.121	0.364	µg/L	B240476	S240211
2403014-31	Pb	Water	D	≤ 0.006	U	0.006	0.012	µg/L	B240476	S240211
2403014-31	Zn	Water	D	≤ 0.707	U	0.707	2.22	µg/L	B240476	S240211

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Accuracy & Precision Summary

Batch: B240472
Lab Matrix: Water
Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240472-MS1	**Matrix Spike (2403011-02)**						
	Hg	0.35	20.41	20.72	ng/L	100% 71-125	
B240472-MSD1	**Matrix Spike Duplicate (2403011-02)**						
	Hg	0.35	20.41	20.67	ng/L	100% 71-125	0.3% 24
B240472-MS2	**Matrix Spike (2403014-09)**						
	Hg	2.49	21.05	24.54	ng/L	105% 71-125	
B240472-MSD2	**Matrix Spike Duplicate (2403014-09)**						
	Hg	2.49	21.05	23.51	ng/L	100% 71-125	4% 24

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Accuracy & Precision Summary

Batch: B240476
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240476-BS1	**Blank Spike, (2401032)**						
	As		55.56	53.89	µg/L	97% 75-125	
	Cd		5.556	5.881	µg/L	106% 75-125	
	Cr		55.56	56.00	µg/L	101% 75-125	
	Cu		55.56	55.48	µg/L	100% 75-125	
	Ni		55.56	53.49	µg/L	96% 75-125	
	Pb		5.556	6.296	µg/L	113% 75-125	
	Zn		55.56	54.20	µg/L	98% 75-125	
B240476-BS2	**Blank Spike, (2401032)**						
	As		55.56	51.51	µg/L	93% 75-125	
	Cd		5.556	5.534	µg/L	100% 75-125	
	Cr		55.56	53.84	µg/L	97% 75-125	
	Cu		55.56	52.77	µg/L	95% 75-125	
	Ni		55.56	51.91	µg/L	93% 75-125	
	Pb		5.556	5.868	µg/L	106% 75-125	
	Zn		55.56	53.91	µg/L	97% 75-125	
B240476-SRM1	**Reference Material (2350023, NIST 1643f)**						
	As		57.42	54.44	µg/L	95% 75-125	
	Cd		5.890	5.824	µg/L	99% 75-125	
	Cr		18.50	18.50	µg/L	100% 75-125	
	Cu		21.66	20.70	µg/L	96% 75-125	
	Ni		59.80	56.64	µg/L	95% 75-125	
	Pb		18.49	19.48	µg/L	105% 75-125	
	Zn		74.40	68.41	µg/L	92% 75-125	
B240476-SRM2	**Reference Material (2350023, NIST 1643f)**						
	As		57.42	56.65	µg/L	99% 75-125	
	Cd		5.890	6.311	µg/L	107% 75-125	
	Cr		18.50	18.40	µg/L	99% 75-125	
	Cu		21.66	20.80	µg/L	96% 75-125	
	Ni		59.80	56.43	µg/L	94% 75-125	
	Pb		18.49	21.38	µg/L	116% 75-125	
	Zn		74.40	74.61	µg/L	100% 75-125	

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Accuracy & Precision Summary

Batch: B240476
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240476-DUP1	**Duplicate, (2403013-02)**						
	As	0.724		0.755	µg/L		4% 20
	Cd	ND		ND	µg/L		N/C 20
	Cr	0.430		0.475	µg/L		10% 20
	Cu	0.690		0.670	µg/L		3% 20
	Ni	0.610		0.592	µg/L		3% 20
	Pb	0.033		0.033	µg/L		0.2% 20
	Zn	1.635		1.413	µg/L		15% 20
B240476-MS1	**Matrix Spike, (2403013-02)**						
	As	0.724	56.12	57.88	µg/L	102% 75-125	
	Cd	ND	5.612	5.986	µg/L	107% 75-125	
	Cr	0.430	56.12	58.40	µg/L	103% 75-125	
	Cu	0.690	56.12	55.49	µg/L	98% 75-125	
	Ni	0.610	56.12	54.94	µg/L	97% 75-125	
	Pb	0.033	5.612	6.369	µg/L	113% 75-125	
	Zn	1.635	56.12	55.87	µg/L	97% 75-125	
B240476-MSD1	**Matrix Spike Duplicate, (2403013-02)**						
	As	0.724	56.12	52.96	µg/L	93% 75-125	9% 20
	Cd	ND	5.612	5.405	µg/L	96% 75-125	10% 20
	Cr	0.430	56.12	55.63	µg/L	98% 75-125	5% 20
	Cu	0.690	56.12	53.79	µg/L	95% 75-125	3% 20
	Ni	0.610	56.12	52.58	µg/L	93% 75-125	4% 20
	Pb	0.033	5.612	5.710	µg/L	101% 75-125	11% 20
	Zn	1.635	56.12	53.30	µg/L	92% 75-125	5% 20
B240476-DUP2	**Duplicate, (2403013-10)**						
	As	0.298		0.285	µg/L		5% 20
	Cd	0.008		0.012	µg/L		*46%* 20
	Cr	0.369		0.423	µg/L		14% 20
	Cu	1.167		1.262	µg/L		8% 20
	Ni	0.526		0.480	µg/L		9% 20
	Pb	0.075		0.068	µg/L		9% 20
	Zn	4.951		5.034	µg/L		2% 20

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Accuracy & Precision Summary

Batch: B240476
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240476-MS2	**Matrix Spike, (2403013-10)**						
	As	0.298	56.12	54.49	µg/L	97% 75-125	
	Cd	0.008	5.612	5.676	µg/L	101% 75-125	
	Cr	0.369	56.12	56.82	µg/L	101% 75-125	
	Cu	1.167	56.12	55.98	µg/L	98% 75-125	
	Ni	0.526	56.12	54.75	µg/L	97% 75-125	
	Pb	0.075	5.612	5.985	µg/L	105% 75-125	
	Zn	4.951	56.12	58.59	µg/L	96% 75-125	
B240476-MSD2	**Matrix Spike Duplicate, (2403013-10)**						
	As	0.298	56.12	55.83	µg/L	99% 75-125	2% 20
	Cd	0.008	5.612	5.915	µg/L	105% 75-125	4% 20
	Cr	0.369	56.12	55.21	µg/L	98% 75-125	3% 20
	Cu	1.167	56.12	54.03	µg/L	94% 75-125	4% 20
	Ni	0.526	56.12	52.27	µg/L	92% 75-125	5% 20
	Pb	0.075	5.612	6.248	µg/L	110% 75-125	4% 20
	Zn	4.951	56.12	58.92	µg/L	96% 75-125	0.6% 20
B240476-DUP3	**Duplicate, (2403014-26)**						
	As	4.895		4.615	µg/L		6% 20
	Cd	ND		ND	µg/L		N/C 20
	Cr	2.215		2.065	µg/L		7% 20
	Ni	1.536		1.606	µg/L		4% 20
	Pb	1.305		1.237	µg/L		5% 20
	Zn	31.00		29.16	µg/L		6% 20
B240476-MS3	**Matrix Spike, (2403014-26)**						
	As	4.895	56.12	58.51	µg/L	96% 75-125	
	Cd	ND	5.612	5.534	µg/L	99% 75-125	
	Cr	2.215	56.12	55.98	µg/L	96% 75-125	
	Ni	1.536	56.12	52.53	µg/L	91% 75-125	
	Pb	1.305	5.612	7.073	µg/L	103% 75-125	
	Zn	31.00	56.12	82.51	µg/L	92% 75-125	

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Accuracy & Precision Summary

Batch: B240476
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240476-MSD3	**Matrix Spike Duplicate, (2403014-26)**						
	As	4.895	56.12	59.96	µg/L	98% 75-125	2% 20
	Cd	ND	5.612	5.950	µg/L	106% 75-125	7% 20
	Cr	2.215	56.12	64.67	µg/L	111% 75-125	14% 20
	Ni	1.536	56.12	60.27	µg/L	105% 75-125	14% 20
	Pb	1.305	5.612	7.314	µg/L	107% 75-125	3% 20
	Zn	31.00	56.12	86.02	µg/L	98% 75-125	4% 20

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B240478
Lab Matrix: Soil/Sediment
Method: SOP BAL-0501

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240478-DUP1	**Duplicate, (2403010-01)**						
	%TS	40.35		40.46	%		0.3% 15

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Accuracy & Precision Summary

Batch: B240484
Lab Matrix: Soil/Sediment
Method: EPA 6020B Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240484-BS1	**Blank Spike, (2336005)**						
	As		50.00	52.12	mg/kg	104% 75-125	
	Cd		5.000	5.129	mg/kg	103% 75-125	
	Cr		50.00	50.08	mg/kg	100% 75-125	
	Cu		50.00	47.71	mg/kg	95% 75-125	
	Ni		50.00	49.95	mg/kg	100% 75-125	
	Pb		5.000	4.638	mg/kg	93% 75-125	
	Zn		50.00	50.01	mg/kg	100% 75-125	
B240484-SRM1	**Reference Material (2233027, CRM052-50G Loamy Clay)**						
	Cd		212.0	213.7	mg/kg	101% 75-125	
B240484-SRM2	**Reference Material (2233027, CRM052-50G Loamy Clay)**						
	As		187.0	174.0	mg/kg	93% 75-125	
	Cr		195.0	182.1	mg/kg	93% 75-125	
	Cu		302.0	285.5	mg/kg	95% 75-125	
	Ni		91.10	84.89	mg/kg	93% 75-125	
	Pb		82.10	74.63	mg/kg	91% 75-125	
	Zn		215.0	193.3	mg/kg	90% 75-125	
B240484-DUP1	**Duplicate, (2403010-01)**						
	As	11.98		11.23	mg/kg		7% 30
	Cd	0.236		0.206	mg/kg		14% 30
	Cr	97.09		95.94	mg/kg		1% 30
	Cu	51.99		50.19	mg/kg		4% 30
	Ni	88.89		88.67	mg/kg		0.2% 30
	Pb	23.65		22.96	mg/kg		3% 30
	Zn	118.7		117.9	mg/kg		0.7% 30
B240484-MS1	**Matrix Spike, (2403010-01)**						
	As	11.98	94.08	104.8	mg/kg	99% 70-130	
	Cd	0.236	9.408	9.357	mg/kg	97% 70-130	
	Cr	97.09	94.08	183.7	mg/kg	92% 70-130	
	Cu	51.99	94.08	124.2	mg/kg	77% 70-130	
	Ni	88.89	94.08	172.7	mg/kg	89% 70-130	
	Pb	23.65	9.408	28.48	mg/kg	*51%* 70-130	
	Zn	118.7	94.08	208.8	mg/kg	96% 70-130	

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Accuracy & Precision Summary

Batch: B240484
Lab Matrix: Soil/Sediment
Method: EPA 6020B Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240484-MSD1	**Matrix Spike Duplicate, (2403010-01)**						
	As	11.98	116.1	134.8	mg/kg	106% 70-130	7% 30
	Cd	0.236	11.61	12.00	mg/kg	101% 70-130	4% 30
	Cr	97.09	116.1	215.0	mg/kg	102% 70-130	10% 30
	Cu	51.99	116.1	165.7	mg/kg	98% 70-130	24% 30
	Ni	88.89	116.1	204.4	mg/kg	99% 70-130	11% 30
	Pb	23.65	11.61	34.93	mg/kg	97% 70-130	*62%* 30
	Zn	118.7	116.1	235.2	mg/kg	100% 70-130	5% 30

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Accuracy & Precision Summary

Batch: B240486
Lab Matrix: Soil/Sediment
Method: EPA 1631 Appendix

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240486-SRM1	**Reference Material (1946001, MESS-4)**						
	Hg		90.00	72.43	ng/g	80% 75-125	
B240486-DUP1	**Duplicate (2403014-02)**						
	Hg	231.4		288.2	ng/g		22% 30
B240486-MS1	**Matrix Spike (2403014-02)**						
	Hg	231.4	281.4	491.4	ng/g	92% 70-130	
B240486-MSD1	**Matrix Spike Duplicate (2403014-02)**						
	Hg	231.4	281.1	478.0	ng/g	88% 70-130	5% 30

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B240499
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B240499-BS1	**Blank Spike, (2401032)**						
	Cu		55.56	59.53	µg/L	107% 75-125	
B240499-SRM2	**Reference Material (2350023, NIST 1643f)**						
	Cu		21.66	21.55	µg/L	100% 75-125	
B240499-DUP1	**Duplicate, (2403014-26)**						
	Cu	2.864		2.541	µg/L		12% 20
B240499-MS1	**Matrix Spike, (2403014-26)**						
	Cu	2.864	56.12	57.28	µg/L	97% 75-125	
B240499-MSD1	**Matrix Spike Duplicate, (2403014-26)**						
	Cu	2.864	56.12	59.80	µg/L	101% 75-125	4% 20

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Method Blanks & Reporting Limits

Batch: B240472
Matrix: Water
Method: EPA 1631 E
Analyte: Hg

Sample	Result	Units
B240472-BLK1	0.11	ng/L
B240472-BLK2	0.14	ng/L
B240472-BLK3	0.10	ng/L
B240472-BLK4	0.11	ng/L

Average: 0.12 **Standard Deviation:** 0.02 **MDL:** 0.13
Limit: 0.50 **Limit:** 0.13 **MRL:** 0.40

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Method Blanks & Reporting Limits

Batch: B240476
Matrix: Water
Method: EPA 1638 Mod
Analyte: As

Sample	Result	Units
B240476-BLK1	0.021	µg/L
B240476-BLK2	0.018	µg/L
B240476-BLK3	0.013	µg/L
B240476-BLK4	0.013	µg/L

Average: 0.016
Limit: 0.072
MDL: 0.016
MRL: 0.072

Analyte: Cd

Sample	Result	Units
B240476-BLK1	0.0007	µg/L
B240476-BLK2	-0.00006	µg/L
B240476-BLK3	0.0007	µg/L
B240476-BLK4	0.0009	µg/L

Average: 0.001
Limit: 0.018
MDL: 0.006
MRL: 0.018

Analyte: Cr

Sample	Result	Units
B240476-BLK1	0.033	µg/L
B240476-BLK2	0.026	µg/L
B240476-BLK3	0.034	µg/L
B240476-BLK4	0.036	µg/L

Average: 0.032
Limit: 0.600
MDL: 0.170
MRL: 0.600

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Method Blanks & Reporting Limits

Analyte: Cu

Sample	Result	Units
B240476-BLK1	0.028	µg/L
B240476-BLK2	0.026	µg/L
B240476-BLK3	0.007	µg/L
B240476-BLK4	0.008	µg/L
Average:	0.017	
Limit:	0.100	

MDL: 0.050
MRL: 0.100

Analyte: Ni

Sample	Result	Units
B240476-BLK1	0.022	µg/L
B240476-BLK2	0.067	µg/L
B240476-BLK3	0.004	µg/L
B240476-BLK4	0.015	µg/L
Average:	0.027	
Limit:	0.360	

MDL: 0.120
MRL: 0.360

Analyte: Pb

Sample	Result	Units
B240476-BLK1	0.003	µg/L
B240476-BLK2	0.003	µg/L
B240476-BLK3	0.003	µg/L
B240476-BLK4	0.002	µg/L
Average:	0.003	
Limit:	0.012	

MDL: 0.006
MRL: 0.012

Analyte: Zn

Sample	Result	Units
B240476-BLK1	0.623	µg/L
B240476-BLK2	0.479	µg/L
B240476-BLK3	0.227	µg/L
B240476-BLK4	0.421	µg/L
Average:	0.438	
Limit:	2.200	

MDL: 0.700
MRL: 2.20

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Method Blanks & Reporting Limits

Batch: B240478
Matrix: Soil/Sediment
Method: SOP BAL-0501
Analyte: %TS

Sample	Result	Units
B240478-BLK1	-0.10	%

Average: *-0.10*
Limit: 0.10

MDL: 0.03
MRL: 0.10

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Method Blanks & Reporting Limits

Batch: B240484
Matrix: Soil/Sediment
Method: EPA 6020B Mod
Analyte: As

Sample	Result	Units
B240484-BLK1	0.004	mg/kg
B240484-BLK2	0.005	mg/kg
B240484-BLK3	0.006	mg/kg
B240484-BLK4	0.006	mg/kg

Average: 0.005
Limit: 0.105
MDL: 0.045
MRL: 0.105

Analyte: Cd

Sample	Result	Units
B240484-BLK1	0.0001	mg/kg
B240484-BLK2	0.0005	mg/kg
B240484-BLK3	-0.0001	mg/kg
B240484-BLK4	0.00007	mg/kg

Average: 0.000
Limit: 0.045
MDL: 0.020
MRL: 0.045

Analyte: Cr

Sample	Result	Units
B240484-BLK1	0.017	mg/kg
B240484-BLK2	0.057	mg/kg
B240484-BLK3	0.015	mg/kg
B240484-BLK4	-0.016	mg/kg

Average: 0.018
Limit: 0.900
MDL: 0.450
MRL: 0.900

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Method Blanks & Reporting Limits

Analyte: Cu

Sample	Result	Units
B240484-BLK1	-0.01	mg/kg
B240484-BLK2	-0.007	mg/kg
B240484-BLK3	-0.01	mg/kg
B240484-BLK4	-0.006	mg/kg

Average: -0.01
Limit: 0.53

MDL: 0.26
MRL: 0.53

Analyte: Ni

Sample	Result	Units
B240484-BLK1	0.005	mg/kg
B240484-BLK2	0.001	mg/kg
B240484-BLK3	0.007	mg/kg
B240484-BLK4	0.003	mg/kg

Average: 0.004
Limit: 0.250

MDL: 0.125
MRL: 0.250

Analyte: Pb

Sample	Result	Units
B240484-BLK1	0.001	mg/kg
B240484-BLK2	-0.0002	mg/kg
B240484-BLK3	-0.0008	mg/kg
B240484-BLK4	-0.0002	mg/kg

Average: 0.000
Limit: 0.135

MDL: 0.045
MRL: 0.135

Analyte: Zn

Sample	Result	Units
B240484-BLK1	-0.048	mg/kg
B240484-BLK2	-0.039	mg/kg
B240484-BLK3	-0.041	mg/kg
B240484-BLK4	-0.025	mg/kg

Average: -0.038
Limit: 2.200

MDL: 1.10
MRL: 2.20

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Method Blanks & Reporting Limits

Batch: B240486
Matrix: Soil/Sediment
Method: EPA 1631 Appendix
Analyte: Hg

Sample	Result	Units
B240486-BLK1	0.040	ng/g
B240486-BLK2	0.059	ng/g
B240486-BLK3	0.044	ng/g
B240486-BLK4	0.013	ng/g

Average: 0.039 **Standard Deviation:** 0.019 **MDL:** 0.150
Limit: 0.500 **Limit:** 0.150 **MRL:** 0.500

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Method Blanks & Reporting Limits

Batch: B240499
Matrix: Water
Method: EPA 1638 Mod
Analyte: Cu

Sample	Result	Units
B240499-BLK1	0.028	µg/L
B240499-BLK2	0.007	µg/L
B240499-BLK3	0.006	µg/L
B240499-BLK4	0.015	µg/L

Average: 0.014
Limit: 0.100

MDL: 0.050
MRL: 0.100

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Sample Containers

Lab ID: 2403014-01 **Report Matrix:** Soil **Collected:** 02/27/2024
Sample: RI-SB-11 0.5-2' **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	4oz	n/a	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-02 **Report Matrix:** Soil **Collected:** 02/27/2024
Sample: RI-SB-11 5-7.5' **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	4oz	n/a	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-03 **Report Matrix:** Water **Collected:** 02/27/2024
Sample: RI-SB-11 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-04 **Report Matrix:** Water **Collected:** 02/27/2024
Sample: RI-SB-11 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-05 **Report Matrix:** Water **Collected:** 02/27/2024
Sample: RI-SB-11 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

Lab ID: 2403014-06 **Report Matrix:** Water **Collected:** 02/27/2024
Sample: RI-SB-11 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

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Sample Containers

Lab ID: 2403014-07 **Report Matrix:** Soil **Collected:** 02/27/2024
Sample: RI-SB-10 5-8' **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	4oz	n/a	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-08 **Report Matrix:** Water **Collected:** 02/27/2024
Sample: RI-SB-10 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-09 **Report Matrix:** Water **Collected:** 02/27/2024
Sample: RI-SB-10 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-10 **Report Matrix:** Water **Collected:** 02/27/2024
Sample: RI-SB-10 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

Lab ID: 2403014-11 **Report Matrix:** Water **Collected:** 02/27/2024
Sample: RI-SB-10 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

Lab ID: 2403014-12 **Report Matrix:** Soil **Collected:** 02/29/2024
Sample: DUP01-0224 **Sample Type:** Field Duplicate **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	n/a	none	n/a	n/a	Cooler - 2403014

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Sample Containers

Lab ID: 2403014-13 **Report Matrix:** Soil **Collected:** 02/29/2024
Sample: RI-SB-09 10-12.5' **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	n/a	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-14 **Report Matrix:** Water **Collected:** 02/29/2024
Sample: RI-SB-09 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-15 **Report Matrix:** Water **Collected:** 02/29/2024
Sample: RI-SB-09 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-16 **Report Matrix:** Water **Collected:** 02/29/2024
Sample: RI-SB-09 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

Lab ID: 2403014-17 **Report Matrix:** Water **Collected:** 02/29/2024
Sample: RI-SB-09 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

Lab ID: 2403014-18 **Report Matrix:** Water **Collected:** 02/28/2024
Sample: DUP02-0224 **Sample Type:** Field Duplicate **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

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Sample Containers

Lab ID: 2403014-19
Sample: DUP02-0224
Report Matrix: Water
Sample Type: Field Duplicate
Collected: 02/28/2024
Received: 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-20
Sample: DUP02-0224
Report Matrix: Water
Sample Type: Field Duplicate
Collected: 02/28/2024
Received: 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

Lab ID: 2403014-21
Sample: DUP02-0224
Report Matrix: Water
Sample Type: Field Duplicate
Collected: 02/28/2024
Received: 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

Lab ID: 2403014-22
Sample: RI-SB-08 5-10'
Report Matrix: Soil
Sample Type: Sample
Collected: 02/29/2024
Received: 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	n/a	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-23
Sample: RI-SB-08 10.6-12.5'
Report Matrix: Soil
Sample Type: Sample
Collected: 02/29/2024
Received: 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	n/a	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-24
Sample: RI-SB-08
Report Matrix: Water
Sample Type: Sample
Collected: 02/29/2024
Received: 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2403014-25 **Report Matrix:** Water **Collected:** 02/29/2024
Sample: RI-SB-08 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-26 **Report Matrix:** Water **Collected:** 02/29/2024
Sample: RI-SB-08 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Lab ID: 2403014-27 **Report Matrix:** Water **Collected:** 02/29/2024
Sample: RI-SB-08 **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

Lab ID: 2403014-28 **Report Matrix:** Soil **Collected:** 02/29/2024
Sample: RI-SB-07 5-6' **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	n/a	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-29 **Report Matrix:** Soil **Collected:** 02/29/2024
Sample: RI-SB-07 10-15' **Sample Type:** Sample **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	n/a	none	n/a	n/a	Cooler - 2403014

Lab ID: 2403014-30 **Report Matrix:** Water **Collected:** 02/29/2024
Sample: FB-0224 **Sample Type:** Field Blank **Received:** 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg	125mL	23-0112	none	n/a	n/a	Cooler - 2403014

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2403014-31
Sample: FB-0224

Report Matrix: Water
Sample Type: Field Blank

Collected: 02/29/2024
Received: 03/04/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	23-0099	1%HNO3 (BAL)	2339029	<2	Cooler - 2403014

Comments: Preserved ECL 03/04/24 1315

Shipping Containers

Cooler - 2403014

Received: March 4, 2024 11:42
Tracking No: n/a via Courier
Coolant Type: Ice
Temperature: 0.2 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: R-IR-3

Custody seals present? No
Custody seals intact? No
COC present? Yes

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only — BAL Report 2403014
Received by: EC Date: 03/04/24
Work Order ID: Time: 1142
Project ID:

Client: Crete Consulting PO Number: Bridge Point Seattle 130 Mailing Address: 16300 Christensen Rd, Ste. 214 Tukwila WA 98188
Contact: Rusty Jones Phone: 832.330.1359
Client Project ID: Bridge Point ~~Seattle~~ 130 Email: rusty.jones@creteconsulting.com Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones RJones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO_3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) 1638 Mod.	Other (specify)	Comments: Specify Here
1	RI-SB-11 0.5-2'	2/27/2024	1300	SOIL	1	N	N									HOLD
2	RI-SB-11 5-7.5'	↓	1310	↓	1	N	N	X						X		
3	RI-SB-11		1404	WATER	4	Y+N	N	X						X		827 uS/cm
4	RI-SB-10 5-8'		1515	SOIL	1	N	N	X						X		
5	~~RI-SB-10 8-10'~~		1525					X						X		RJ
6	RI-SB-10	↓	1602	WATER	4	Y+N	N	X						X		1126 uS/cm
7	DUP01-0224	2/29/2024	0001	SOIL	1	N	N	X						X		
8	RI-SB-09 10-12.5'	↓	0935	SOIL	1	N	N	X						X		
9	RI-SB-09	2/29/2024	0952	WATER	4	Y+N	N	X						X		22,569 uS/cm
10	DUP02-0224	↓	0002	WATER	4	Y+N	N	X						X		
	Trip Blank															

Relinquished By: R. Jones	Date: 3/4/2024	Time: 1139	Relinquished By:	Date:	Time:
Received By:	Date:	Time:	Total Number of Packages:		

Page 1 of 2 List Hazardous Contaminants:

samples@brooksapplied.com | brooksapplied.com

Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only — BAL Report 2403014
Received by: ECA Date: 03/04/24
Work Order ID: Time: 1142
Project ID:

Client: Crete Consulting PO Number: Bridge Point Seattle 130 Mailing Address: 16300 Christensen Rd Ste. 214 Tukwila, WA 98188
Contact: Rusty Jones Phone: 832.330.1359
Client Project ID: Bridge Point Seattle 130 Email: rusty.jones@creteconsulting.com Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones RJones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO_3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) 1638 Mod.	Other (specify)	Comments
1	RI-SB-09 5-10'	2/29/2024	1135	SOIL	1	N	N	X						X		Project Metals: As, Cd, Cr, Cu, Ni, Pb, Zn, Hg
2	RI-SB-08 10.6-12.5'	↓	1145	SOIL	1	N	N	X						X		
3	~~DUP03-0224~~		0003													RS
4	RI-SB-08	2/29/2024	1208	WATER	4	Y/N	N	X						X		6044 uS/cm
5	RI-SB-07 5-6'		1330	SOIL	1	N	N									HOLD
6	RI-SB-07 10-15'		1340	SOIL	1	N	N									HOLD
7	~~RI-SB-07~~		1402													RP
8	FB-0224	↓	1430	WATER	2	Y	N	X						X		
9																
10																
	Trip Blank															

Relinquished By:	Date:	Time:	Relinquished By:	Date:	Time:
RJones	3/4/2024	1139			
Received By:	**Date:**	**Time:**	**Total Number of Packages:**		

Page 2 of 2 List Hazardous Contaminants:

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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

June 12, 2024

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

Dear Mr Jones:

Included is the amended report from the testing of material submitted on April 26, 2024 from the Bridge Point Seattle 130, F&BI 404435 project. The PCB reporting limits have been lowered.

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: Grant Hainsworth, Jamie Stevens
CTC0523R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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Eric Young, B.S.

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

May 23, 2024

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

Dear Mr Jones:

Included are the results from the testing of material submitted on April 26, 2024 from the Bridge Point Seattle 130, F&BI 404435 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: Grant Hainsworth, Jamie Stevens
CTC0523R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 26, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 404435 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
404435 -01	MW3-0424
404435 -02	MW9-0424
404435 -03	MW5-0424

Sample MW3-0424 was sent to Analytical Resources, Inc. for dioxin and furan analysis. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 05/23/24
Date Received: 04/26/24
Project: Bridge Point Seattle 130, F&BI 404435
Date Extracted: 05/01/24
Date Analyzed: 05/01/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW9-0424 404435-02	<100	90
Method Blank 04-872 MB	<100	87

Date of Report: 05/23/24
Date Received: 04/26/24
Project: Bridge Point Seattle 130, F&BI 404435
Date Extracted: 04/29/24
Date Analyzed: 04/29/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW9-0424 404435-02	<50	<250	86
Method Blank 04-1030 MB	<50	<250	93

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW9-0424	Client:	Crete Consulting
Date Received:	04/26/24	Project:	Bridge Point Seattle 130
Date Extracted:	05/01/24	Lab ID:	404435-02
Date Analyzed:	05/01/24	Data File:	050125.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	78	126
Toluene-d8	96	84	115
4-Bromofluorobenzene	95	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	36
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	18
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0424	Client:	Crete Consulting
Date Received:	04/26/24	Project:	Bridge Point Seattle 130
Date Extracted:	05/01/24	Lab ID:	404435-03
Date Analyzed:	05/01/24	Data File:	050126.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	92	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.3
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	8.4

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	05/01/24	Lab ID:	04-0988 mb
Date Analyzed:	05/01/24	Data File:	050109.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	95	72	130

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

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW3-0424	Client:	Crete Consulting
Date Received:	04/26/24	Project:	Bridge Point Seattle 130
Date Extracted:	04/29/24	Lab ID:	404435-01
Date Analyzed:	04/30/24	Data File:	042920.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	62	24	127
Decachlorobiphenyl	76	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.013 j
Aroclor 1232	<0.013 j
Aroclor 1016	<0.013 j
Aroclor 1242	<0.013 j
Aroclor 1248	<0.013 j
Aroclor 1254	<0.013 j
Aroclor 1260	<0.013 j
Aroclor 1262	<0.013 j
Aroclor 1268	<0.013 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	04/29/24	Lab ID:	04-1031 mb
Date Analyzed:	04/29/24	Data File:	042910.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	46	24	127
Decachlorobiphenyl	63	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.013 j
Aroclor 1232	<0.013 j
Aroclor 1016	<0.013 j
Aroclor 1242	<0.013 j
Aroclor 1248	<0.013 j
Aroclor 1254	<0.013 j
Aroclor 1260	<0.013 j
Aroclor 1262	<0.013 j
Aroclor 1268	<0.013 j

Date of Report: 05/23/24
Date Received: 04/26/24
Project: Bridge Point Seattle 130, F&BI 404435

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

Laboratory Code: 404435-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	95	70-130

Date of Report: 05/23/24
Date Received: 04/26/24
Project: Bridge Point Seattle 130, F&BI 404435

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	72	88	65-151	20

Date of Report: 05/23/24
Date Received: 04/26/24
Project: Bridge Point Seattle 130, F&BI 404435

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

Laboratory Code: 404487-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	116	50-150
Chloroethane	ug/L (ppb)	10	<1	106	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	102	50-150
Methylene chloride	ug/L (ppb)	10	<5	99	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	104	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	109	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	112	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	110	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	114	50-150

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)	10	106	113	64-142	6
Chloroethane	ug/L (ppb)	10	98	105	70-130	7
1,1-Dichloroethene	ug/L (ppb)	10	94	101	64-140	7
Methylene chloride	ug/L (ppb)	10	93	101	43-134	8
trans-1,2-Dichloroethene	ug/L (ppb)	10	95	102	70-130	7
1,1-Dichloroethane	ug/L (ppb)	10	97	104	70-130	7
cis-1,2-Dichloroethene	ug/L (ppb)	10	95	102	70-130	7
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	101	108	70-130	7
1,1,1-Trichloroethane	ug/L (ppb)	10	102	110	70-130	8
Trichloroethene	ug/L (ppb)	10	100	107	70-130	7
Tetrachloroethene	ug/L (ppb)	10	105	112	70-130	6

Date of Report: 05/23/24
Date Received: 04/26/24
Project: Bridge Point Seattle 130, F&BI 404435

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	60	67	20-94	11
Aroclor 1260	ug/L (ppb)	0.25	79	89	23-123	12

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

404435

SAMPLE CHAIN OF CUSTODY

04/26/24 C2/VW1

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting Inc

Address

City, State, ZIP

Phone 832.330.8594 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME Bridge Point Seattle 130

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Dioxins/Furans	cVOCs			Notes
						ANALYSES REQUESTED											
MW3-0424	01 A-B	4/25/2024	1418	WATER	2	~~X~~	~~X~~	~~X~~ J				X	X				
MW9-0424	02 A-G	↓	1231	↓	7	X	X							X			
MW5-0424	03 A-C	↓	1331	↓	3									X			
								Samples received at 5 °C									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R Jones	Rusty Jones	CRETE	4/26/2024	1117
Received by:	ANH PHAN	FSB	04/26/24	11:12
Relinquished by:				
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 404435 CLIENT CTC INITIALS/ DATE: AP 04/26/24

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

Cooler/Sample temperature 5 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☐ YES ☑ NO

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

Number of days samples have been sitting prior to receipt at laboratory 1 days

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

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

Is the following information provided on the COC* ? (explain "no" answer below)

Sample ID's	☑ Yes ☐ No	# of Containers	☑ Yes ☐ No
Date Sampled	☑ Yes ☐ No	Relinquished	☑ Yes ☐ No
Time Sampled	☑ Yes ☐ No	Requested analysis	☑ Yes ☐ No

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

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

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

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

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

If Yes:
Number of unused TO15 canisters _____ Number of unused TO17 tubes _____

Explain "no" items from above (use the back if needed)

BROOKS APPLIED LABS
13751 Lake City Way NE, Ste 108, Seattle, WA 98125 • USA • T:206-632-6206 • info@brooksapplied.com

June 25, 2024

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Dear Rusty Jones,

On June 7, 2024, Brooks Applied Labs (BAL) received eleven (11) sets of aqueous samples in a sealed cooler at an acceptable temperature of 2.6°C. The samples were logged-in for total recoverable and dissolved *arsenic [As], cadmium [Cd], chromium [Cr], copper [Cu], lead [Pb], nickel [Ni], zinc [Zn], mercury [Hg]*) *and hexavalent chromium [Cr(VI)]* analyses, according to the issued quotation. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) were preserved to a pH <2 upon receipt at BAL.

The total and dissolved metals (As, Cd, Cr, Cu, Pb, Ni, Zn) were placed on hold for samples 2406095-11 and 2406095-12 (DW-0624) per the client's COC request, and no total and dissolved metals results are included in this report for these samples.

Total Recoverable and Dissolved (As, Cd, Cr, Cu, Pb, Ni, and Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed for (*As, Cd, Cr, Cu, Pb, Ni, and Zn*) content via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

Some of the total results were less than the corresponding dissolved result. In all of these cases, the total and dissolved samples meet RPD, or the results met secondary criteria (within 5x the MRL and within the MRL of each other) and no further action was required.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL, the relative percent difference (RPD) was not calculated (N/C).

In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision. When the spiking levels were ≤ 25% of the native sample concentrations, the recoveries were not reported **(NR)**. No sample results were qualified on the basis of the MS or MSD recoveries.

Total and Dissolved Hg Analysis by EPA Method 1631E

Each aqueous fraction submitted for Hg analysis was prepared and analyzed in accordance with EPA Method 1631. Samples were oxidized with bromine monochloride (BrCl) and then analyzed with stannous chloride ($SnCl_2$) reduction, dual gold amalgamation, and cold vapor atomic fluorescence spectroscopy (CVAFS) detection using a Brooks Rand Instrument's MERX-T CVAFS Mercury Automated-Analyzer.

Some of the total mercury results were less than the corresponding dissolved mercury result. In all of these cases, the total and dissolved samples meet RPD, or the results met secondary criteria (within 5x the MRL and within the MRL of each other) and no further action was required.

Hexavalent Chromium Analysis

Hexavalent chromium [Cr(VI)] analysis was performed by ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Chromium species are first chromatographically separated on an ion exchange column and then quantified using inductively coupled plasma collision reaction cell mass spectrometry (ICP-CRC-MS). For more information on this determinative technique, please visit the *Interference Reduction Technology* section on our website.

Sample results reported for mercury were method blank corrected, while all other results were not method blank corrected, as described in the calculations section of the relevant BAL SOP(s). All results were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification and all associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

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Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
MW2-0624	2406095-01	Water	Sample	06/05/2024	06/07/2024
MW2-0624	2406095-02	Water	Sample	06/05/2024	06/07/2024
MW8-0624	2406095-03	Water	Sample	06/05/2024	06/07/2024
MW8-0624	2406095-04	Water	Sample	06/05/2024	06/07/2024
DUP01-0624	2406095-05	Water	Field Duplicate	06/06/2024	06/07/2024
DUP01-0624	2406095-06	Water	Field Duplicate	06/06/2024	06/07/2024
MW7-0624	2406095-07	Water	Sample	06/06/2024	06/07/2024
MW7-0624	2406095-08	Water	Sample	06/06/2024	06/07/2024
SEEP-0624	2406095-09	Water	Sample	06/06/2024	06/07/2024
SEEP-0624	2406095-10	Water	Sample	06/06/2024	06/07/2024
DW-0624	2406095-11	Water	Sample	06/06/2024	06/07/2024
DW-0624	2406095-12	Water	Sample	06/06/2024	06/07/2024
PDI-0624	2406095-13	Water	Sample	06/06/2024	06/07/2024
PDI-0624	2406095-14	Water	Sample	06/06/2024	06/07/2024
MW1-0624	2406095-15	Water	Sample	06/06/2024	06/07/2024
MW1-0624	2406095-16	Water	Sample	06/06/2024	06/07/2024
MW5-0624	2406095-17	Water	Sample	06/06/2024	06/07/2024
MW5-0624	2406095-18	Water	Sample	06/06/2024	06/07/2024
MW9-0624	2406095-19	Water	Sample	06/07/2024	06/07/2024
MW9-0624	2406095-20	Water	Sample	06/07/2024	06/07/2024
MW4-0624	2406095-21	Water	Sample	06/07/2024	06/07/2024
MW4-0624	2406095-22	Water	Sample	06/07/2024	06/07/2024

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Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
As	Water	EPA 1638 Mod	ISO,TNI	06/11/24	06/11/24	B241359	S240557
Cd	Water	EPA 1638 Mod	ISO,TNI	06/11/24	06/11/24	B241359	S240557
Cr	Water	EPA 1638 Mod	ISO,TNI	06/11/24	06/11/24	B241359	S240557
Cr(VI)	Water	SOP BAL-4300	ISO,TNI	06/12/24	06/13/24	B241371	S240565
Cu	Water	EPA 1638 Mod	ISO,TNI	06/11/24	06/11/24	B241359	S240557
Hg	Water	EPA 1631 E	ISO,TNI	06/12/24	06/13/24	B241354	S240571
Ni	Water	EPA 1638 Mod	ISO,TNI	06/11/24	06/11/24	B241359	S240557
Pb	Water	EPA 1638 Mod	ISO,TNI	06/11/24	06/11/24	B241359	S240557
Zn	Water	EPA 1638 Mod	ISO,TNI	06/11/24	06/11/24	B241359	S240557

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW2-0624										
2406095-01	As	Water	TR	3.64		0.222	0.727	µg/L	B241359	S240557
2406095-01	Cd	Water	TR	0.090	J	0.061	0.182	µg/L	B241359	S240557
2406095-01	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-01	Cu	Water	TR	1.08	J	0.909	1.82	µg/L	B241359	S240557
2406095-01	Hg	Water	TR	0.44		0.13	0.41	ng/L	B241354	S240571
2406095-01	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-01	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-01	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557
MW2-0624										
2406095-02	As	Water	D	3.42		0.222	0.727	µg/L	B241359	S240557
2406095-02	Cd	Water	D	0.087	J	0.061	0.182	µg/L	B241359	S240557
2406095-02	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-02	Cr(VI)	Water	D	0.522		0.126	0.253	µg/L	B241371	S240565
2406095-02	Cu	Water	D	1.22	J	0.909	1.82	µg/L	B241359	S240557
2406095-02	Hg	Water	D	0.22	J	0.13	0.41	ng/L	B241354	S240571
2406095-02	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-02	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-02	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557
MW8-0624										
2406095-03	As	Water	TR	4.12		0.222	0.727	µg/L	B241359	S240557
2406095-03	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-03	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-03	Cu	Water	TR	0.963	J	0.909	1.82	µg/L	B241359	S240557
2406095-03	Hg	Water	TR	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-03	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-03	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-03	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557
MW8-0624										
2406095-04	As	Water	D	4.25		0.222	0.727	µg/L	B241359	S240557
2406095-04	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-04	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-04	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-04	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-04	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-04	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-04	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DUP01-0624										
2406095-05	As	Water	TR	0.386	J	0.222	0.727	µg/L	B241359	S240557
2406095-05	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-05	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-05	Cu	Water	TR	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-05	Hg	Water	TR	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-05	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-05	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-05	Zn	Water	TR	163		12.1	24.2	µg/L	B241359	S240557
DUP01-0624										
2406095-06	As	Water	D	0.427	J	0.222	0.727	µg/L	B241359	S240557
2406095-06	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-06	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-06	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-06	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-06	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-06	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-06	Zn	Water	D	48.2		12.1	24.2	µg/L	B241359	S240557
MW7-0624										
2406095-07	As	Water	TR	0.618	J	0.222	0.727	µg/L	B241359	S240557
2406095-07	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-07	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-07	Cu	Water	TR	0.926	J	0.909	1.82	µg/L	B241359	S240557
2406095-07	Hg	Water	TR	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-07	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-07	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-07	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557
MW7-0624										
2406095-08	As	Water	D	≤ 0.222	U	0.222	0.727	µg/L	B241359	S240557
2406095-08	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-08	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-08	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-08	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-08	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-08	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-08	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
SEEP-0624										
2406095-09	Zn	Water	TR	242		12.1	24.2	µg/L	B241359	S240557
SEEP-0624										
2406095-10	Cr(VI)	Water	D	≤ 0.051	U	0.051	0.101	µg/L	B241371	S240565
2406095-10	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557
DW-0624										
2406095-12	Cr(VI)	Water	D	0.129		0.051	0.101	µg/L	B241371	S240565
PDI-0624										
2406095-13	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557
PDI-0624										
2406095-14	Cr(VI)	Water	D	0.113		0.051	0.101	µg/L	B241371	S240565
2406095-14	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557
MW1-0624										
2406095-15	As	Water	TR	1.32		0.222	0.727	µg/L	B241359	S240557
2406095-15	Cd	Water	TR	0.170	J	0.061	0.182	µg/L	B241359	S240557
2406095-15	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-15	Cu	Water	TR	1.64	J	0.909	1.82	µg/L	B241359	S240557
2406095-15	Hg	Water	TR	0.51		0.13	0.41	ng/L	B241354	S240571
2406095-15	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-15	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-15	Zn	Water	TR	282		12.1	24.2	µg/L	B241359	S240557
MW1-0624										
2406095-16	As	Water	D	1.24		0.222	0.727	µg/L	B241359	S240557
2406095-16	Cd	Water	D	0.170	J	0.061	0.182	µg/L	B241359	S240557
2406095-16	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-16	Cr(VI)	Water	D	0.265		0.126	0.253	µg/L	B241371	S240565
2406095-16	Cu	Water	D	1.67	J	0.909	1.82	µg/L	B241359	S240557
2406095-16	Hg	Water	D	0.55		0.13	0.41	ng/L	B241354	S240571
2406095-16	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-16	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-16	Zn	Water	D	261		12.1	24.2	µg/L	B241359	S240557

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW5-0624										
2406095-17	As	Water	TR	0.430	J	0.222	0.727	µg/L	B241359	S240557
2406095-17	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-17	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-17	Cu	Water	TR	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-17	Hg	Water	TR	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-17	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-17	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-17	Zn	Water	TR	178		12.1	24.2	µg/L	B241359	S240557
MW5-0624										
2406095-18	As	Water	D	0.396	J	0.222	0.727	µg/L	B241359	S240557
2406095-18	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-18	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-18	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-18	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-18	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-18	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-18	Zn	Water	D	47.5		12.1	24.2	µg/L	B241359	S240557
MW9-0624										
2406095-19	As	Water	TR	6.66		0.222	0.727	µg/L	B241359	S240557
2406095-19	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-19	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-19	Cu	Water	TR	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-19	Hg	Water	TR	0.29	J	0.14	0.42	ng/L	B241354	S240571
2406095-19	Ni	Water	TR	1.26	J	1.21	3.64	µg/L	B241359	S240557
2406095-19	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-19	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557
MW9-0624										
2406095-20	As	Water	D	6.60		0.222	0.727	µg/L	B241359	S240557
2406095-20	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-20	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-20	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-20	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-20	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-20	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-20	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B241359	S240557

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW4-0624										
2406095-21	As	Water	TR	≤ 0.222	U	0.222	0.727	µg/L	B241359	S240557
2406095-21	Cd	Water	TR	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-21	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-21	Cu	Water	TR	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-21	Hg	Water	TR	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-21	Ni	Water	TR	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-21	Pb	Water	TR	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-21	Zn	Water	TR	368		12.1	24.2	µg/L	B241359	S240557
MW4-0624										
2406095-22	As	Water	D	≤ 0.222	U	0.222	0.727	µg/L	B241359	S240557
2406095-22	Cd	Water	D	≤ 0.061	U	0.061	0.182	µg/L	B241359	S240557
2406095-22	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B241359	S240557
2406095-22	Cu	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B241359	S240557
2406095-22	Hg	Water	D	≤ 0.14	U	0.14	0.42	ng/L	B241354	S240571
2406095-22	Ni	Water	D	≤ 1.21	U	1.21	3.64	µg/L	B241359	S240557
2406095-22	Pb	Water	D	≤ 0.091	U	0.091	0.182	µg/L	B241359	S240557
2406095-22	Zn	Water	D	332		12.1	24.2	µg/L	B241359	S240557

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Accuracy & Precision Summary

Batch: B241354
Lab Matrix: Water
Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B241354-MS1	**Matrix Spike (2406091-02)**						
	Hg	ND	20.41	19.68	ng/L	96% 71-125	
B241354-MSD1	**Matrix Spike Duplicate (2406091-02)**						
	Hg	ND	20.41	20.05	ng/L	98% 71-125	2% 24
B241354-MS2	**Matrix Spike (2406095-03)**						
	Hg	ND	21.05	19.34	ng/L	92% 71-125	
B241354-MSD2	**Matrix Spike Duplicate (2406095-03)**						
	Hg	ND	21.05	18.13	ng/L	86% 71-125	7% 24

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Accuracy & Precision Summary

Batch: B241359
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B241359-BS1	**Blank Spike, (2401032)**						
	As		55.56	52.25	µg/L	94% 75-125	
	Cd		5.556	5.687	µg/L	102% 75-125	
	Cr		55.56	54.73	µg/L	99% 75-125	
	Cu		55.56	54.43	µg/L	98% 75-125	
	Ni		55.56	52.54	µg/L	95% 75-125	
	Pb		5.556	5.660	µg/L	102% 75-125	
	Zn		55.56	55.35	µg/L	100% 75-125	
B241359-SRM1	**Reference Material (2415026, NIST 1643f)**						
	As		57.42	54.54	µg/L	95% 75-125	
	Cd		5.890	5.849	µg/L	99% 75-125	
	Cr		18.50	18.35	µg/L	99% 75-125	
	Cu		21.66	19.90	µg/L	92% 75-125	
	Ni		59.80	53.95	µg/L	90% 75-125	
	Pb		18.49	18.00	µg/L	97% 75-125	
	Zn		74.40	71.29	µg/L	96% 75-125	
B241359-DUP1	**Duplicate, (2406095-01)**						
	As	3.641		3.470	µg/L		5% 20
	Cd	0.090		ND	µg/L		N/C 20
	Cr	ND		ND	µg/L		N/C 20
	Cu	1.083		0.968	µg/L		11% 20
	Ni	ND		ND	µg/L		N/C 20
	Pb	ND		ND	µg/L		N/C 20
	Zn	ND		ND	µg/L		N/C 20
B241359-MS1	**Matrix Spike, (2406095-01)**						
	As	3.641	56.12	56.38	µg/L	94% 75-125	
	Cd	0.090	5.612	5.560	µg/L	97% 75-125	
	Cr	ND	56.12	55.43	µg/L	99% 75-125	
	Cu	1.083	56.12	51.85	µg/L	90% 75-125	
	Ni	ND	56.12	50.27	µg/L	90% 75-125	
	Pb	ND	5.612	5.442	µg/L	97% 75-125	
	Zn	ND	56.12	53.94	µg/L	96% 75-125	

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Accuracy & Precision Summary

Batch: B241359
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B241359-MSD1	**Matrix Spike Duplicate, (2406095-01)**						
	As	3.641	56.12	52.40	µg/L	87% 75-125	7% 20
	Cd	0.090	5.612	5.071	µg/L	89% 75-125	9% 20
	Cr	ND	56.12	52.15	µg/L	93% 75-125	6% 20
	Cu	1.083	56.12	48.67	µg/L	85% 75-125	6% 20
	Ni	ND	56.12	47.53	µg/L	85% 75-125	6% 20
	Pb	ND	5.612	4.894	µg/L	87% 75-125	11% 20
	Zn	ND	56.12	50.88	µg/L	91% 75-125	6% 20
B241359-DUP2	**Duplicate, (2406095-21)**						
	As	ND		ND	µg/L		N/C 20
	Cd	ND		ND	µg/L		N/C 20
	Cr	ND		ND	µg/L		N/C 20
	Cu	ND		ND	µg/L		N/C 20
	Ni	ND		ND	µg/L		N/C 20
	Pb	ND		ND	µg/L		N/C 20
	Zn	367.7		351.5	µg/L		5% 20
B241359-MS2	**Matrix Spike, (2406095-21)**						
	As	ND	56.12	50.77	µg/L	90% 75-125	
	Cd	ND	5.612	5.648	µg/L	101% 75-125	
	Cr	ND	56.12	52.50	µg/L	94% 75-125	
	Cu	ND	56.12	51.14	µg/L	91% 75-125	
	Ni	ND	56.12	49.19	µg/L	88% 75-125	
	Pb	ND	5.612	5.357	µg/L	95% 75-125	
	Zn	367.7	56.12	410.8	µg/L	NR 75-125	
B241359-MSD2	**Matrix Spike Duplicate, (2406095-21)**						
	As	ND	56.12	48.19	µg/L	86% 75-125	5% 20
	Cd	ND	5.612	5.229	µg/L	93% 75-125	8% 20
	Cr	ND	56.12	51.14	µg/L	91% 75-125	3% 20
	Cu	ND	56.12	49.05	µg/L	87% 75-125	4% 20
	Ni	ND	56.12	47.44	µg/L	85% 75-125	4% 20
	Pb	ND	5.612	5.263	µg/L	94% 75-125	2% 20
	Zn	367.7	56.12	394.0	µg/L	NR 75-125	N/C 20

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Accuracy & Precision Summary

Batch: B241371
Lab Matrix: Water
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B241371-BS1	**Blank Spike, (2335028)**						
	Cr(VI)		2.000	2.151	µg/L	108% 75-125	
B241371-DUP1	**Duplicate, (2406095-16)**						
	Cr(VI)	0.265		0.243	µg/L		9% 25
B241371-MS1	**Matrix Spike, (2406095-16)**						
	Cr(VI)	0.265	25.25	25.49	µg/L	100% 75-125	
B241371-MSD1	**Matrix Spike Duplicate, (2406095-16)**						
	Cr(VI)	0.265	25.25	22.85	µg/L	89% 75-125	11% 25

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Method Blanks & Reporting Limits

Batch: B241354
Matrix: Water
Method: EPA 1631 E
Analyte: Hg

Sample	Result	Units
B241354-BLK1	0.26	ng/L
B241354-BLK2	0.27	ng/L
B241354-BLK3	0.27	ng/L
B241354-BLK4	0.27	ng/L

Average: 0.27 **Standard Deviation:** 0.01 **MDL:** 0.13
Limit: 0.50 **Limit:** 0.13 **MRL:** 0.40

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Method Blanks & Reporting Limits

Batch: B241359
Matrix: Water
Method: EPA 1638 Mod
Analyte: As

Sample	Result	Units
B241359-BLK1	0.010	µg/L
B241359-BLK2	0.008	µg/L
B241359-BLK3	0.006	µg/L
B241359-BLK4	0.005	µg/L

Average: 0.007
Limit: 0.072
MDL: 0.022
MRL: 0.072

Analyte: Cd

Sample	Result	Units
B241359-BLK1	0.0002	µg/L
B241359-BLK2	0.0002	µg/L
B241359-BLK3	-0.00003	µg/L
B241359-BLK4	-0.00004	µg/L

Average: 0.000
Limit: 0.018
MDL: 0.006
MRL: 0.018

Analyte: Cr

Sample	Result	Units
B241359-BLK1	0.006	µg/L
B241359-BLK2	0.014	µg/L
B241359-BLK3	0.017	µg/L
B241359-BLK4	0.011	µg/L

Average: 0.012
Limit: 0.600
MDL: 0.170
MRL: 0.600

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Method Blanks & Reporting Limits

Analyte: Cu

Sample	Result	Units
B241359-BLK1	0.013	µg/L
B241359-BLK2	0.012	µg/L
B241359-BLK3	0.014	µg/L
B241359-BLK4	0.016	µg/L
Average:	0.014	
Limit:	0.180	

MDL: 0.090
MRL: 0.180

Analyte: Ni

Sample	Result	Units
B241359-BLK1	0.007	µg/L
B241359-BLK2	0.006	µg/L
B241359-BLK3	0.006	µg/L
B241359-BLK4	0.002	µg/L
Average:	0.005	
Limit:	0.360	

MDL: 0.120
MRL: 0.360

Analyte: Pb

Sample	Result	Units
B241359-BLK1	0.0008	µg/L
B241359-BLK2	0.0001	µg/L
B241359-BLK3	0.0008	µg/L
B241359-BLK4	0.002	µg/L
Average:	0.001	
Limit:	0.018	

MDL: 0.009
MRL: 0.018

Analyte: Zn

Sample	Result	Units
B241359-BLK1	0.010	µg/L
B241359-BLK2	-0.021	µg/L
B241359-BLK3	0.008	µg/L
B241359-BLK4	0.021	µg/L
Average:	0.005	
Limit:	2.400	

MDL: 1.20
MRL: 2.40

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Method Blanks & Reporting Limits

Batch: B241371
Matrix: Water
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B241371-BLK1	0.00	µg/L
B241371-BLK2	0.00	µg/L
B241371-BLK3	0.00	µg/L
B241371-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.010

MDL: 0.005
MRL: 0.010

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Sample Containers

Lab ID: 2406095-01 **Report Matrix:** Water **Collected:** 06/05/2024
Sample: MW2-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	Unknown	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-02 **Report Matrix:** Water **Collected:** 06/05/2024
Sample: MW2-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	Unknown	None	N/A	N/A	Cooler - 2406095
C	Bottle HDPE Cr-Sp	60 mL	23-0045	0.6 mL NH4OH/ (NH4)2SO4 (PP)	2343039	N/A	Cooler - 2406095

Lab ID: 2406095-03 **Report Matrix:** Water **Collected:** 06/05/2024
Sample: MW8-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	23-0120	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-04 **Report Matrix:** Water **Collected:** 06/05/2024
Sample: MW8-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	22-0026	None	N/A	N/A	Cooler - 2406095

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Sample Containers

Lab ID: 2406095-05 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: DUP01-0624 **Sample Type:** Field Duplicate **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	Unknown	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-06 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: DUP01-0624 **Sample Type:** Field Duplicate **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	23-0120	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-07 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: MW7-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	22-0026	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-08 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: MW7-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	23-0120	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-09 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: SEEP-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2406095-10 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: SEEP-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
C	Bottle HDPE Cr-Sp	60 mL	23-0045	0.6 mL NH4OH/ (NH4)2SO4 (PP)	2343039	N/A	Cooler - 2406095

Lab ID: 2406095-11 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: DW-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095

Lab ID: 2406095-12 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: DW-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
C	Bottle HDPE Cr-Sp	60 mL	23-0045	0.6 mL NH4OH/ (NH4)2SO4 (PP)	2343039	N/A	Cooler - 2406095

Lab ID: 2406095-13 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: PDI-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	23-0120	None	N/A	N/A	Cooler - 2406095

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Sample Containers

Lab ID: 2406095-14 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: PDI-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	23-0120	None	N/A	N/A	Cooler - 2406095
C	Bottle HDPE Cr-Sp	60 mL	23-0045	0.6 mL NH4OH/ (NH4)2SO4 (PP)	2343039	N/A	Cooler - 2406095

Lab ID: 2406095-15 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: MW1-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	Unknown	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-16 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: MW1-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	Unknown	None	N/A	N/A	Cooler - 2406095
C	Bottle HDPE Cr-Sp	60 mL	23-0045	0.6 mL NH4OH/ (NH4)2SO4 (PP)	2343039	N/A	Cooler - 2406095

Lab ID: 2406095-17 **Report Matrix:** Water **Collected:** 06/06/2024
Sample: MW5-0624 **Sample Type:** Sample **Received:** 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	22-0026	None	N/A	N/A	Cooler - 2406095

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2406095-18
Sample: MW5-0624
Report Matrix: Water
Sample Type: Sample
Collected: 06/06/2024
Received: 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	Unknown	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-19
Sample: MW9-0624
Report Matrix: Water
Sample Type: Sample
Collected: 06/07/2024
Received: 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	23-0112	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-20
Sample: MW9-0624
Report Matrix: Water
Sample Type: Sample
Collected: 06/07/2024
Received: 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	23-0112	None	N/A	N/A	Cooler - 2406095

Lab ID: 2406095-21
Sample: MW4-0624
Report Matrix: Water
Sample Type: Sample
Collected: 06/07/2024
Received: 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	23-0039	None	N/A	N/A	Cooler - 2406095

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2406095-22
Sample: MW4-0624

Report Matrix: Water
Sample Type: Sample

Collected: 06/07/2024
Received: 06/07/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	22T-0033	1% HNO3 (BAL)	2413035	<2	Cooler - 2406095
B	Bottle FLPE Hg	125 mL	23-0112	None	N/A	N/A	Cooler - 2406095

Shipping Containers

Cooler - 2406095

Received: June 7, 2024 13:43
Tracking No: n/a via Customer Drop-Off
Coolant Type: Ice
Temperature: 2.6 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: R-IR-3

Custody seals present? No
Custody seals intact? No
COC present? Yes

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only — BAL Report 2406095
Received by: GRL Date: 6/7/24
Work Order ID: Time: 13:43
Project ID:

Client: CRETE Consulting PO Number: DAWN Mailing Address:
Contact: Rusty Jones Phone: 832.330.1359
Client Project ID: Bridge Point Seattle 130 Email: rusty.jones@creteconsulting.com Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones R. Jones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl / HNO_3 / Other	BAL Analyses Required: Total Hg, EPA 1631	Dissolved Methyl Hg, EPA 1630/1631	ICP-MS Metals (specify) Total 1638 Mod	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) 1638 Mod. Dissolved Metals	Other (specify) Hexavalent Cr	Comments: Specify Here
1	MW2-0624	6.05.2024	1123	WATER	5	Y+N		X	X	X				X	X	Hex Cr field-filtered 1638 Metals List: As, Cd, Cr, Cu, Ni, Pb, Zn Dissolved samples are field-filtered Conductivities below 16004 µS/cm
2	MW8-0624	↓ ↓	1211	↓	4	Y+N		X	X	X				X		485.3 µS/cm
3	DUP01-0624	6.06.2024	0001		4	Y+N		X	X	X				X		
4	MW7-0624		0935		4	Y+N		X	X	X				X		107.8 µS/cm
5	SEEP-0624		1030		3	Y+N				X				X	X	Zn + Cr(VI) only
6	DW-0624		1035		3	Y+N									X	HOLD T/D Metals (1638)
7	PD1-0624		1051		5	Y+N				X				X	X	T/D Zn, Cr(VI) only (633 also)
8	MW1-0624		1130		5	Y+N		X	X	X				X	X	7480 µS/cm
9	MW5-0624	↓	1227	↓	4	Y+N		X	X	X				X		1074 µS/cm
10																
	Trip Blank															

Relinquished By: R. Jones	Date: 6/7/2024	Time: 1340	Relinquished By:	Date:	Time:
Received By:	Date:	Time:	Total Number of Packages:		

Page 1 of 2 List Hazardous Contaminants:

Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

BAL Report 2406095

For BAL use only
Received by: ERL Date: 6/7/24
Work Order ID: Time: 13:40
Project ID:

Client: CRETE Consulting
Contact: Rusty Jones
Client Project ID: Bridge Point Seattle 130
Samples Collected By: Rusty Jones R. Jones

PO Number: DAWN
Phone: 832.330.1359
Email: rusty.jones@creteconsulting.com

Mailing Address:
Email Receipt Confirmation? (Yes/No)
BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO3/Other	BAL Analyses Required: Total Hg, EPA 1631	Dissolved Methyl Hg, EPA 1630 / 1631	ICP-MS Metals (specify) TOTAL METALS	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) 1638 Mod. Total Metals	Other (specify) 1638 Mod. Dissolved Metals	Comments
1	MW9-0624	6/7/2024	0920	WATER	4	Y+N		X	X					X	X	1638 Metals list on Page 1.* Dissolved samples are field filtered. Conductivities below: Specify Here
2	MW4-0624	↓	1140	↓	4	Y+N		X	X					X	X	761 uS/cm
3	~~MW6-0624~~	↓	1234	WATER												459 uS/cm RJ
4																
5																
6																
7																
8																
9																
10																
	Trip Blank															

Relinquished By: R. Jones	Date: 6/7/2024	Time: 1340	Relinquished By:	Date:	Time:
Received By:	Date:	Time:	Total Number of Packages:		

Page 2 of 2 List Hazardous Contaminants:

samples@brooksapplied.com | brooksapplied.com

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

May 6, 2024

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

Dear Mr Jones:

Included are the results from the testing of material submitted on April 26, 2024 from the Bridge Point Seattle 130 Dawn, F&BI 404446 project. There are 7 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: Grant Hainsworth, Jamie Stevens
CTC0506R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 26, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 Dawn, F&BI 404446 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
404446 -01	MW1-0424
404446 -02	MW7-0424
404446 -03	DUP-0424

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW1-0424	Client:	Crete Consulting
Date Received:	04/26/24	Project:	Bridge Point Seattle 130 Dawn
Date Extracted:	05/01/24	Lab ID:	404446-01
Date Analyzed:	05/01/24	Data File:	050113.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	97	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW7-0424	Client:	Crete Consulting
Date Received:	04/26/24	Project:	Bridge Point Seattle 130 Dawn
Date Extracted:	05/01/24	Lab ID:	404446-02
Date Analyzed:	05/01/24	Data File:	050114.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	78	126
Toluene-d8	102	84	115
4-Bromofluorobenzene	95	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP-0424	Client:	Crete Consulting
Date Received:	04/26/24	Project:	Bridge Point Seattle 130 Dawn
Date Extracted:	05/01/24	Lab ID:	404446-03
Date Analyzed:	05/01/24	Data File:	050115.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	102	84	115
4-Bromofluorobenzene	99	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 Dawn
Date Extracted:	05/01/24	Lab ID:	04-0988 mb
Date Analyzed:	05/01/24	Data File:	050109.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	95	72	130

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

Date of Report: 05/06/24
Date Received: 04/26/24
Project: Bridge Point Seattle 130 Dawn, F&BI 404446

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

Laboratory Code: 404487-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	116	50-150
Chloroethane	ug/L (ppb)	10	<1	106	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	102	50-150
Methylene chloride	ug/L (ppb)	10	<5	99	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	104	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	109	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	112	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	110	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	114	50-150

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)	10	106	113	64-142	6
Chloroethane	ug/L (ppb)	10	98	105	70-130	7
1,1-Dichloroethene	ug/L (ppb)	10	94	101	64-140	7
Methylene chloride	ug/L (ppb)	10	93	101	43-134	8
trans-1,2-Dichloroethene	ug/L (ppb)	10	95	102	70-130	7
1,1-Dichloroethane	ug/L (ppb)	10	97	104	70-130	7
cis-1,2-Dichloroethene	ug/L (ppb)	10	95	102	70-130	7
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	101	108	70-130	7
1,1,1-Trichloroethane	ug/L (ppb)	10	102	110	70-130	8
Trichloroethene	ug/L (ppb)	10	100	107	70-130	7
Tetrachloroethene	ug/L (ppb)	10	105	112	70-130	6

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

404446

SAMPLE CHAIN OF CUSTODY

04/26/24 VW2

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting Inc

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME Bridge Point Seattle 130 per RJ 04/30/24 ME

PO # DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs				Notes
MW1-0424	01 A-C	4/26/2024	1346	WATER	3								X				
MW7-0424	02	↓	1449	↓	3								X				
DUP-0424	03	↓	0001	↓	3								X				
							Samples received at 4 °C										

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	4/26/2024	1534
Received by:	VINH	FBI	4-26-24	1534
Relinquished by:				
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 404446 CLIENT CTC INITIALS/ DATE: AP 04/26/24

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

Cooler/Sample temperature 5 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

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

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

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

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

Is the following information provided on the COC* ? (explain "no" answer below)

Sample ID's	☒ Yes	☐ No	# of Containers	☒ Yes	☐ No
Date Sampled	☒ Yes	☐ No	Relinquished	☒ Yes	☐ No
Time Sampled	☒ Yes	☐ No	Requested analysis	☒ Yes	☐ No

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

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

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

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

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

If Yes:
Number of unused TO15 canisters _____ **Number of unused TO17 tubes** _____

Explain "no" items from above (use the back if needed)

Specialty Analytical

9011 SE Jannsen Rd
Clackamas, OR 97015
TEL: (503) 607-1331
Website: www.specialtyanalytical.com

April 02, 2024

Rusty Jones
Crete Consulting
16300 Christensen Rd, Suite 214
Tukwila, WA 98188
TEL: (832) 330-1359
FAX:

RE: Bridge Pointe Seattle 130 Order No.: 2403035

Dear Rusty Jones:

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Marty French
Lab Director

CLIENT: Crete Consulting
Project: Bridge Pointe Seattle 130

Lab ID: 2403035-001 **Matrix:** SOIL
Client Sample ID R1-SB-08 5-10' **Collection Date:** 2/29/2024 11:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM IN SOIL BY IC				**7199**		Analyst: **MB**
Chromium, Hexavalent	648	200		µg/Kg	1	3/20/2024 3:33:44 PM

Lab ID: 2403035-003 **Matrix:** WATER
Client Sample ID R1-SB-08 **Collection Date:** 2/29/2024 12:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				**218.6**		Analyst: **MB**
Chromium, Hexavalent	ND	0.500		µg/L	1	3/27/2024 10:33:55 AM

Lab ID: 2403035-005 **Matrix:** SOIL
Client Sample ID R1-SB-07 10-15' **Collection Date:** 2/29/2024 1:40:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM IN SOIL BY IC				**7199**		Analyst: **MB**
Chromium, Hexavalent	688	200		µg/Kg	1	3/20/2024 4:27:44 PM
ICP/MS METALS-TOTAL RECOVERABLE				**SW 6020B**	**SW3050B**	Analyst: **AC**
Chromium	19800	971		µg/Kg	10	4/2/2024 1:44:08 PM

Lab ID: 2403035-006 **Matrix:** WATER
Client Sample ID R1-SB-07 **Collection Date:** 2/29/2024 2:02:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				**218.6**		Analyst: **MB**
Chromium, Hexavalent	ND	0.500		µg/L	1	3/27/2024 10:33:55 AM

Specialty Analytical
9011 SE Jannsen Ra
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Accreditation Program Analytes Report

WO#: **2403035**

02-Apr-24

Client: Crete Consulting

Project: Bridge Pointe Seattle 130

Program Name	Sample ID	ClientSampleID	Matrix	Test Name	Analyte	Status
ORELAP	2403035-001A	R1-SB-08 5-10'	Soil	HEXAVALENT CHROMIUM in Soil by IC	Chromium, Hexavalent	A
	2403035-003A	R1-SB-08	Aqueous	HEXAVALENT CHROMIUM	Chromium, Hexavalent	A
	2403035-005A	R1-SB-07 10-15'	Soil	HEXAVALENT CHROMIUM in Soil by IC	Chromium, Hexavalent	A
			Solid	ICP/MS METALS-TOTAL RECOVERABLE	Chromium	A
			Soil		Chromium	A
	2403035-006A	R1-SB-07	Aqueous	HEXAVALENT CHROMIUM	Chromium, Hexavalent	A

ORELAP A Accredited A

ACCRED

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **ICV** SampType: **ICV** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**

Client ID: **ICV** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/25/2024** SeqNo: **688886**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4700	100	5000	0	94.0	90	110				
Cadmium	4820	10.0	5000	0	96.4	90	110				
Chromium	4840	100	5000	0	96.8	90	110				
Lead	4780	25.0	5000	0	95.6	90	110				
Selenium	4880	100	5000	0	97.7	90	110				
Silver	5150	10.0	5000	0	103	90	110				B

Sample ID: **CCB** SampType: **CCB** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**

Client ID: **CCB** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/25/2024** SeqNo: **688889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	100									
Cadmium	ND	10.0									
Chromium	ND	100									
Lead	ND	25.0									
Selenium	ND	100									
Silver	ND	10.0									

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **CCV**	SampType: **CCV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/25/2024**	SeqNo: **688893**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4830	100	5000	0	96.6	90	110				
Cadmium	4830	10.0	5000	0	96.7	90	110				
Chromium	5100	100	5000	0	102	90	110				
Lead	4720	25.0	5000	0	94.4	90	110				
Selenium	4900	100	5000	0	97.9	90	110				
Silver	5000	10.0	5000	0	100	90	110				B

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/25/2024**	SeqNo: **688894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	100									
Cadmium	ND	10.0									
Chromium	ND	100									
Lead	ND	25.0									
Selenium	ND	100									
Silver	ND	10.0									

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **MB-23278**	SampType: **MBLK**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date: **3/25/2024**	RunNo: **53299**
Client ID: **PBS**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/25/2024**	SeqNo: **688897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	50.0									
Chromium	ND	100									
Lead	ND	25.0									
Selenium	ND	100									
Silver	14.1	10.0									

Sample ID: **LCS-23278**	SampType: **LCS**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date: **3/25/2024**	RunNo: **53299**
Client ID: **LCSS**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/25/2024**	SeqNo: **688898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	4410	100	5000	0	88.3	80	120				
Lead	4600	250	5000	0	92.0	80	120				
Selenium	4140	1000	5000	0	82.9	79.5	119				
Silver	5000	100	5000	0	100	70	130				

Sample ID: **LCSD-23278**	SampType: **LCSD**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date: **3/25/2024**	RunNo: **53299**
Client ID: **LCSS02**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/25/2024**	SeqNo: **688899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	4450	100	5000	0	89.0	80	120	4413	0.853	20	

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **LCSD-23278** SampType: **LCSD** TestCode: **6020_S** Units: **µg/Kg** Prep Date: **3/25/2024** RunNo: **53299**

Client ID: **LCSS02** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/25/2024** SeqNo: **688899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4800	250	5000	0	96.1	80	120	4598	4.35	20	
Selenium	4390	1000	5000	0	87.8	80	120	4144	5.79	20	
Silver	5100	100	5000	0	102	80	120	5003	1.99	20	

Sample ID: **CCV** SampType: **CCV** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**

Client ID: **CCV** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/25/2024** SeqNo: **688901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4480	100	5000	0	89.6	90	110				S
Cadmium	4740	10.0	5000	0	94.8	90	110				
Chromium	5450	100	5000	0	109	90	110				
Lead	4570	25.0	5000	0	91.5	90	110				
Selenium	4680	100	5000	0	93.5	90	110				
Silver	4920	10.0	5000	0	98.3	90	110				B

Sample ID: **CCB** SampType: **CCB** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**

Client ID: **CCB** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/25/2024** SeqNo: **688902**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	100									

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**
4/2/2024

Client: Crete Consulting
Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **CCB** SampType: **CCB** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**
Client ID: **CCB** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/25/2024** SeqNo: **688902**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	10.0									
Chromium	ND	100									
Lead	ND	25.0									
Selenium	ND	100									
Silver	ND	10.0									

Sample ID: **ICV** SampType: **ICV** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**
Client ID: **ICV** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/27/2024** SeqNo: **689345**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4770	100	5000	0	95.3	90	110				
Barium	4640	50.0	5000	0	92.7	90	110				
Cadmium	4930	10.0	5000	0	98.6	90	110				
Chromium	4800	100	5000	0	96.1	90	110				
Lead	4760	25.0	5000	0	95.3	90	110				
Selenium	4970	100	5000	0	99.3	90	110				
Silver	4970	10.0	5000	0	99.3	90	110				B

Qualifiers:
B Analyte detected in the associated Method Blank
E Value above quantitation range
H Holding times for preparation or analysis exceeded
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **CCB** SampType: **CCB** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**

Client ID: **CCB** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/27/2024** SeqNo: **689348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	100									
Barium	ND	50.0									
Cadmium	ND	10.0									
Chromium	ND	100									
Lead	ND	25.0									
Selenium	ND	100									
Silver	ND	10.0									

Sample ID: **CCV** SampType: **CCV** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**

Client ID: **CCV** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/27/2024** SeqNo: **689352**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4910	100	5000	0	98.3	90	110				
Barium	4450	50.0	5000	0	89.0	90	110				S
Cadmium	4960	10.0	5000	0	99.3	90	110				
Chromium	5050	100	5000	0	101	90	110				
Lead	4890	25.0	5000	0	97.7	90	110				
Selenium	5000	100	5000	0	100	90	110				
Silver	5010	10.0	5000	0	100	90	110				B

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **CCB** SampType: **CCB** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**

Client ID: **CCB** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/27/2024** SeqNo: **689353**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	100									
Barium	ND	50.0									
Cadmium	ND	10.0									
Chromium	ND	100									
Lead	ND	25.0									
Selenium	ND	100									
Silver	ND	10.0									

Sample ID: **CCV** SampType: **CCV** TestCode: **6020_S** Units: **µg/Kg** Prep Date: RunNo: **53299**

Client ID: **CCV** Batch ID: **23278** TestNo: **SW 6020B** **SW3050B** Analysis Date: **3/27/2024** SeqNo: **689366**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5010	100	5000	0	100	90	110				
Barium	4390	50.0	5000	0	87.8	90	110				S
Cadmium	4990	10.0	5000	0	99.7	90	110				
Chromium	5220	100	5000	0	104	90	110				
Lead	4890	25.0	5000	0	97.8	90	110				
Selenium	5070	100	5000	0	101	90	110				
Silver	5030	10.0	5000	0	101	90	110				B

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/27/2024**	SeqNo: **689367**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	100									
Barium	ND	50.0									
Cadmium	ND	10.0									
Chromium	ND	100									
Lead	ND	25.0									
Selenium	ND	100									
Silver	ND	10.0									

Sample ID: **ICV**	SampType: **ICV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **ICV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	4890	50.0	5000	0	97.7	90	110				
Chromium	4960	100	5000	0	99.3	90	110				

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	50.0									

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	100									

Sample ID: **CCV**	SampType: **CCV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690077**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	4800	50.0	5000	0	96.1	90	110				
Chromium	5060	100	5000	0	101	90	110				

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	50.0									
Chromium	ND	100									

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **MB-23278**	SampType: **MBLK**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date: **3/25/2024**	RunNo: **53299**
Client ID: **PBS**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690081**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	50.0									
Chromium	ND	100									

Sample ID: **LCS-23278**	SampType: **LCS**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date: **3/25/2024**	RunNo: **53299**
Client ID: **LCSS**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	5510	500	5000	0	110	80	120				

Sample ID: **LCSD-23278**	SampType: **LCSD**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date: **3/25/2024**	RunNo: **53299**
Client ID: **LCSS02**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690083**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	5380	500	5000	0	108	80	120	5514	2.50	20	

Sample ID: **CCV**	SampType: **CCV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690086**

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

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **CCV**	SampType: **CCV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690086**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	4630	50.0	5000	0	92.7	90	110				
Chromium	5380	100	5000	0	108	90	110				

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **3/29/2024**	SeqNo: **690087**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	50.0									
Chromium	ND	100									

Sample ID: **ICV**	SampType: **ICV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **ICV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **4/2/2024**	SeqNo: **690618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	4920	100	5000	0	98.5	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **4/2/2024**	SeqNo: **690621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	100									

Sample ID: **CCV**	SampType: **CCV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **4/2/2024**	SeqNo: **690625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	4850	100	5000	0	97.0	90	110				

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **4/2/2024**	SeqNo: **690626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	100									

Sample ID: **CCV**	SampType: **CCV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **4/2/2024**	SeqNo: **690627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	4690	100	5000	0	93.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **6020_S**

Sample ID: **CCV**	SampType: **CCV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **4/2/2024**	SeqNo: **690627**

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

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **4/2/2024**	SeqNo: **690628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	100									

Sample ID: **CCV**	SampType: **CCV**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCV**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **4/2/2024**	SeqNo: **690630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	4880	100	5000	0	97.5	90	110				

Sample ID: **CCB**	SampType: **CCB**	TestCode: **6020_S**	Units: **µg/Kg**	Prep Date:	RunNo: **53299**
Client ID: **CCB**	Batch ID: **23278**	TestNo: **SW 6020B**	**SW3050B**	Analysis Date: **4/2/2024**	SeqNo: **690631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	100									

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **CR6_IC**

Sample ID: **CCV-1** SampType: **CCV** TestCode: **CR6_IC** Units: **µg/L** Prep Date: RunNo: **53352**

Client ID: **CCV** Batch ID: **R53352** TestNo: **218.6** Analysis Date: **3/27/2024** SeqNo: **689549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	18.1	0.500	20.00	0	90.4	90	110				

Sample ID: **MB-R53352** SampType: **MBLK** TestCode: **CR6_IC** Units: **µg/L** Prep Date: RunNo: **53352**

Client ID: **PBW** Batch ID: **R53352** TestNo: **218.6** Analysis Date: **3/27/2024** SeqNo: **689550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-R53352** SampType: **LCS** TestCode: **CR6_IC** Units: **µg/L** Prep Date: RunNo: **53352**

Client ID: **LCSW** Batch ID: **R53352** TestNo: **218.6** Analysis Date: **3/27/2024** SeqNo: **689551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	8.63	0.500	10.00	0	86.3	80	120				

Sample ID: **LCSD-R53352** SampType: **LCSD** TestCode: **CR6_IC** Units: **µg/L** Prep Date: RunNo: **53352**

Client ID: **LCSS02** Batch ID: **R53352** TestNo: **218.6** Analysis Date: **3/27/2024** SeqNo: **689552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	8.28	0.500	10.00	0	82.8	80	120	8.630	4.14	20	

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **CR6_IC**

Sample ID: **LCSD-R53352**	SampType: **LCSD**	TestCode: **CR6_IC**	Units: **µg/L**	Prep Date:	RunNo: **53352**
Client ID: **LCSS02**	Batch ID: **R53352**	TestNo: **218.6**		Analysis Date: **3/27/2024**	SeqNo: **689552**

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

Sample ID: **2403035-003ADUP**	SampType: **DUP**	TestCode: **CR6_IC**	Units: **µg/L**	Prep Date:	RunNo: **53352**
Client ID: **R1-SB-08**	Batch ID: **R53352**	TestNo: **218.6**		Analysis Date: **3/27/2024**	SeqNo: **689554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500						0	0	20	

Sample ID: **2403035-003AMS**	SampType: **MS**	TestCode: **CR6_IC**	Units: **µg/L**	Prep Date:	RunNo: **53352**
Client ID: **R1-SB-08**	Batch ID: **R53352**	TestNo: **218.6**		Analysis Date: **3/27/2024**	SeqNo: **689555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	9.00	0.500	10.00	0.3500	86.5	75	125				

Sample ID: **2403035-003AMSD**	SampType: **MSD**	TestCode: **CR6_IC**	Units: **µg/L**	Prep Date:	RunNo: **53352**
Client ID: **R1-SB-08**	Batch ID: **R53352**	TestNo: **218.6**		Analysis Date: **3/27/2024**	SeqNo: **689556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	8.56	0.500	10.00	0.3500	82.1	75	125	9.000	5.01	20	

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **CR6_IC**

Sample ID: **CCV-2**	SampType: **CCV**	TestCode: **CR6_IC**	Units: **µg/L**	Prep Date:	RunNo: **53352**
Client ID: **CCV**	Batch ID: **R53352**	TestNo: **218.6**		Analysis Date: **3/27/2024**	SeqNo: **689560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	9.04	0.500	10.00	0	90.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**
4/2/2024

Client: Crete Consulting
Project: Bridge Pointe Seattle 130 **TestCode:** **Cr6_S_IC**

Sample ID: **CCV-2**	SampType: **CCV**	TestCode: **Cr6_S_IC**	Units: **µg/Kg**	Prep Date:	RunNo: **53259**
Client ID: **CCV**	Batch ID: **R53259**	TestNo: **7199**		Analysis Date: **3/20/2024**	SeqNo: **688305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	19.3	5.00	20.00	0	96.7	90	110				

Sample ID: **MB-R53259**	SampType: **MBLK**	TestCode: **Cr6_S_IC**	Units: **µg/Kg**	Prep Date:	RunNo: **53259**
Client ID: **PBS**	Batch ID: **R53259**	TestNo: **7199**		Analysis Date: **3/20/2024**	SeqNo: **688306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	200									

Sample ID: **LCS-R53259**	SampType: **LCS**	TestCode: **Cr6_S_IC**	Units: **µg/Kg**	Prep Date:	RunNo: **53259**
Client ID: **LCSS**	Batch ID: **R53259**	TestNo: **7199**		Analysis Date: **3/20/2024**	SeqNo: **688307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	596	200	600.0	0	99.3	80	120				

Sample ID: **2403035-001ADUP**	SampType: **DUP**	TestCode: **Cr6_S_IC**	Units: **µg/Kg**	Prep Date:	RunNo: **53259**
Client ID: **R1-SB-08 5-10'**	Batch ID: **R53259**	TestNo: **7199**		Analysis Date: **3/20/2024**	SeqNo: **688309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	748	200						647.6	14.4	20	

Qualifiers:
B Analyte detected in the associated Method Blank
E Value above quantitation range
H Holding times for preparation or analysis exceeded
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: **2403035**

4/2/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **Cr6_S_IC**

Sample ID: **2403035-001ADUP** SampType: **DUP** TestCode: **Cr6_S_IC** Units: **µg/Kg** Prep Date: RunNo: **53259**

Client ID: **R1-SB-08 5-10'** Batch ID: **R53259** TestNo: **7199** Analysis Date: **3/20/2024** SeqNo: **688309**

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

Sample ID: **2403035-001AMS** SampType: **MS** TestCode: **Cr6_S_IC** Units: **µg/Kg** Prep Date: RunNo: **53259**

Client ID: **R1-SB-08 5-10'** Batch ID: **R53259** TestNo: **7199** Analysis Date: **3/20/2024** SeqNo: **688310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	1350	200	600.0	647.6	116	75	125				

Sample ID: **2403035-001AMSD** SampType: **MSD** TestCode: **Cr6_S_IC** Units: **µg/Kg** Prep Date: RunNo: **53259**

Client ID: **R1-SB-08 5-10'** Batch ID: **R53259** TestNo: **7199** Analysis Date: **3/20/2024** SeqNo: **688311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	1270	200	600.0	647.6	105	75	125	1346	5.40	20	

Sample ID: **CCV-3** SampType: **CCV** TestCode: **Cr6_S_IC** Units: **µg/Kg** Prep Date: RunNo: **53259**

Client ID: **CCV** Batch ID: **R53259** TestNo: **7199** Analysis Date: **3/20/2024** SeqNo: **688313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	19.4	5.00	20.00	0	97.0	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

Specialty Analytical
9011 SE Jannsen Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Sample Receipt Checklist

Client Name CRETE Work Order Number 2403035

RcptNo: 1 Date and Time Receive 3/5/2024 10:58:22 AM Received by: Mandy Wehe

Completed by Reviewed by:

Completed Date: 3/5/2024 Reviewed Date: 3/6/2024 1:23:46 PM

Carrier name: FedEx

Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐	Not Present	☐
Are matrices correctly identified on Chain of custody?	Yes ☑	No ☐		
Is it clear what analyses were requested?	Yes ☑	No ☐		
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present	☑
Samples in proper container/bottle?	Yes ☑	No ☐		
Were correct preservatives used and noted?	Yes ☑	No ☐	NA	☐
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
Were container lables complete (ID, Pres, Date)?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Was an attempt made to cool the samples?	Yes ☑	No ☐	NA	☐
All samples received at a temp. of > 0° C to 6.0° C?	Yes ☑	No ☐	NA	☐
Response when temperature is outside of range:				
Preservative added to bottles:				
Sample Temp. taken and recorded upon receipt?	Yes ☑	No ☐	To	0.9 ºC
Water - Were bubbles absent in VOC vials?	Yes ☐	No ☐	No Vials	☑
Water - Was there Chlorine Present?	Yes ☐	No ☐	NA	☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA	☐
Are Samples considered acceptable?	Yes ☑	No ☐		
Custody Seals present?	Yes ☑	No ☐		
Traffic Report or Packing Lists present?	Yes ☐	No ☑		
Airbill or Sticker?	Air Bill ☐	Sticker ☐	Not Present	☑
Airbill No:				
Sample Tags Present?	Yes ☐	No ☑		
Sample Tags Listed on COC?	Yes ☐	No ☑		
Tag Numbers:				
Sample Condition?	Intact ☑	Broken ☐	Leaking	☐

Case Number: SDG: SAS:

Cooler Information

Assets Information

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section be

Specialty Analytical
9011 SE Jannsen Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Sample Receipt Checklist

Client Name CRETE Work Order Number 2403035

Client Contacted? ☐ Yes ☑ No ☐ NA Person Contacted: Comments:

Contact Mode: ☐ Phone: ☐ Fax: ☐ Email: ☐ In Person:

Client Instructions:

Date Contacted: Contacted By:

Regarding:

CorrectiveAction:

Sample Details

SampID	ClientSampID	ContainerID	Type	Org pH	Temp.	RcptNo	Cooler No	Comments
2403035-001A	R1-SB-08 5-10'	Container-01 of 01	Bottle					
2403035-003A	R1-SB-08	Container-01 of 01	Bottle					
2403035-005A	R1-SB-07 10-15'	Container-01 of 01	Bottle					
2403035-006A	R1-SB-07	Container-01 of 01	Bottle					

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Chain of Custody Record

Specialty Analytical
9011 SE Jannsen Rd
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Date: Page: 1 of: 1
Laboratory Project No (internal): 2403035
Project Name: Bridge Pointe Seattle 130
Temperature on Receipt: 0.9 °C
Project No: PO No:
Cooling: Ice Shipped Via: Fedex
Collected by: Rusty Jones
Custody Seal: Y / N Intact / Broken Cooler / Bottle
State Collected: OR WA OTHER
MDL TIER IV EDD
Report To (PM): Rusty Jones
Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 60 days)

Client: Crete Consulting
Address: 16300 Christensen Rd, Ste 214
City, State, Zip: Tukwila WA 98188
Telephone: 832.330.1359
AP Email: rusty.jones@cretecorsulting.com
PM Email:

	Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests Cr (VI)	Comments
1	RI-SB-08 5-10'	2/29/2024	1135	SOIL	1	X	
2	RI-SB-08 10.6-12.5'		1145	SOIL	1		HOLD
3	RI-SB-08		1208	WATER	1		HOLD PENDING SOIL RESULTS
4	RI-SB-07 5-6'		1330	SOIL	1		HOLD
5	RI-SB-07 10-15'		1340	SOIL	1	X	
6	RI-SB-07	↓	1402	WATER	1		HOLD PENDING SOIL RESULTS
7							
8							
9							
10							

*Matrix: A = Air, AQ = Aqueous, L=Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard : X 3 Day: _____ 2 Day: _____ Next Day: _____ Same Day: _____
Expedited turn-around requests should be coordinated in advance

Relinquished	Date/Time	Received	Date/Time
x [signature]	3/4/2024 1245	x [signature]	3/5/24 1057
x		x	
x		x	

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Website: www.specialtyanalytical.com

Definition Only

WO#: **2403035**
Date: **4/2/2024**

Definitions:

KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

BC: Sample concentration is >10x positive result in blank. Data is considered acceptable.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

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Definition Only

WO#: **2403035**
Date: **4/2/2024**

Definitions:

J: The results for this analyte is between the MDL and the PQL and should be considered an estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

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Definition Only

WO#: **2403035**
Date: **4/2/2024**

Definitions:

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

SV: CCV exceded low recovery control limits. ND as reported evaluated using EPA method 8260D section 11.4.3.2

TA: Sample treated with ascorbic acid for the removal of thiocyanates.

TS: Sample treated with Sodium Sulfite for the removal of chlorine.

Specialty Analytical

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Website: www.specialtyanalytical.com

May 07, 2024

Rusty Jones
Crete Consulting
16300 Christensen Rd, Suite 214
Tukwila, WA 98188
TEL: (832) 330-1359
FAX:

RE: Bridge Pointe Seattle 130 Order No.: 2404347

Dear Rusty Jones:

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Marty French
Lab Director

CLIENT: Crete Consulting
Project: Bridge Pointe Seattle 130

Lab ID: 2404347-001 **Matrix:** WATER
Client Sample ID MW2-0424 **Collection Date:** 4/24/2024 2:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				**218.6**		Analyst: **MB**
Chromium, Hexavalent	1.51	0.500		µg/L	1	5/3/2024 2:41:48 PM

Lab ID: 2404347-002 **Matrix:** WATER
Client Sample ID MW1-0424 **Collection Date:** 4/26/2024 1:46:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				**218.6**		Analyst: **MB**
Chromium, Hexavalent	1.49	0.500		µg/L	1	5/3/2024 2:56:48 PM

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Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Accreditation Program Analytes Report

WO#: **2404347**

07-May-24

Client: Crete Consulting

Project: Bridge Pointe Seattle 130

Program Name	Sample ID	ClientSampleID	Matrix	Test Name	Analyte	Status
ORELAP	2404347-001A	MW2-0424	Aqueous	HEXAVALENT CHROMIUM	Chromium, Hexavalent	A
	2404347-002A	MW1-0424			Chromium, Hexavalent	A

ORELAP A Accredited A

ACCRED

QC SUMMARY REPORT

Specialty Analytical

WO#: **2404347**

5/7/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **CR6_IC**

Sample ID: **CCV-1**	SampType: **CCV**	TestCode: **CR6_IC**	Units: **µg/L**	Prep Date:	RunNo: **53918**
Client ID: **CCV**	Batch ID: **R53918**	TestNo: **218.6**		Analysis Date: **5/3/2024**	SeqNo: **697634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	18.0	0.500	20.00	0	90.2	90	110				

Sample ID: **MB-R53918**	SampType: **MBLK**	TestCode: **CR6_IC**	Units: **µg/L**	Prep Date:	RunNo: **53918**
Client ID: **PBW**	Batch ID: **R53918**	TestNo: **218.6**		Analysis Date: **5/3/2024**	SeqNo: **697635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-R53918**	SampType: **LCS**	TestCode: **CR6_IC**	Units: **µg/L**	Prep Date:	RunNo: **53918**
Client ID: **LCSW**	Batch ID: **R53918**	TestNo: **218.6**		Analysis Date: **5/3/2024**	SeqNo: **697636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	17.5	0.500	20.00	0	87.7	80	120				

Sample ID: **2404295-001DDUP**	SampType: **DUP**	TestCode: **CR6_IC**	Units: **µg/L**	Prep Date:	RunNo: **53918**
Client ID: **BatchQC**	Batch ID: **R53918**	TestNo: **218.6**		Analysis Date: **5/3/2024**	SeqNo: **697638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	1.10	0.500						1.110	0.905	20	

Qualifiers: H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: **2404347**

5/7/2024

Client: Crete Consulting

Project: Bridge Pointe Seattle 130 **TestCode:** **CR6_IC**

Sample ID: **2404295-001DDUP** SampType: **DUP** TestCode: **CR6_IC** Units: **µg/L** Prep Date: RunNo: **53918**

Client ID: **BatchQC** Batch ID: **R53918** TestNo: **218.6** Analysis Date: **5/3/2024** SeqNo: **697638**

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

Sample ID: **2404295-001DMS** SampType: **MS** TestCode: **CR6_IC** Units: **µg/L** Prep Date: RunNo: **53918**

Client ID: **BatchQC** Batch ID: **R53918** TestNo: **218.6** Analysis Date: **5/3/2024** SeqNo: **697639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	18.5	0.500	20.00	1.110	87.2	75	125				

Sample ID: **2404295-001DMSD** SampType: **MSD** TestCode: **CR6_IC** Units: **µg/L** Prep Date: RunNo: **53918**

Client ID: **BatchQC** Batch ID: **R53918** TestNo: **218.6** Analysis Date: **5/3/2024** SeqNo: **697640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	18.6	0.500	20.00	1.110	87.4	75	125	18.54	0.269	20	

Sample ID: **CCV-2** SampType: **CCV** TestCode: **CR6_IC** Units: **µg/L** Prep Date: RunNo: **53918**

Client ID: **CCV** Batch ID: **R53918** TestNo: **218.6** Analysis Date: **5/3/2024** SeqNo: **697643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	18.0	0.500	20.00	0	90.2	90	110				

Qualifiers: H Holding times for preparation or analysis exceeded

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Sample Receipt Checklist

Client Name CRETE Work Order Number 2404347

RcptNo: 1 Date and Time Receive 4/30/2024 3:24:53 PM Received by: Julie Clay

Completed by Reviewed by:

Completed Date: 4/30/2024 3:26:18 PM Reviewed Date: 5/1/2024 8:48:43 AM

Carrier name: FedEx

Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐	Not Present	☐
Are matrices correctly identified on Chain of custody?	Yes ☑	No ☐		
Is it clear what analyses were requested?	Yes ☑	No ☐		
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present	☑
Samples in proper container/bottle?	Yes ☑	No ☐		
Were correct preservatives used and noted?	Yes ☑	No ☐	NA	☐
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
Were container lables complete (ID, Pres, Date)?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Was an attempt made to cool the samples?	Yes ☑	No ☐	NA	☐
All samples received at a temp. of > 0° C to 6.0° C?	Yes ☑	No ☐	NA	☐
Response when temperature is outside of range:				
Preservative added to bottles:				
Sample Temp. taken and recorded upon receipt?	Yes ☑	No ☐	To	2.9 ºC
Water - Were bubbles absent in VOC vials?	Yes ☐	No ☐	No Vials	☑
Water - Was there Chlorine Present?	Yes ☐	No ☐	NA	☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA	☐
Are Samples considered acceptable?	Yes ☑	No ☐		
Custody Seals present?	Yes ☑	No ☐		
Traffic Report or Packing Lists present?	Yes ☐	No ☑		
Airbill or Sticker?	Air Bill ☐	Sticker ☐	Not Present	☑
Airbill No:				
Sample Tags Present?	Yes ☐	No ☑		
Sample Tags Listed on COC?	Yes ☐	No ☑		
Tag Numbers:				
Sample Condition?	Intact ☑	Broken ☐	Leaking	☐

Case Number: SDG: SAS:

Cooler Information

Assets Information

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section be

Specialty Analytical
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Sample Receipt Checklist

Client Name CRETE Work Order Number 2404347

Client Contacted? ☐ Yes ☑ No ☐ NA Person Contacted: Comments:

Contact Mode: ☐ Phone: ☐ Fax: ☐ Email: ☐ In Person:

Client Instructions:

Date Contacted: Contacted By:

Regarding:

CorrectiveAction:

Sample Details

SampID	ClientSampID	ContainerID	Type	Org pH	Temp.	RcptNo	Cooler No	Comments
2404347-001A	MW2-0424	Container-01 of 01	Bottle					
2404347-002A	MW1-0424	Container-01 of 01	Bottle					

Chain of Custody Record

Specialty Analytical
9011 SE Jannsen Rd
Clackamas, OR 97015
Phone: 503-607-1331
www.specialtyanalytical.com

Date: L | Page: 1 of: 1 | Laboratory Project No (internal): 2404347

Project Name: Bridge Point Seattle 130 | Temperature on Receipt: 2.9 °C

Client: Crete | Project No: | PO No: | Cooling: Fedex | Shipped Via: FedEx

Address: | Collected by: Rusty Jones | Custody Seal: Y / N | Intact / Broken | Cooler / Bottle

City, State, Zip: | State Collected: OR / WA / OTHER | MDL | TIER IV | EDD

Telephone: | Report To (PM): Rusty Jones | Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 60 days)

Invoice Email: | PM Email(s): rusty.jones@creteconsulting.com

	Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests: Cr(VI)	Comments (Please note potential hazards)
1	MW2-0424	4.24.24	1407	WATER	1	X	
2	MW1-0424	4/24/2024	1346	↓	1	X	Date 4/26/2024
3							
4							
5							
6							
7							
8							
9							
10							

*Matrix: A = Air, AQ = Aqueous, L=Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard: X | 3 Day: | 2 Day: | Next Day: | Same Day:

Expedited turn-around requests should be coordinated in advance

Relinquished	Date/Time	Received	Date/Time
R. Jones	4/29/2024 1210	x	4/30/24 3:15p
		x	
x		x	

Specialty Analytical
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TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Definition Only

WO#: **2404347**
Date: **5/7/2024**

Definitions:

KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

BC: Sample concentration is >10x positive result in blank. Data is considered acceptable.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

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Definition Only

WO#: **2404347**
Date: **5/7/2024**

Definitions:

J: The results for this analyte is between the MDL and the PQL and should be considered an estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

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Definition Only

WO#: **2404347**
Date: **5/7/2024**

Definitions:

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

SV: CCV exceded low recovery control limits. ND as reported evaluated using EPA method 8260D section 11.4.3.2

TA: Sample treated with ascorbic acid for the removal of thiocyanates.

TS: Sample treated with Sodium Sulfite for the removal of chlorine.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

May 16, 2024

Jamie Stevens, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Ms Stevens:

Included are the results from the testing of material submitted on May 2, 2024 from the Dawn Foods, F&BI 405060 project. There are 17 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
CTC0516R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 2, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Dawn Foods, F&BI 405060 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
405060 -01	WH06-SS-0524
405060 -02	WH05-SS-0524
405060 -03	WH04-SS-0524
405060 -04	BR-SS-0524
405060 -05	OF-SS-0524

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

The concentration of several analytes in samples WH06-SS-0524, BR-SS-0524, and OF-SS-0524 exceeded the calibration range of the instrument. The data were flagged accordingly.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WH06-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-01 1/15
Date Analyzed:	05/06/24	Data File:	050621.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	80	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	1,200
APH EC9-12 aliphatics	850
APH EC9-10 aromatics	<370

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WH05-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-02 1/7.3
Date Analyzed:	05/06/24	Data File:	050619.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	108	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	620
APH EC9-12 aliphatics	<180
APH EC9-10 aromatics	<180

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	WH04-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-03 1/7.2
Date Analyzed:	05/06/24	Data File:	050620.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	80	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	760
APH EC9-12 aliphatics	<180
APH EC9-10 aromatics	<180

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BR-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-04 1/36
Date Analyzed:	05/07/24	Data File:	050623.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	3,200
APH EC9-12 aliphatics	900
APH EC9-10 aromatics	<900

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	OF-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-05 1/36
Date Analyzed:	05/06/24	Data File:	050622.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	2,800
APH EC9-12 aliphatics	1,100
APH EC9-10 aromatics	<900

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Dawn Foods, F&BI 405060
Date Collected:	Not Applicable	Lab ID:	04-1062 mb
Date Analyzed:	05/06/24	Data File:	050610.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

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

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WH06-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-01 1/15
Date Analyzed:	05/06/24	Data File:	050621.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	77	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<3.8	<1.5
Chloroethane	<40	<15
1,1-Dichloroethene	<5.9	<1.5
trans-1,2-Dichloroethene	<5.9	<1.5
1,1-Dichloroethane	<6.1	<1.5
cis-1,2-Dichloroethene	<5.9	<1.5
1,2-Dichloroethane (EDC)	<0.61	<0.15
1,1,1-Trichloroethane	<8.2	<1.5
Benzene	<4.8	<1.5
Trichloroethene	88	16
Toluene	<110	<30
1,1,2-Trichloroethane	<0.82	<0.15
Tetrachloroethene	3,100 ve	460 ve
Ethylbenzene	<6.5	<1.5
m,p-Xylene	<13	<3
o-Xylene	<6.5	<1.5
Naphthalene	<3.9	<0.75

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WH05-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-02 1/7.3
Date Analyzed:	05/06/24	Data File:	050619.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	105	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.9	<0.73
Chloroethane	<19	<7.3
1,1-Dichloroethene	<2.9	<0.73
trans-1,2-Dichloroethene	<2.9	<0.73
1,1-Dichloroethane	<3	<0.73
cis-1,2-Dichloroethene	<2.9	<0.73
1,2-Dichloroethane (EDC)	<0.3	<0.073
1,1,1-Trichloroethane	<4	<0.73
Benzene	<2.3	<0.73
Trichloroethene	3.0	0.56
Toluene	<55	<15
1,1,2-Trichloroethane	<0.4	<0.073
Tetrachloroethene	240	36
Ethylbenzene	<3.2	<0.73
m,p-Xylene	<6.3	<1.5
o-Xylene	<3.2	<0.73
Naphthalene	<1.9	<0.36

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	WH04-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-03 1/7.2
Date Analyzed:	05/06/24	Data File:	050620.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	78	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.8	<0.72
Chloroethane	<19	<7.2
1,1-Dichloroethene	<2.9	<0.72
trans-1,2-Dichloroethene	<2.9	<0.72
1,1-Dichloroethane	7.3	1.8
cis-1,2-Dichloroethene	<2.9	<0.72
1,2-Dichloroethane (EDC)	<0.29	<0.072
1,1,1-Trichloroethane	16	2.8
Benzene	<2.3	<0.72
Trichloroethene	130	25
Toluene	<54	<14
1,1,2-Trichloroethane	<0.39	<0.072
Tetrachloroethene	460	68
Ethylbenzene	<3.1	<0.72
m,p-Xylene	<6.3	<1.4
o-Xylene	<3.1	<0.72
Naphthalene	<1.9	<0.36

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BR-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-04 1/36
Date Analyzed:	05/07/24	Data File:	050623.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<9.2	<3.6
Chloroethane	<95	<36
1,1-Dichloroethene	<14	<3.6
trans-1,2-Dichloroethene	<14	<3.6
1,1-Dichloroethane	<15	<3.6
cis-1,2-Dichloroethene	82	21
1,2-Dichloroethane (EDC)	<1.5	<0.36
1,1,1-Trichloroethane	<20	<3.6
Benzene	<12	<3.6
Trichloroethene	650	120
Toluene	<270	<72
1,1,2-Trichloroethane	<2	<0.36
Tetrachloroethene	6,900 ve	1,000 ve
Ethylbenzene	11,000 ve	2,600 ve
m,p-Xylene	31,000 ve	7,200 ve
o-Xylene	9,300 ve	2,100 ve
Naphthalene	<9.4	<1.8

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	OF-SS-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods, F&BI 405060
Date Collected:	05/02/24	Lab ID:	405060-05 1/36
Date Analyzed:	05/06/24	Data File:	050622.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<9.2	<3.6
Chloroethane	<95	<36
1,1-Dichloroethene	<14	<3.6
trans-1,2-Dichloroethene	<14	<3.6
1,1-Dichloroethane	<15	<3.6
cis-1,2-Dichloroethene	68	17
1,2-Dichloroethane (EDC)	<1.5	<0.36
1,1,1-Trichloroethane	<20	<3.6
Benzene	<12	<3.6
Trichloroethene	790	150
Toluene	<270	<72
1,1,2-Trichloroethane	<2	<0.36
Tetrachloroethene	6,600 ve	980 ve
Ethylbenzene	1,800	420
m,p-Xylene	12,000 ve	2,700 ve
o-Xylene	4,200	960
Naphthalene	<9.4	<1.8

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Dawn Foods, F&BI 405060
Date Collected:	Not Applicable	Lab ID:	04-1062 mb
Date Analyzed:	05/06/24	Data File:	050610.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

Date of Report: 05/16/24
Date Received: 05/02/24
Project: Dawn Foods, F&BI 405060

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

Laboratory Code: 405054-01 1/7.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	2,900	2,800	4
APH EC9-12 aliphatics	ug/m3	440	510	15
APH EC9-10 aromatics	ug/m3	<190	<190	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	93	70-130
APH EC9-12 aliphatics	ug/m3	67	120	70-130
APH EC9-10 aromatics	ug/m3	67	107	70-130

Date of Report: 05/16/24
Date Received: 05/02/24
Project: Dawn Foods, F&BI 405060

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

Laboratory Code: 405054-01 1/7.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.9	<1.9	nm
Chloroethane	ug/m3	<20	<20	nm
1,1-Dichloroethene	ug/m3	<3	<3	nm
trans-1,2-Dichloroethene	ug/m3	<3	<3	nm
1,1-Dichloroethane	ug/m3	<3	<3	nm
cis-1,2-Dichloroethene	ug/m3	<3	<3	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.3	<0.3	nm
1,1,1-Trichloroethane	ug/m3	6.3	6.0	5
Benzene	ug/m3	29	29	0
Trichloroethene	ug/m3	<0.81	<0.81	nm
Toluene	ug/m3	96	95	1
1,1,2-Trichloroethane	ug/m3	<0.41	<0.41	nm
Tetrachloroethene	ug/m3	<51	<51	nm
Ethylbenzene	ug/m3	7.8	7.9	1
m,p-Xylene	ug/m3	24	24	0
o-Xylene	ug/m3	7.9	8.0	1
Naphthalene	ug/m3	<2	<2	nm

Date of Report: 05/16/24
Date Received: 05/02/24
Project: Dawn Foods, F&BI 405060

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	105	70-130
Chloroethane	ug/m3	36	109	70-130
1,1-Dichloroethene	ug/m3	54	108	70-130
trans-1,2-Dichloroethene	ug/m3	54	108	70-130
1,1-Dichloroethane	ug/m3	55	112	70-130
cis-1,2-Dichloroethene	ug/m3	54	103	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	103	70-130
1,1,1-Trichloroethane	ug/m3	74	98	70-130
Benzene	ug/m3	43	101	70-130
Trichloroethene	ug/m3	73	109	70-130
Toluene	ug/m3	51	97	70-130
1,1,2-Trichloroethane	ug/m3	74	110	70-130
Tetrachloroethene	ug/m3	92	105	70-130
Ethylbenzene	ug/m3	59	99	70-130
m,p-Xylene	ug/m3	120	100	70-130
o-Xylene	ug/m3	59	104	70-130
Naphthalene	ug/m3	71	88	70-130

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

405060

SAMPLE CHAIN OF CUSTODY 05/02/24 —

Page # 1 of 1

Report To J. Stevens
Company Crete
Address
City, State, ZIP
Phone 2067992744 Email janie.stevens@crete consulting.com

SAMPLERS (*signature*): J. Stevens R. Jones

PROJECT NAME & ADDRESS: Dawn Foods

PO #:

NOTES:

INVOICE TO:

TURNAROUND TIME: (Standard) RUSH
Rush charges authorized by:

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

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
WH06-SS-0524	01	8526	7	IA / (SG)	5/2/24	29	1457	2	1505		X	X	X			
WH05-SS-0524	02	8346	109	IA / (SG)	5/2	29	1441	2	1447		X	X	X			
WH04-SS-0524	03	9893	229	IA / (SG)	5/2	30	1416	2.5	1430		X	X	X			
BR-SS-0524	04	9982	117	IA / (SG)	5/2	30	1358	2	1405		X	X	X			
OF-SS-0524	05	8394	35	IA / (SG)	5/2	29	1144	2	1354		X	X	X			
				IA / SG												
				IA / SG												
				IA / SG												

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

FORMS\COC\COCT0-15.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Janie Stevens	Janie Stevens	Crete	5/2/24	1532
Received by:	ANTHPHAN	FSB	05/02/24	15:32
Relinquished by:		Samples received at 21 °C		
Received by:				

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 405060 CLIENT CTC INITIALS/ DATE: AP 05/02/24

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

Cooler/Sample temperature 21 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☐ YES ☑ NO

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

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

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

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

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

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

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

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

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

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

Other comments (use a separate page if needed)

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

Number of unused TO15 canisters 01 (8529) **Number of unused TO17 tubes** _____

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

June 13, 2024

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

Dear Mr Jones:

Included are the results from the testing of material submitted on June 7, 2024 from the Bridge Point Seattle 130 DAWN, F&BI 406099 project. There are 8 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: Grant Hainsworth, Jamie Stevens
CTC0613R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 7, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 406099 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
406099 -01	DUP02-0624
406099 -02	MW9-0624
406099 -03	MW4-0624
406099 -04	MW6-0624

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP02-0624	Client:	Crete Consulting
Date Received:	06/07/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/10/24	Lab ID:	406099-01
Date Analyzed:	06/10/24	Data File:	061018.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	78	126
Toluene-d8	94	84	115
4-Bromofluorobenzene	89	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	44
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	39
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW9-0624	Client:	Crete Consulting
Date Received:	06/07/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/10/24	Lab ID:	406099-02
Date Analyzed:	06/10/24	Data File:	061019.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	89	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	47
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	41
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0624	Client:	Crete Consulting
Date Received:	06/07/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/10/24	Lab ID:	406099-03
Date Analyzed:	06/10/24	Data File:	061016.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	86	78	126
Toluene-d8	91	84	115
4-Bromofluorobenzene	94	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.39
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.3
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	3.1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW6-0624	Client:	Crete Consulting
Date Received:	06/07/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/10/24	Lab ID:	406099-04
Date Analyzed:	06/10/24	Data File:	061015.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	94	84	115
4-Bromofluorobenzene	95	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/10/24	Lab ID:	04-1254 mb
Date Analyzed:	06/10/24	Data File:	061009.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	78	126
Toluene-d8	97	84	115
4-Bromofluorobenzene	95	72	130

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

Date of Report: 06/13/24
Date Received: 06/07/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406099

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

Laboratory Code: 406075-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	104	50-150
Chloroethane	ug/L (ppb)	10	<1	105	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	101	50-150
Methylene chloride	ug/L (ppb)	10	<5	95	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	102	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	102	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	106	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	99	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	107	50-150

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)	10	95	102	64-142	7
Chloroethane	ug/L (ppb)	10	98	104	70-130	6
1,1-Dichloroethene	ug/L (ppb)	10	92	98	64-140	6
Methylene chloride	ug/L (ppb)	10	84	91	43-134	8
trans-1,2-Dichloroethene	ug/L (ppb)	10	90	100	70-130	11
1,1-Dichloroethane	ug/L (ppb)	10	93	99	70-130	6
cis-1,2-Dichloroethene	ug/L (ppb)	10	94	100	70-130	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	96	100	70-130	4
1,1,1-Trichloroethane	ug/L (ppb)	10	96	103	70-130	7
Trichloroethene	ug/L (ppb)	10	90	94	70-130	4
Tetrachloroethene	ug/L (ppb)	10	94	99	70-130	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, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

406099

SAMPLE CHAIN OF CUSTODY 06/07/24 VW2

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company CRETE CONSULTING

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO: CRETE

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

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs				Notes
DUP02-0624	01A-C	6/7/2024	0001	WATER	3								X				
MW9-0624	02	"	0926	"	3								X				
MW4-0624	03	"	1140	"	3								X				
MW6-0624	04	6/7/2024	1234	WATER	3								X				
								Samples received at 0 °C									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	6/7/2024	
Received by:	ANH PHAN	FSB	06/07/24	13:01
Relinquished by:				
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 406099 CLIENT CTC INITIALS/ DATE: AP 06/07/24

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

Cooler/Sample temperature 0 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

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

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: AP 06/07/24
*or other representative documents, letters, and/or shipping memos

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

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

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

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

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

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

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

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

Other comments (use a separate page if needed)

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

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

April 10, 2024

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

Dear Mr Jones:

Included are the results from the testing of material submitted on February 28, 2024 from the Bridge Point Seattle 130, F&BI 402393 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: Grant Hainsworth, Jamie Stevens
CTC0410R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 28, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130, F&BI 402393 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
402393 -01	RI-SB-14 7.9-10'
402393 -02	RI-SB-14 13.5-14.5'
402393 -03	RI-SB-14
402393 -04	RI-SB-13 7.9-9'
402393 -05	RI-SB-13 13.3-15'
402393 -06	RI-SB-13
402393 -07	RI-SB-12 8-10'
402393 -08	RI-SB-12 11-13'
402393 -09	RI-SB-12
402393 -10	RI-SB-11 0.5-2'
402393 -11	RI-SB-11 5-7.5'
402393 -12	RI-SB-11
402393 -13	RI-SB-10 5-8'
402393 -14	RI-SB-10 8-10'
402393 -15	RI-SB-10

Samples RI-SB-11 5-7.5', RI-SB-11, RI-SB-10 8-10', and RI-SB-10 were sent to Analytical Resources, Inc. for tributyltin analysis. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393
Date Extracted: 03/04/24
Date Analyzed: 03/04/24

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

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

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
RI-SB-10 8-10' 402393-14 1/5	200	87
Method Blank 04-432 MB	<5	78

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393
Date Extracted: 03/01/24
Date Analyzed: 03/04/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
RI-SB-10 402393-15	720	106
Method Blank 04-429 MB	<100	95

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393
Date Extracted: 02/29/24
Date Analyzed: 03/12/24

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

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
RI-SB-10 8-10' 402393-14	3,500	7,300	127
Method Blank 04-482 MB	<50	<250	96

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393
Date Extracted: 02/28/24
Date Analyzed: 02/29/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
RI-SB-10 402393-15	3,100 x	<250	ip
Method Blank 04-475 MB	<50	<250	94

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393
Date Extracted: 02/28/24
Date Analyzed: 03/15/24

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
RI-SB-10 402393-15	96 x	<250	118
Method Blank 04-475 MB	<50	<250	99

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	RI-SB-13 7.9-9'	Client:	Crete Consulting
Date Received:	02/28/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/06/24	Lab ID:	402393-04
Date Analyzed:	03/06/24	Data File:	030614.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	86	114
Toluene-d8	98	86	115
4-Bromofluorobenzene	101	83	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	0.14

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	RI-SB-13 13.3-15'	Client:	Crete Consulting
Date Received:	02/28/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/06/24	Lab ID:	402393-05
Date Analyzed:	03/06/24	Data File:	030615.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	86	114
Toluene-d8	99	86	115
4-Bromofluorobenzene	98	83	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	RI-SB-11 0.5-2'	Client:	Crete Consulting
Date Received:	02/28/24	Project:	Bridge Point Seattle 130
Date Extracted:	03/06/24	Lab ID:	402393-10
Date Analyzed:	03/06/24	Data File:	030616.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	86	114
Toluene-d8	95	86	115
4-Bromofluorobenzene	95	83	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	0.34
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	0.29
Tetrachloroethene	4.7

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	RI-SB-10 8-10'	Client:	Crete Consulting
Date Received:	02/28/24	Project:	Bridge Point Seattle 130
Date Extracted:	02/29/24	Lab ID:	402393-14
Date Analyzed:	02/29/24	Data File:	022909.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	86	114
Toluene-d8	100	86	115
4-Bromofluorobenzene	102	83	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	02/29/24	Lab ID:	04-0400 mb
Date Analyzed:	02/29/24	Data File:	022906.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	86	114
Toluene-d8	93	86	115
4-Bromofluorobenzene	100	83	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	03/06/24	Lab ID:	04-0500 mb
Date Analyzed:	03/06/24	Data File:	030606.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	86	114
Toluene-d8	98	86	115
4-Bromofluorobenzene	95	83	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-14	Client:	Crete Consulting
Date Received:	02/28/24	Project:	Bridge Point Seattle 130
Date Extracted:	02/29/24	Lab ID:	402393-03
Date Analyzed:	02/29/24	Data File:	022925.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	102	84	115
4-Bromofluorobenzene	102	72	130

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-13	Client:	Crete Consulting
Date Received:	02/28/24	Project:	Bridge Point Seattle 130
Date Extracted:	02/29/24	Lab ID:	402393-06
Date Analyzed:	02/29/24	Data File:	022926.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	107	84	115
4-Bromofluorobenzene	103	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.13
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	4.1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-12	Client:	Crete Consulting
Date Received:	02/28/24	Project:	Bridge Point Seattle 130
Date Extracted:	02/29/24	Lab ID:	402393-09
Date Analyzed:	02/29/24	Data File:	022927.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	104	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.14
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-11	Client:	Crete Consulting
Date Received:	02/28/24	Project:	Bridge Point Seattle 130
Date Extracted:	02/29/24	Lab ID:	402393-12
Date Analyzed:	02/29/24	Data File:	022929.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	104	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.70
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	11
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	2.1
Tetrachloroethene	21

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RI-SB-10	Client:	Crete Consulting
Date Received:	02/28/24	Project:	Bridge Point Seattle 130
Date Extracted:	02/29/24	Lab ID:	402393-15
Date Analyzed:	02/29/24	Data File:	022928.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	98	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.11
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.2
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	02/29/24	Lab ID:	04-0402 mb
Date Analyzed:	02/29/24	Data File:	022909.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	102	72	130

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

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393

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

Laboratory Code: 402381-03 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	77	7.0	167 hr

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	100	70-130

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393

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

Laboratory Code: 402437-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	90	70-130

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393

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

Laboratory Code: 402393-14 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	3,700	126 b	100 b	63-146	23 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	118	77-123

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393

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	92	72-139	12

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393

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	96	80	72-139	18

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393

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

Laboratory Code: 402381-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2	<0.05	59	66	10-138	11
Chloroethane	mg/kg (ppm)	2	<0.5	76	71	10-176	7
1,1-Dichloroethene	mg/kg (ppm)	2	<0.05	76	77	10-160	1
Methylene chloride	mg/kg (ppm)	2	<0.5	80	82	10-156	2
trans-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	76	76	14-137	0
1,1-Dichloroethane	mg/kg (ppm)	2	<0.05	78	80	19-140	3
cis-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	81	81	25-135	0
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	<0.05	83	87	12-160	5
1,1,1-Trichloroethane	mg/kg (ppm)	2	<0.05	83	84	10-156	1
Trichloroethene	mg/kg (ppm)	2	<0.02	84	84	21-139	0
Tetrachloroethene	mg/kg (ppm)	2	<0.025	87	91	20-133	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2	81	22-139
Chloroethane	mg/kg (ppm)	2	84	10-163
1,1-Dichloroethene	mg/kg (ppm)	2	86	47-128
Methylene chloride	mg/kg (ppm)	2	89	10-184
trans-1,2-Dichloroethene	mg/kg (ppm)	2	88	64-132
1,1-Dichloroethane	mg/kg (ppm)	2	90	64-135
cis-1,2-Dichloroethene	mg/kg (ppm)	2	92	64-135
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	91	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2	94	62-131
Trichloroethene	mg/kg (ppm)	2	87	63-139
Tetrachloroethene	mg/kg (ppm)	2	93	68-128

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393

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

Laboratory Code: 403065-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2	<0.05	76	77	10-138	1
Chloroethane	mg/kg (ppm)	2	<0.5	85	87	10-176	2
1,1-Dichloroethene	mg/kg (ppm)	2	<0.05	79	79	10-160	0
Methylene chloride	mg/kg (ppm)	2	<0.5	88	87	10-156	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	85	87	14-137	2
1,1-Dichloroethane	mg/kg (ppm)	2	<0.05	86	89	19-140	3
cis-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	87	89	25-135	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	<0.05	90	92	12-160	2
1,1,1-Trichloroethane	mg/kg (ppm)	2	<0.05	88	93	10-156	6
Trichloroethene	mg/kg (ppm)	2	<0.02	86	89	21-139	3
Tetrachloroethene	mg/kg (ppm)	2	<0.025	91	94	20-133	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2	82	22-139
Chloroethane	mg/kg (ppm)	2	68	10-163
1,1-Dichloroethene	mg/kg (ppm)	2	85	47-128
Methylene chloride	mg/kg (ppm)	2	91	10-184
trans-1,2-Dichloroethene	mg/kg (ppm)	2	92	64-132
1,1-Dichloroethane	mg/kg (ppm)	2	96	64-135
cis-1,2-Dichloroethene	mg/kg (ppm)	2	92	64-135
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	98	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2	98	62-131
Trichloroethene	mg/kg (ppm)	2	93	63-139
Tetrachloroethene	mg/kg (ppm)	2	96	68-128

Date of Report: 04/10/24
Date Received: 02/28/24
Project: Bridge Point Seattle 130, F&BI 402393

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

Laboratory Code: 402393-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	119	50-150
Chloroethane	ug/L (ppb)	10	<1	114	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	113	50-150
Methylene chloride	ug/L (ppb)	10	<5	112	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	111	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	114	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	115	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	105	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	112	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	101	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	105	50-150

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)	10	110	108	64-142	2
Chloroethane	ug/L (ppb)	10	110	104	70-130	6
1,1-Dichloroethene	ug/L (ppb)	10	105	102	64-140	3
Methylene chloride	ug/L (ppb)	10	104	101	43-134	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	103	103	70-130	0
1,1-Dichloroethane	ug/L (ppb)	10	108	105	70-130	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	107	104	70-130	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	102	101	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	104	102	70-130	2
Trichloroethene	ug/L (ppb)	10	101	100	70-130	1
Tetrachloroethene	ug/L (ppb)	10	100	96	70-130	4

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

402393

SAMPLE CHAIN OF CUSTODY 02/28/24 N3/E1/F2/VW2

Page # 1 of 2

Report To R. Jones, Harnsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) Rusty Jones R. Jones

PROJECT NAME Bridge Point Seattle 130

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	TBT			● per COC analyze for Notes
																	A-per RJ 03/05/24 ME
RI-SB-14 7.9-10'	01 A-D	2/27/2024	0925	SOIL	4												HOLD
RI-SB-14 13.5-14.5'	02 ↓		0930	↓	4												HOLD
RI-SB-14	03 A-C		0950	WATER	3								●				
RI-SB-13 7.9-9'	04 A-D		1040	SOIL	4								A				~~HOLD~~
RI-SB-13 13.3-15'	05 ↓		1050	↓	4								A				~~HOLD~~
RI-SB-13	06 A-C		1059	WATER	3								●				
RI-SB-12 8-10'	07 A-D		1155	SOIL	4												HOLD
RI-SB-12 11-13'	08 ↓		1200	↓	4												HOLD
RI-SB-12	09 A-C		1216	WATER	3								●				
RI-SB-11 0.5-2'	10 A-D	↓	1300	SOIL	4								A				~~HOLD~~

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	2/28/24	0719
Received by:	Dhan Phan	FEBI	2/28/24	0719
Relinquished by:		Samples received at 1 °C		
Received by:				

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

402393

SAMPLE CHAIN OF CUSTODY

02/28/24 N3/~~E1~~ E1/F2/VW2

Page # 2 of 2

Report To R.Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) Rusty Jones R.Jones	
PROJECT NAME Bridge Point Seattle 130	PO #
REMARKS Project specific RLs? - Yes / No	INVOICE TO CRETE

TURNAROUND TIME
- ☒ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

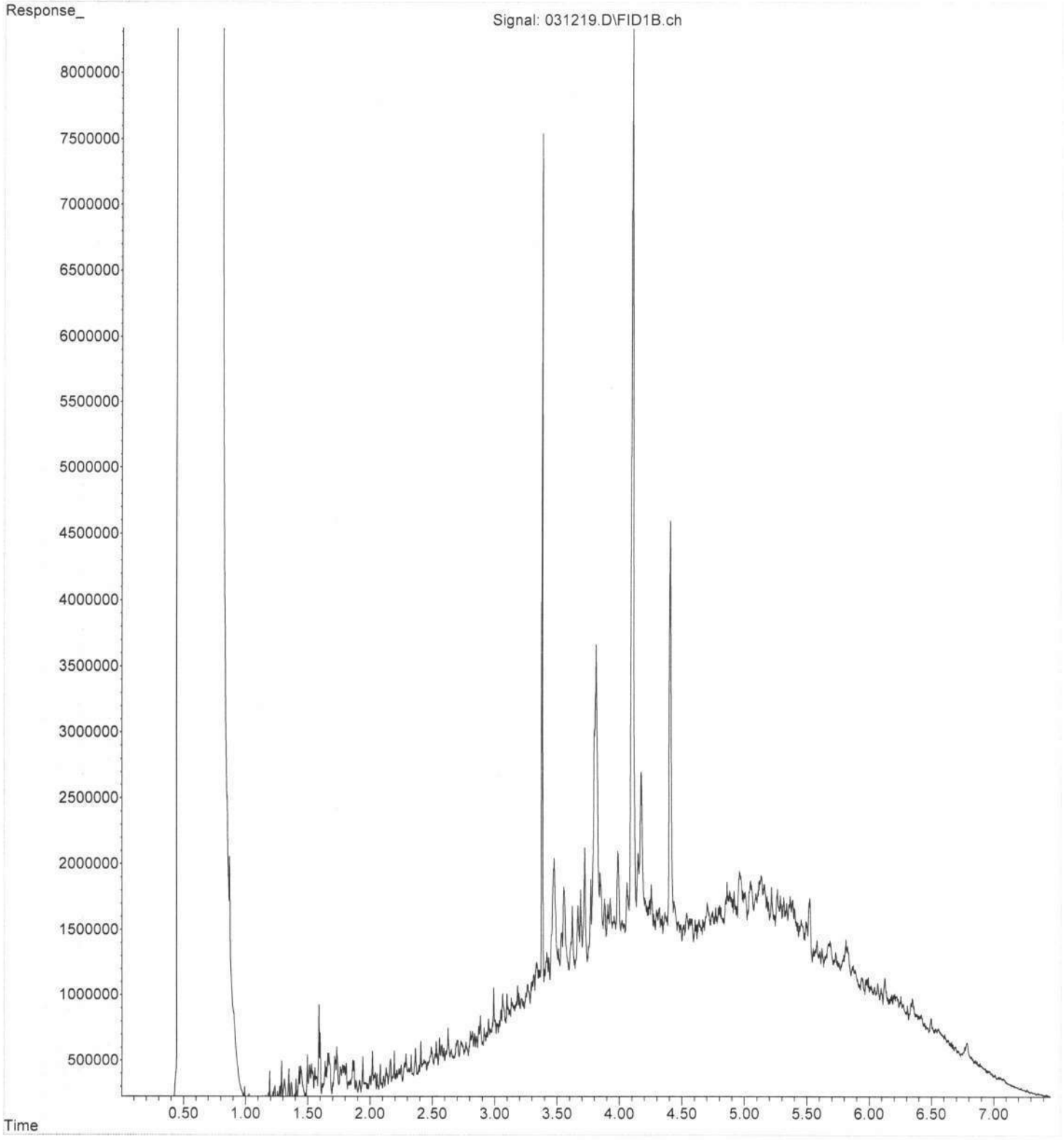
SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	TBT			Notes
RI-SB-11 5-7.5'	11 A-E	2/27/24	1310	SOIL	5								X	●			HOLD cVOCs
RI-SB-11	12 A-D	↓	1404	WATER	4								●	●			
RI-SB-10 5-8'	13 ↓		1515		5								~~X~~ RJ			AP 02/28	~~Rec no 40z jar HOLD cVOCs~~ RJ HOLD ALL
RI-SB-10 8-10'	14 A-F		1525		6	●	●						●	●			Run cVOCs ~~and~~ Gx
RI-SB-10	15 A-H	↓	1602	WATER	~~5~~ 8	●	●						●	●			~~H~~ RJ Dx w & MOSG
																	ME 3/4/24 MI

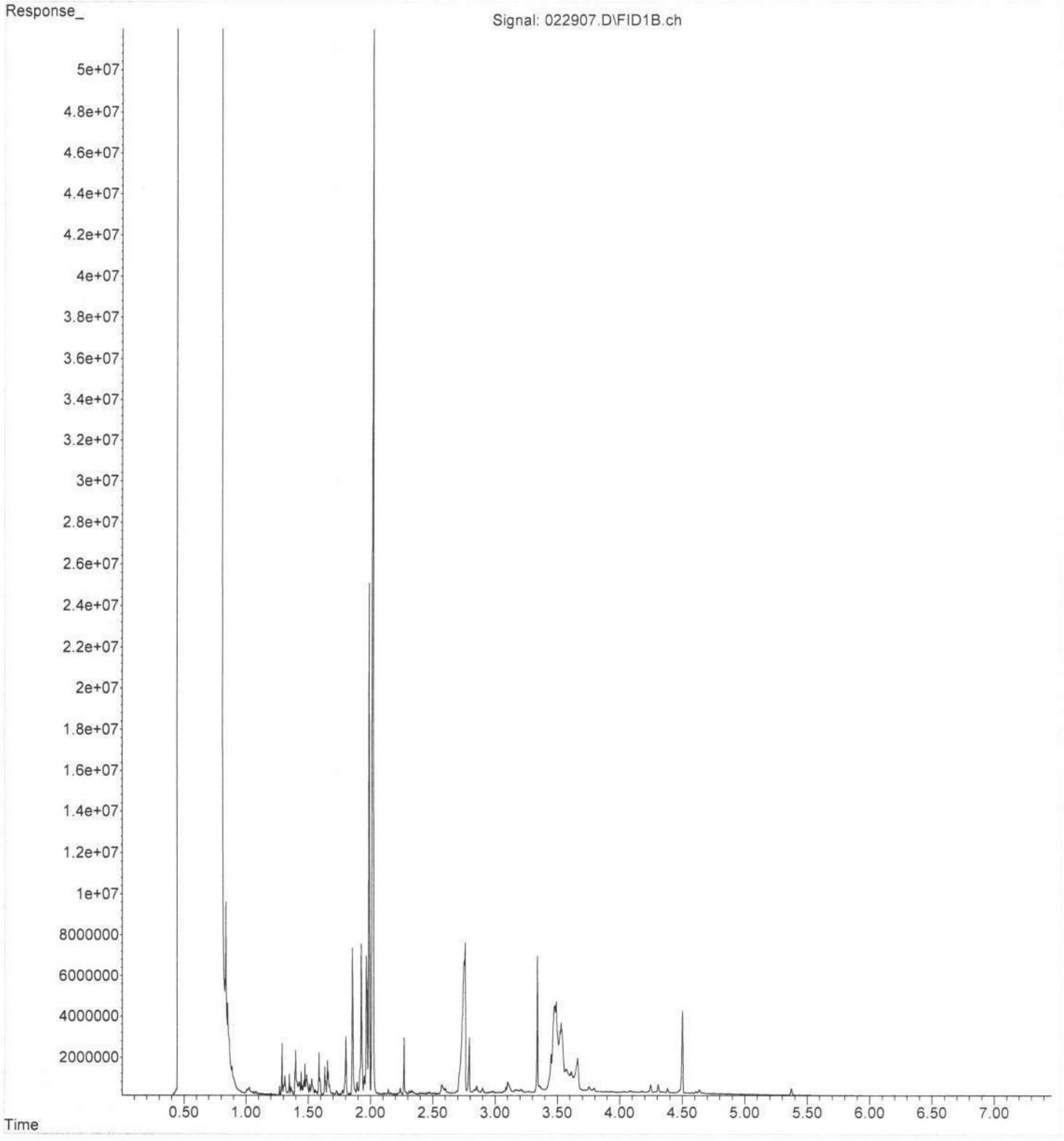
SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R.Jones	Rusty Jones	CRETE	2/28/24	0719
Received by:	Nhan Phan	FedEx	2/29/24	0719
Relinquished by:		Samples received at 1 °C		
Received by:				

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

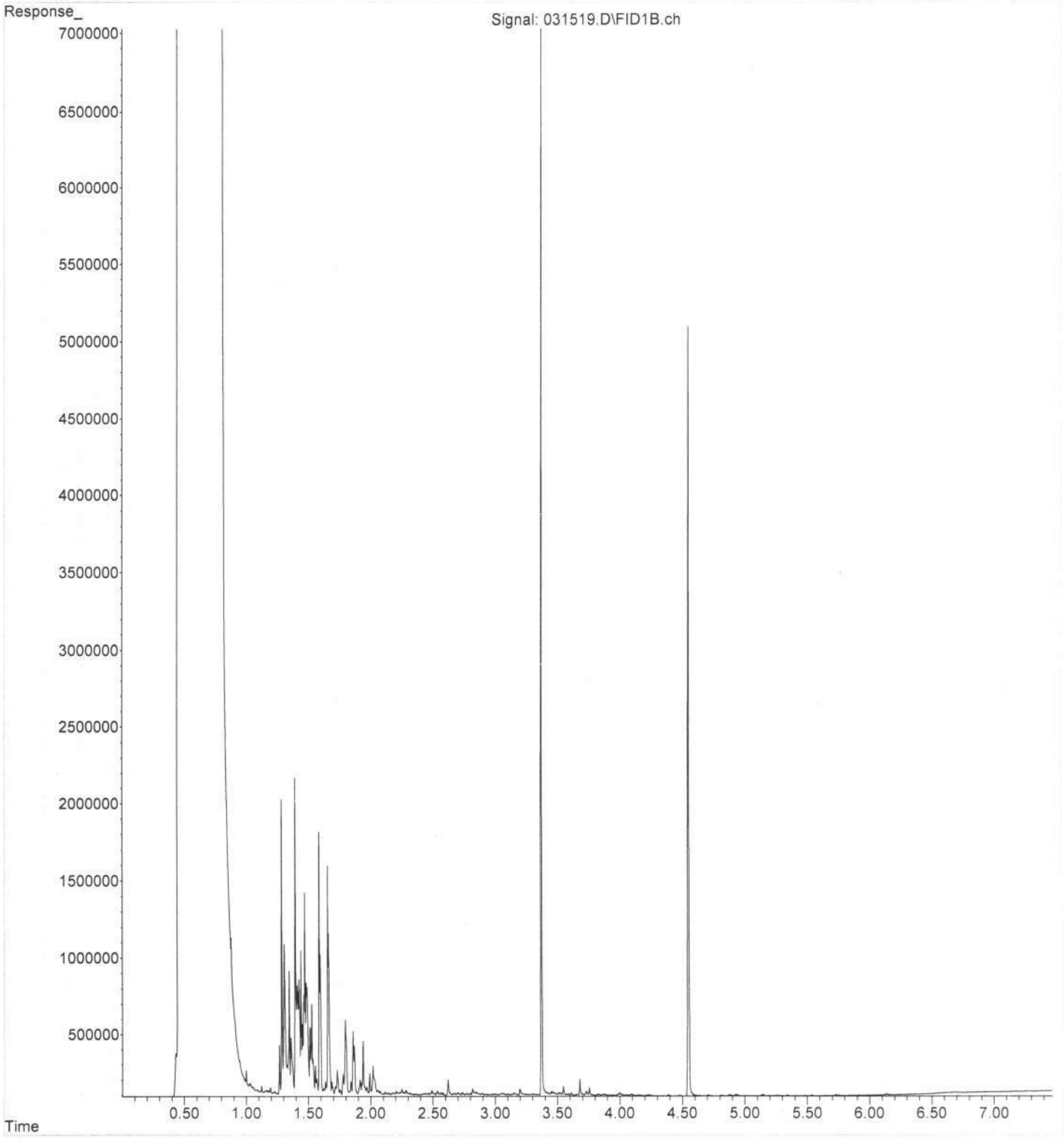
File :P:\Proc_GC10\03-12-24\031219.D
Operator : IJL
Acquired : 12 Mar 2024 11:44 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 402393-14 rr
Misc Info :
Vial Number: 101



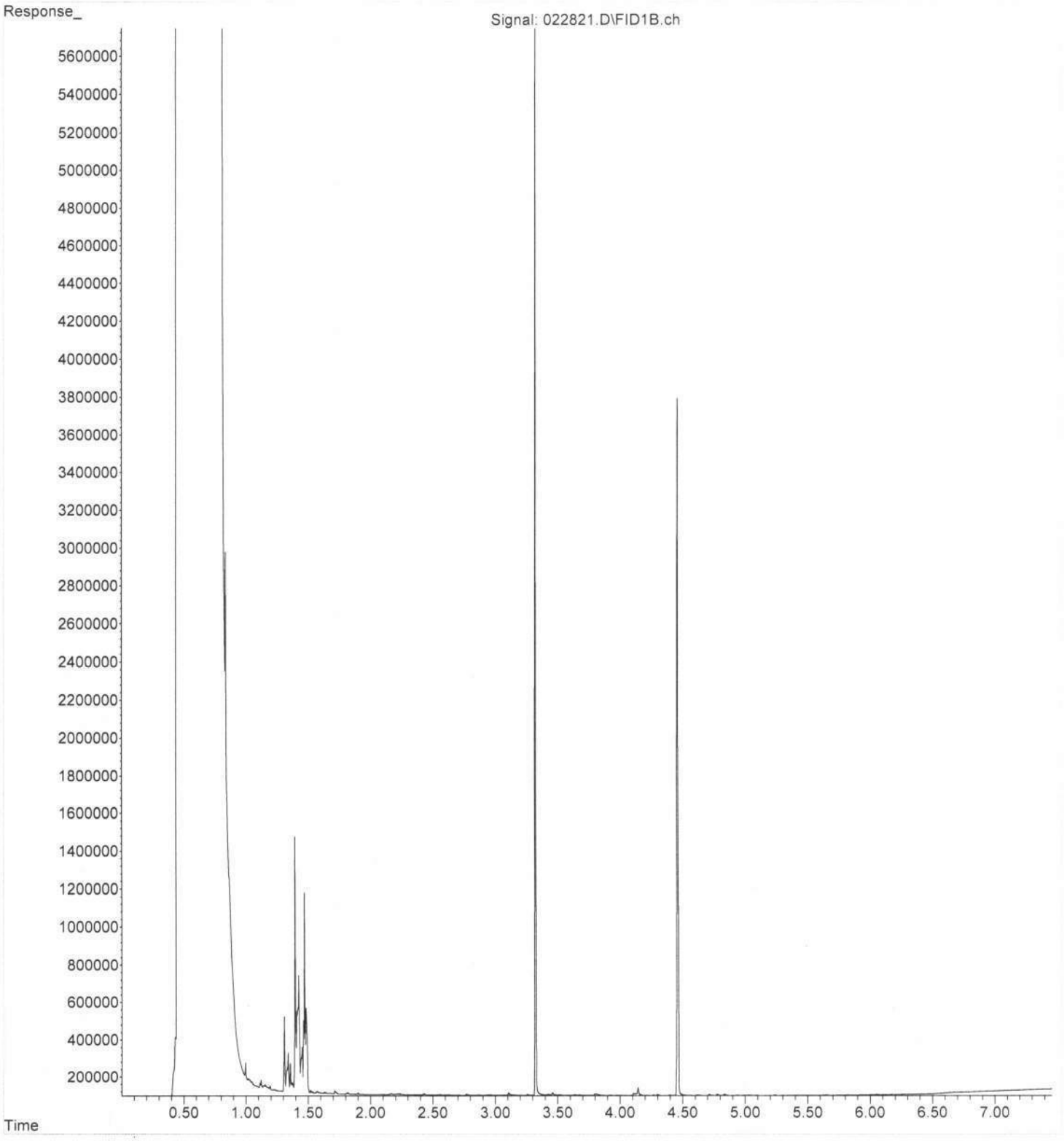
File :P:\Proc_GC10\02-29-24\022907.D
Operator : IJL
Acquired : 29 Feb 2024 09:36 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 402393-15
Misc Info :
Vial Number: 9



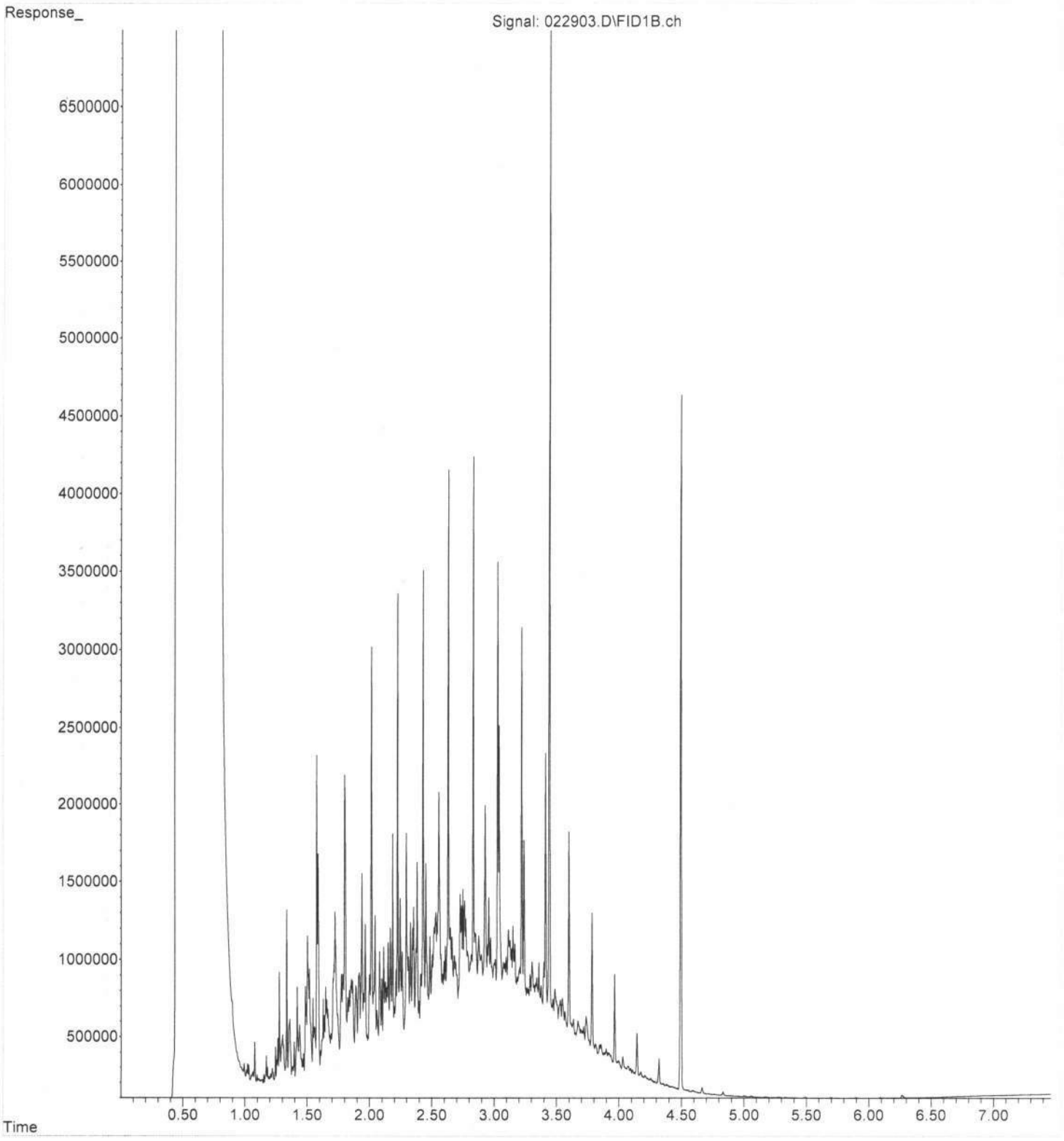
File :P:\Proc_GC10\03-15-24\031519.D
Operator : IJL
Acquired : 15 Mar 2024 11:22 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 402393-15 sg
Misc Info :
Vial Number: 21



File :P:\Proc_GC10\02-28-24\022821.D
Operator : IJL
Acquired : 28 Feb 2024 01:14 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 04-475 mb
Misc Info :
Vial Number: 21



File :P:\Proc_GC10\02-29-24\022903.D
Operator : IJL
Acquired : 29 Feb 2024 08:50 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 500 DX 71-40D
Misc Info :
Vial Number: 3



Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

09 April 2024

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

RE: 402393 (401151)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24B0606	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Accredited in accordance with nelac
Cert# 100006-012

24B0606

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER ARI	
PROJECT NAME/NO. 402393	PO # D-689
REMARKS EIM	

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

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

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Tributyltin	Nitrate	Nitrite	Sulfate	RSK-175						Notes
RI-SB-11 5-7.5'		2/27/2024	1310	soil	1	x										
RI-SB-11		2/27/2024	1404	water	1	x										
RI-SB-10 8-10'		2/27/2024	1525	water	1	x										
RI-SB-10		2/27/2024	1602	water	1	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:		Michael Erdahl	Friedman & Bruya	2/28/24	0830
Received by:		Matthew Dana	ARLCC	02/28/24	1023
Relinquished by:					
Received by:					

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RI-SB-11 5-7.5'	24B0606-01	Solid	27-Feb-2024 13:10	28-Feb-2024 10:23
RI-SB-11	24B0606-02	Water	27-Feb-2024 14:04	28-Feb-2024 10:23
RI-SB-10 8-10'	24B0606-03	Solid	27-Feb-2024 15:25	28-Feb-2024 10:23
RI-SB-10	24B0606-04	Water	27-Feb-2024 16:02	28-Feb-2024 10:23

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Work Order Case Narrative

Client: Friedman & Bruya Inc.
Project: 402393
Work Order: 24B0606

Sample receipt

Samples as listed on the preceding page were received 28-Feb-2024 10:23 under ARI work order 24B0606. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Note that sample RI-SB-10 8-10' listed as a water on the CoC was confirmed to be a solid.

Butyl Tin(s) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times, except for sample RI-SB-10 8-10', due to an error in the laboratory. Results have been "H"-flagged noting the excursion.

Initial and continuing calibrations were within method requirements, with an allowed excursion for the tributyl tin ion (79%) low of limits (80-120%) in SMC0194-ICV1. Associated results have been "Q"-flagged.

Internal standard areas were within limits.

The surrogate percent recoveries outside control limits are flagged on the summary sheet.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent differences (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Friedman & Bruya Project Name: 402395

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 24B0606 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.3°C

Time 1023

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 30049708

Cooler Accepted by: MP Date: 02/28/24 Time: 1023

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: SEF Date: 2/28/24 Time: 1156 Labels checked by: SEF

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Freidman & Bruya Project Name: 402393

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 24B0606 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1023 5.3 °C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 30619708

Cooler Accepted by: MP Date: 02/28/24 Time: 1023

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?	3/4/24	YES	NO
Did all bottle labels and tags agree with custody papers?	SEF	YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		
Were the sample(s) split by ARI? NA YES Date/Time: Equipment: Split by:			

Samples Logged by: SEF Date: 2/28/24 Time: 1156 Labels checked by: SEF

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

Sample 'RI-SB-10-8-10" is marked as a water on COC, sample is a soil.

By: SEF Date: 3/4/24

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

RI-SB-11 5-7.5'
24B0606-01 (Solid)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/27/2024 13:10
Instrument: NT12 Analyst: JZ — Analyzed: 03/19/2024 15:15

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 24B0606-01 A 01
	Preparation Batch: BMC0255	Sample Size: 5.78 g (wet)	Dry Weight:5.14 g
	Prepared: 03/12/2024	Final Volume: 0.5 mL	% Solids: 88.96
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24B0606-01 A 01
	Cleanup Batch: CMC0112	Initial Volume: 500 uL	
	Cleaned: 18-Mar-2024	Final Volume: 500 uL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	3	1.31	11.3	ND	ug/kg	U
Surrogate: Tripentyltin				*30-160 %*	*29.1*	*%*	*
Surrogate: Tripropyltin				*30-160 %*	*47.1*	*%*	

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

RI-SB-11

24B0606-02 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/27/2024 14:04
Instrument: NT18 Analyst: RT — Analyzed: 03/14/2024 10:25

Sample Preparation: Preparation Method: EPA 3510C SepF; Preparation Batch: BMC0065; Prepared: 03/05/2024; Sample Size: 150 mL; Final Volume: 0.5 mL — Extract ID: 24B0606-02 A 01

Sample Cleanup: Cleanup Method: Silica Gel; Cleanup Batch: CMC0083; Cleaned: 13-Mar-2024; Initial Volume: 0.5 uL; Final Volume: 0.5 uL — Extract ID: 24B0606-02 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*56.5*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*40.0*	*%*	

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

RI-SB-10 8-10'

24B0606-03 (Solid)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/27/2024 15:25
Instrument: NT12 Analyst: JZ — Analyzed: 04/08/2024 13:04

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 24B0606-03 A 01
	Preparation Batch: BMD0055	Sample Size: 7.83 g (wet)	Dry Weight:5.10 g
	Prepared: 04/03/2024	Final Volume: 0.5 mL	% Solids: 65.12
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24B0606-03 A 01
	Cleanup Batch: CMD0027	Initial Volume: 0.5 uL	
	Cleaned: 04-Apr-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	5	2.21	18.9	ND	ug/kg	H, U
Surrogate: Tripentyltin				*30-160 %*	*59.4*	*%*	H
Surrogate: Tripropyltin				*30-160 %*	*61.6*	*%*	H

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

RI-SB-10 8-10'

24B0606-03 (Solid)

Wet Chemistry

Method: SM 2540 G-11 — Sampled: 02/27/2024 15:25
Instrument: BAL2 Analyst: AAR — Analyzed: 02/29/2024 09:27

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 24B0606-03
Preparation Batch: BMB0844 — Sample Size: 5 g (wet) — Dry Weight:3.38 g
Prepared: 02/29/2024 — Final Volume: 5 g — % Solids: 67.51

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	67.51	%	

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

RI-SB-10

24B0606-04 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 02/27/2024 16:02
Instrument: NT18 Analyst: RT — Analyzed: 03/14/2024 10:39

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24B0606-04 A 01
	Preparation Batch: BMC0065	Sample Size: 150 mL	
	Prepared: 03/05/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24B0606-04 A 01
	Cleanup Batch: CMC0083	Initial Volume: 0.5 uL	
	Cleaned: 13-Mar-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*52.9*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*38.5*	*%*	

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0065 - EPA 8270E-SIM

Instrument: NT18 Analyst: RT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMC0065-BLK1)				Prepared: 05-Mar-2024 Analyzed: 14-Mar-2024 09:43						
Tributyltin Ion	ND	0.0052	ug/L							U
Surrogate: Tripentyltin	0.0277		ug/L	*0.0753*		*36.8*	*30-160*			
Surrogate: Tripropyltin	0.0176		ug/L	*0.0729*		*24.1*	*30-160*			*

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0065 - EPA 8270E-SIM

Instrument: NT18 Analyst: RT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMC0065-BS1)				Prepared: 05-Mar-2024 Analyzed: 14-Mar-2024 09:57						
Tributyltin Ion	0.0732	0.0052	ug/L	0.149		49.3	30-160			Q
Surrogate: Tripentyltin	0.0395		ug/L	*0.0753*		*52.5*	*30-160*			
Surrogate: Tripropyltin	0.0315		ug/L	*0.0729*		*43.2*	*30-160*			

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0065 - EPA 8270E-SIM

Instrument: NT18 Analyst: RT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BMC0065-BSD1)				Prepared: 05-Mar-2024 Analyzed: 14-Mar-2024 10:11						
Tributyltin Ion	0.0719	0.0052	ug/L	0.149		48.4	30-160	1.76	30	Q
Surrogate: Tripentyltin	0.0408		ug/L	*0.0753*		*54.2*	*30-160*			
Surrogate: Tripropyltin	0.0285		ug/L	*0.0729*		*39.1*	*30-160*			

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0065 - EPA 8270E-SIM

Butyl Tins - Quality Control

Batch BMC0255 - EPA 8270E-SIM

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMC0255-BLK1)				Prepared: 12-Mar-2024 Analyzed: 19-Mar-2024 12:50							
Tributyltin Ion	ND	0.450	3.86	ug/kg							U
Surrogate: Tripentyltin	32.2			ug/kg	*45.2*		*71.2*	*30-160*			
Surrogate: Tripropyltin	29.4			ug/kg	*43.7*		*67.2*	*30-160*			

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0255 - EPA 8270E-SIM

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMC0255-BS1)				Prepared: 12-Mar-2024 Analyzed: 19-Mar-2024 13:07							
Tributyltin Ion	32.9	0.450	3.86	ug/kg	44.6		73.9	30-160			
Surrogate: Tripentyltin	35.3			ug/kg	*45.2*		*78.2*	*30-160*			
Surrogate: Tripropyltin	29.7			ug/kg	*43.7*		*67.8*	*30-160*			

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0255 - EPA 8270E-SIM

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BMC0255-MS1)	**Source: 24B0606-01**			Prepared: 12-Mar-2024 Analyzed: 19-Mar-2024 14:41							
Tributyltin Ion	21.2	0.438	3.75	ug/kg	43.3	ND	48.9	30-160			
Surrogate: Tripentyltin	16.6			ug/kg	*43.9*	*12.8*	*37.9*	*30-160*			
Surrogate: Tripropyltin	28.2			ug/kg	*42.5*	*20.0*	*66.4*	*30-160*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0255 - EPA 8270E-SIM

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BMC0255-MSD1)	**Source: 24B0606-01**			Prepared: 12-Mar-2024 Analyzed: 19-Mar-2024 14:58							
Tributyltin Ion	28.5	0.438	3.75	ug/kg	43.3	ND	65.8	30-160	29.50	30	
Surrogate: Tripentyltin	25.2			ug/kg	*43.9*	*12.8*	*57.4*	*30-160*			
Surrogate: Tripropyltin	40.3			ug/kg	*42.5*	*20.0*	*94.6*	*30-160*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMC0255 - EPA 8270E-SIM

Butyl Tins - Quality Control

Batch BMD0055 - EPA 8270E-SIM

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMD0055-BLK1)				Prepared: 03-Apr-2024 Analyzed: 05-Apr-2024 18:38							
Tributyltin Ion	ND	0.450	3.86	ug/kg							U
Surrogate: Tripentyltin	28.2			ug/kg	*45.2*		*62.4*	*30-160*			
Surrogate: Tripropyltin	31.4			ug/kg	*43.7*		*71.7*	*30-160*			

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMD0055 - EPA 8270E-SIM

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMD0055-BS1)				Prepared: 03-Apr-2024 Analyzed: 05-Apr-2024 18:55							
Tributyltin Ion	36.6	0.450	3.86	ug/kg	44.6		82.1	30-160			
Surrogate: Tripentyltin	31.7			ug/kg	*45.2*		*70.1*	*30-160*			
Surrogate: Tripropyltin	35.6			ug/kg	*43.7*		*81.4*	*30-160*			

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMD0055 - EPA 8270E-SIM

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BMD0055-BSD1)				Prepared: 03-Apr-2024 Analyzed: 05-Apr-2024 19:11							
Tributyltin Ion	34.7	0.450	3.86	ug/kg	44.6		77.9	30-160	5.24	30	
Surrogate: Tripentyltin	34.7			ug/kg	*45.2*		*76.7*	*30-160*			
Surrogate: Tripropyltin	33.2			ug/kg	*43.7*		*75.8*	*30-160*			

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMD0055 - EPA 8270E-SIM

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BMB0844 - SM 2540 G-11

Instrument: BAL2 Analyst: AAR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMB0844-BLK1)				Prepared: 29-Feb-2024 Analyzed: 29-Feb-2024 09:27							
Total Solids	ND	0.04	0.04	%							U

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270E-SIM in Solid	
Tributyltin Ion	WADOE,DoD-ELAP,NELAP
EPA 8270E-SIM in Water	
Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Tetrapentyltin	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2024
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Friedman & Bruya Inc.	Project: 402393	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	09-Apr-2024 09:27

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
H	Hold time violation - Hold time was exceeded.
J	Estimated concentration value detected below the reporting limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

May 9, 2024

Jamie Stevens, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Ms Stevens:

Included are the results from the testing of material submitted on May 2, 2024 from the Dawn Foods - Fox Ave, F&BI 405052 project. There are 27 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Rusty Jones
CTC0509R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 2, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Dawn Foods - Fox Ave, F&BI 405052 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
405052 -01	OF-IA-0524
405052 -02	BR-IA-0524
405052 -03	IA3-0524
405052 -04	IA4-0524
405052 -05	IA5-0524
405052 -06	IA6-0524
405052 -07	IA7-0524
405052 -08	IA8-0524
405052 -09	AW-0524
405052 -10	AE-0524

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

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	OF-IA-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-01
Date Analyzed:	05/02/24	Data File:	050214.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	88
APH EC9-12 aliphatics	36
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BR-IA-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-02
Date Analyzed:	05/02/24	Data File:	050215.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	47
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA3-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-03
Date Analyzed:	05/02/24	Data File:	050216.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	45
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA4-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-04
Date Analyzed:	05/02/24	Data File:	050217.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	83
APH EC9-12 aliphatics	48
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA5-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-05
Date Analyzed:	05/02/24	Data File:	050218.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	53
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA6-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-06
Date Analyzed:	05/02/24	Data File:	050219.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	77
APH EC9-12 aliphatics	37
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA7-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-07
Date Analyzed:	05/03/24	Data File:	050220.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	76
APH EC9-12 aliphatics	27
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA8-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-08
Date Analyzed:	05/03/24	Data File:	050221.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	31
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	AW-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-09
Date Analyzed:	05/02/24	Data File:	050212.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

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

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	AE-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-10
Date Analyzed:	05/02/24	Data File:	050213.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

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

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Dawn Foods - Fox Ave
Date Collected:	Not Applicable	Lab ID:	04-0993 mb
Date Analyzed:	05/02/24	Data File:	050211.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

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

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	OF-IA-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-01
Date Analyzed:	05/02/24	Data File:	050214.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.11	0.027
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	0.55	0.17
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	0.57	0.13
m,p-Xylene	2.1	0.48
o-Xylene	0.76	0.17
Naphthalene	0.29	0.055

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BR-IA-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-02
Date Analyzed:	05/02/24	Data File:	050215.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.15	0.037
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	0.42	0.13
Trichloroethene	0.11	0.020
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	0.58	0.13
m,p-Xylene	2.1	0.48
o-Xylene	0.76	0.18
Naphthalene	0.14	0.026

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA3-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-03
Date Analyzed:	05/02/24	Data File:	050216.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.27	0.066
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	0.46	0.10
m,p-Xylene	1.7	0.39
o-Xylene	0.65	0.15
Naphthalene	0.17	0.032

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA4-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-04
Date Analyzed:	05/02/24	Data File:	050217.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.27	0.067
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	1.4	0.31
o-Xylene	0.50	0.12
Naphthalene	0.17	0.033

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA5-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-05
Date Analyzed:	05/02/24	Data File:	050218.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.19	0.047
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	0.32	0.10
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	1.3	0.29
o-Xylene	0.46	0.10
Naphthalene	0.22	0.042

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA6-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-06
Date Analyzed:	05/02/24	Data File:	050219.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.11	0.026
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	1.1	0.25
o-Xylene	<0.43	<0.1
Naphthalene	0.18	0.034

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA7-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-07
Date Analyzed:	05/03/24	Data File:	050220.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.073	0.018
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	1.1	0.26
o-Xylene	<0.43	<0.1
Naphthalene	0.12	0.022

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA8-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-08
Date Analyzed:	05/03/24	Data File:	050221.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.077	0.019
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	1.3	0.31
o-Xylene	<0.43	<0.1
Naphthalene	0.15	0.029

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	AW-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-09
Date Analyzed:	05/02/24	Data File:	050212.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.069	0.017
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.073 j	<0.014 j

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	AE-0524	Client:	Crete Consulting
Date Received:	05/02/24	Project:	Dawn Foods - Fox Ave
Date Collected:	05/01/24	Lab ID:	405052-10
Date Analyzed:	05/02/24	Data File:	050213.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.061	0.015
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.073 j	<0.014 j

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Dawn Foods - Fox Ave
Date Collected:	Not Applicable	Lab ID:	04-0993 mb
Date Analyzed:	05/02/24	Data File:	050211.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.073 j	<0.014 j

Date of Report: 05/09/24
Date Received: 05/02/24
Project: Dawn Foods - Fox Ave, F&BI 405052

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

Laboratory Code: 405052-08 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	<75	76	nm
APH EC9-12 aliphatics	ug/m3	31	31	0
APH EC9-10 aromatics	ug/m3	<25	<25	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	96	70-130
APH EC9-12 aliphatics	ug/m3	67	120	70-130
APH EC9-10 aromatics	ug/m3	67	109	70-130

Date of Report: 05/09/24
Date Received: 05/02/24
Project: Dawn Foods - Fox Ave, F&BI 405052

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

Laboratory Code: 405052-08 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<0.26	<0.26	nm
Chloroethane	ug/m3	<2.6	<2.6	nm
1,1-Dichloroethene	ug/m3	<0.4	<0.4	nm
trans-1,2-Dichloroethene	ug/m3	<0.4	<0.4	nm
1,1-Dichloroethane	ug/m3	<0.4	<0.4	nm
cis-1,2-Dichloroethene	ug/m3	<0.4	<0.4	nm
1,2-Dichloroethane (EDC)	ug/m3	0.077	0.077	0
1,1,1-Trichloroethane	ug/m3	<0.55	<0.55	nm
Benzene	ug/m3	<0.32	<0.32	nm
Trichloroethene	ug/m3	<0.11	<0.11	nm
Toluene	ug/m3	<7.5	<7.5	nm
1,1,2-Trichloroethane	ug/m3	<0.055	<0.055	nm
Tetrachloroethene	ug/m3	<6.8	<6.8	nm
Ethylbenzene	ug/m3	<0.43	<0.43	nm
m,p-Xylene	ug/m3	1.3	1.4	7
o-Xylene	ug/m3	<0.43	<0.43	nm
Naphthalene	ug/m3	<0.26	<0.26	nm

Date of Report: 05/09/24
Date Received: 05/02/24
Project: Dawn Foods - Fox Ave, F&BI 405052

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	98	70-130
Chloroethane	ug/m3	36	101	70-130
1,1-Dichloroethene	ug/m3	54	102	70-130
trans-1,2-Dichloroethene	ug/m3	54	104	70-130
1,1-Dichloroethane	ug/m3	55	107	70-130
cis-1,2-Dichloroethene	ug/m3	54	100	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	100	70-130
1,1,1-Trichloroethane	ug/m3	74	104	70-130
Benzene	ug/m3	43	98	70-130
Trichloroethene	ug/m3	73	104	70-130
Toluene	ug/m3	51	99	70-130
1,1,2-Trichloroethane	ug/m3	74	105	70-130
Tetrachloroethene	ug/m3	92	102	70-130
Ethylbenzene	ug/m3	59	96	70-130
m,p-Xylene	ug/m3	120	97	70-130
o-Xylene	ug/m3	59	101	70-130
Naphthalene	ug/m3	71	86	70-130

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

405052

SAMPLE CHAIN OF CUSTODY 05/02/24 –

Report To Jamie Stevens, R. Jones
Company CRETE
Address 16300 Christensen Rd Suite 284
City, State, ZIP Tukwila WA 98188
Phone 206 799 2744 Email jamie.stevens@creekconsulting.com

SAMPLERS (*signature*): J. Stevens, R. Jones

PROJECT NAME & ADDRESS: Down Foods - Fox Ave

PO #:

NOTES:

INVOICE TO: CRETE

TURNAROUND TIME: (Standard) / RUSH
Rush charges authorized by:

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

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
OF-1A-0524	01	32099		(IA) / SG	5/1/24	30	1122	7	1118		X	X	X			
BR-1A-0524	02	18573		(IA) / SG	5/1-5/2	30	1120	4	1115		X	X	X			
1A3-0524	03	23230		(IA) / SG	5/1-5/2	30	1130	4	1058		X	X	X			
1A4 - 0524	04	20542		(IA) / SG	5/1-5/2	30	1128	6	1123		X	X	X			
1A5 - 0524	05	23235		(IA) / SG	5/1-5/2	30	1140	5	1131		X	X	X			
1A6 - 0524	06	20554		(IA) / SG	5/1-5/2	30	1158	7	1143		X	X	X			
1A7 - 0524	07	18567		(IA) / SG	5/1-5/2	28	1154	7	1137		X	X	X			
1A8 - 0524	08	23234		(IA) / SG	5/1-5/2	30	1150	0	0950		X	X	X			

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

FORMS\COC\COCTO-15.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	5/2/2024	1222
Received by:	Eric Jones	F B	5/2/24	1222
Relinquished by:		Samples received at 20 °C		
Received by:				

4040 AP 405052

SAMPLE CHAIN OF CUSTODY 05/02/24 –

Page # 2 of 2

Report To J. Stevers, R. Jones

Company Crete

Address 16300 Christensen Rd Suite 214

City, State, ZIP Tukwila WA 98188

Phone 206 799 2744 Email jamie.stevers@cretecconsulting.com

SAMPLERS (*signature*) J. Stevers R Jones

PROJECT NAME & ADDRESS: Dawn Foods. Fox Ave

PO #:

NOTES:

INVOICE TO: CRETE

TURNAROUND TIME: Standard / RUSH

Rush charges authorized by:

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

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
AW-0524	09	18562		(IA) / SG	5/1/24	30	1203	4	1152		X	X	X			
AE-0524	10	21437		(IA) / SG	5/1-5/2	30	1208	9	1157		X	X	X			
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R Jones	Rusty Jones	CRETE	5/2/2024	1222
Received by:		F+B	5/2/24	1222
Relinquished by:		Samples received at 20 °C		
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 405052 CLIENT CTC INITIALS/DATE: 4/2/24

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

Cooler/Sample temperature 20 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☐ YES ☑ NO

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

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0-1 days

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

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

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

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

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

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

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

Other comments (use a separate page if needed)

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

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

May 6, 2024

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

Dear Mr Jones:

Included are the results from the testing of material submitted on April 25, 2024 from the Bridge Point Seattle 130 Dawn, F&BI 404393 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: Grant Hainsworth, Jamie Stevens
CTC0506R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 25, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 Dawn, F&BI 404393 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
404393 -01	MW8-0424
404393 -02	MW4-0424
404393 -03	MW6-0424

All quality control requirements were acceptable.

Date of Report: 05/06/24
Date Received: 04/25/24
Project: Bridge Point Seattle 130 Dawn, F&BI 404393
Date Extracted: 04/25/24
Date Analyzed: 04/26/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW8-0424 404393-01	2,900	112
Method Blank 04-862 MB	<100	88

Date of Report: 05/06/24
Date Received: 04/25/24
Project: Bridge Point Seattle 130 Dawn, F&BI 404393
Date Extracted: 04/26/24
Date Analyzed: 05/01/24

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW8-0424 404393-01	810 x	<250	115
Method Blank 04-1025 MB	<50	<250	101

Date of Report: 05/06/24
Date Received: 04/25/24
Project: Bridge Point Seattle 130 Dawn, F&BI 404393
Date Extracted: 04/26/24
Date Analyzed: 04/26/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW8-0424 404393-01	760 x	<250	99
Method Blank 04-1025 MB	<50	<250	99

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW8-0424	Client:	Crete Consulting
Date Received:	04/25/24	Project:	Bridge Point Seattle 130 Dawn
Date Extracted:	04/29/24	Lab ID:	404393-01
Date Analyzed:	04/29/24	Data File:	042927.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	78	126
Toluene-d8	115	84	115
4-Bromofluorobenzene	101	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	5.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	3.6
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	1.0
Tetrachloroethene	3.6

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0424	Client:	Crete Consulting
Date Received:	04/25/24	Project:	Bridge Point Seattle 130 Dawn
Date Extracted:	04/29/24	Lab ID:	404393-02
Date Analyzed:	04/29/24	Data File:	042918.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	96	84	115
4-Bromofluorobenzene	98	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.19
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	3.1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW6-0424	Client:	Crete Consulting
Date Received:	04/25/24	Project:	Bridge Point Seattle 130 Dawn
Date Extracted:	04/29/24	Lab ID:	404393-03
Date Analyzed:	04/29/24	Data File:	042912.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.020
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 Dawn
Date Extracted:	04/29/24	Lab ID:	04-0982 mb
Date Analyzed:	04/29/24	Data File:	042909.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	98	72	130

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

Date of Report: 05/06/24
Date Received: 04/25/24
Project: Bridge Point Seattle 130 Dawn, F&BI 404393

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

Laboratory Code: 404364-14 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	85	70-130

Date of Report: 05/06/24
Date Received: 04/25/24
Project: Bridge Point Seattle 130 Dawn, F&BI 404393

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

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	95	98	72-139	3

Date of Report: 05/06/24
Date Received: 04/25/24
Project: Bridge Point Seattle 130 Dawn, F&BI 404393

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	84	84	65-151	0

Date of Report: 05/06/24
Date Received: 04/25/24
Project: Bridge Point Seattle 130 Dawn, F&BI 404393

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

Laboratory Code: 404449-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	112	50-150
Chloroethane	ug/L (ppb)	10	<1	103	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
Methylene chloride	ug/L (ppb)	10	<5	94	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	102	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	104	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	107	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	105	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	112	50-150

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)	10	108	107	64-142	1
Chloroethane	ug/L (ppb)	10	100	102	70-130	2
1,1-Dichloroethene	ug/L (ppb)	10	95	95	64-140	0
Methylene chloride	ug/L (ppb)	10	90	89	43-134	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	96	97	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	98	97	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	100	98	70-130	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	101	100	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	102	102	70-130	0
Trichloroethene	ug/L (ppb)	10	101	100	70-130	1
Tetrachloroethene	ug/L (ppb)	10	107	103	70-130	4

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

404393

SAMPLE CHAIN OF CUSTODY

04/25/24 C2/VW1

Page # 1 of 1

Report To R. Jones, Hainsworth, Stevens

Company Crete Consulting Inc

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R Jones

PROJECT NAME Bridge Point Seattle 130

PO # DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs				Notes
MW8-0424	01 A-G	4.24.2024	1137	WATER	7	X	X						X				w/+ w/out SGC
MW4-0424	02 A-C	↓	1232	↓	3								X				
MW6-0424	03 ↓	↓	1322	↓	3								X				
~~MW2-0424~~		↓	~~1407~~	↓													RJ
								Samples received at						4	°C		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R Jones	Rusty Jones	CRETE	4/25/2024	1124
Received by:	ANH PHAN	FSB	04/25/24	11:21
Relinquished by:				
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 404393 CLIENT CTC INITIALS/ DATE: AP 04/25/24

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

Cooler/Sample temperature 4 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

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

Number of days samples have been sitting prior to receipt at laboratory 1 days

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

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

Is the following information provided on the COC* ? (explain "no" answer below)

Sample ID's	☑ Yes	☐ No	# of Containers	☑ Yes	☐ No
Date Sampled	☑ Yes	☐ No	Relinquished	☑ Yes	☐ No
Time Sampled	☐ Yes	☐ No	Requested analysis	☑ Yes	☐ No

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

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

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

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

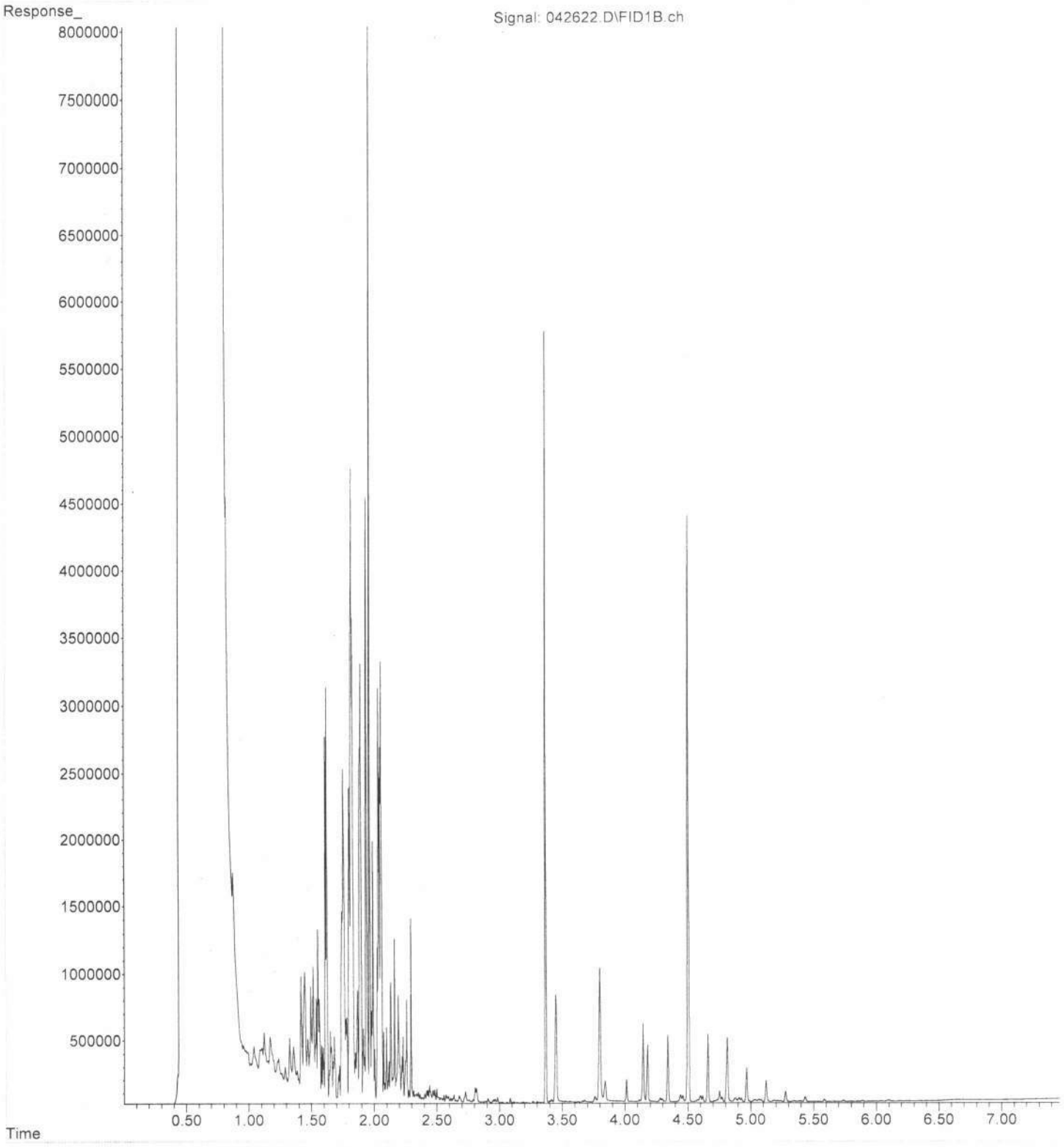
Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

If Yes:
Number of unused TO15 canisters _____ Number of unused TO17 tubes _____

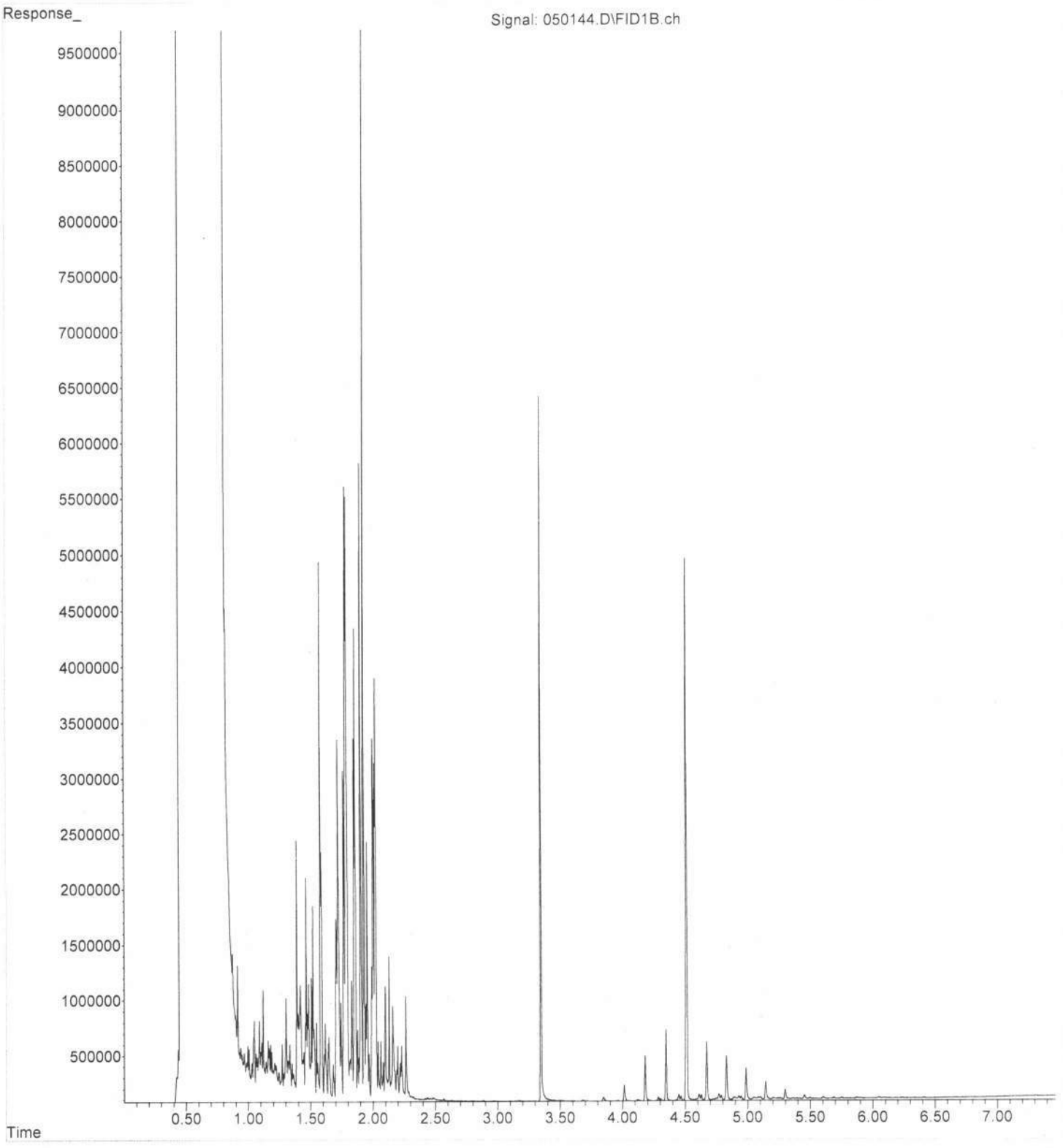
Explain "no" items from above (use the back if needed)

File :P:\Proc_GC14\04-26-24\042622.D
Operator : TL
Acquired : 26 Apr 2024 01:12 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 404393-01
Misc Info :
Vial Number: 22

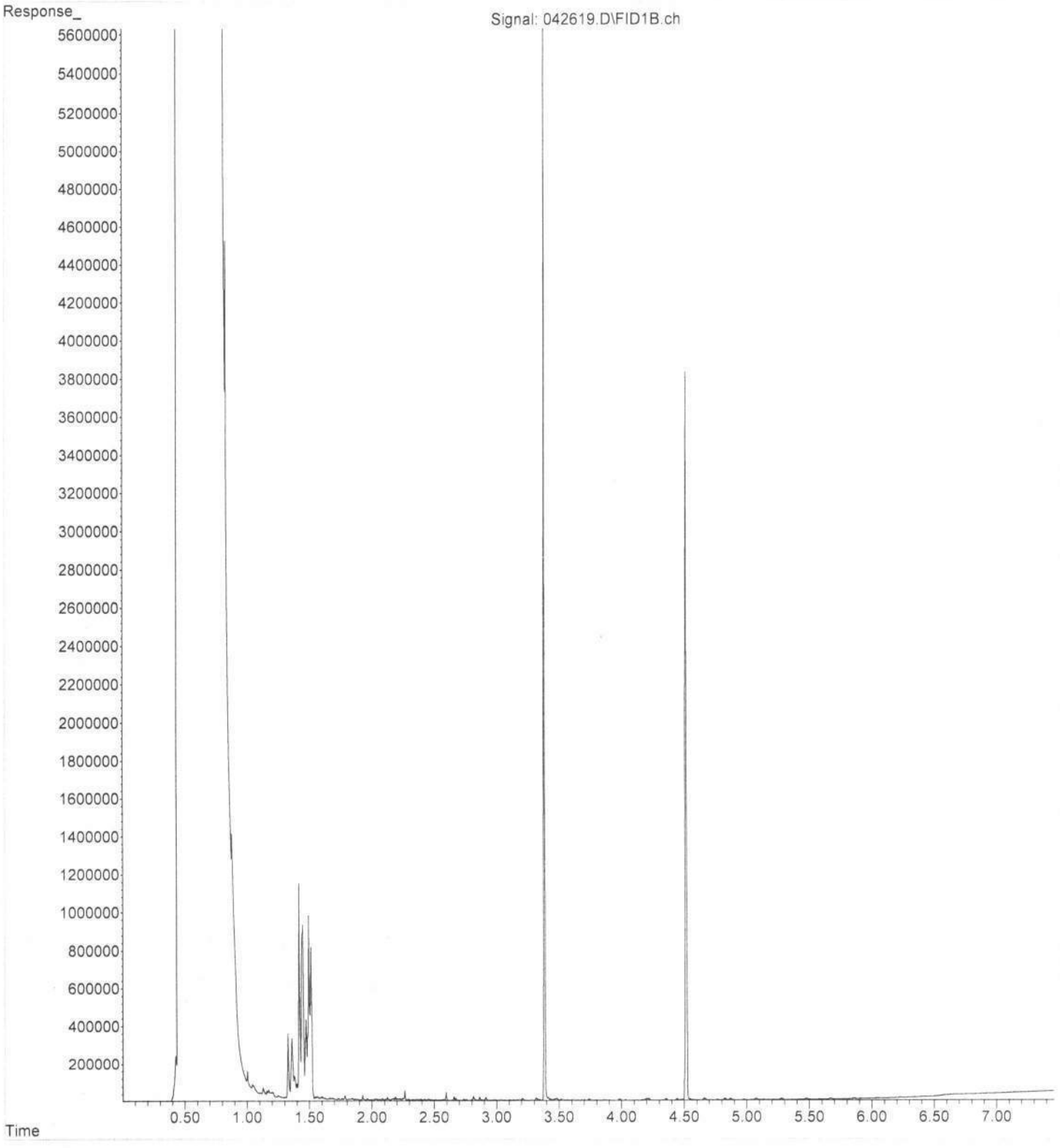
ERR



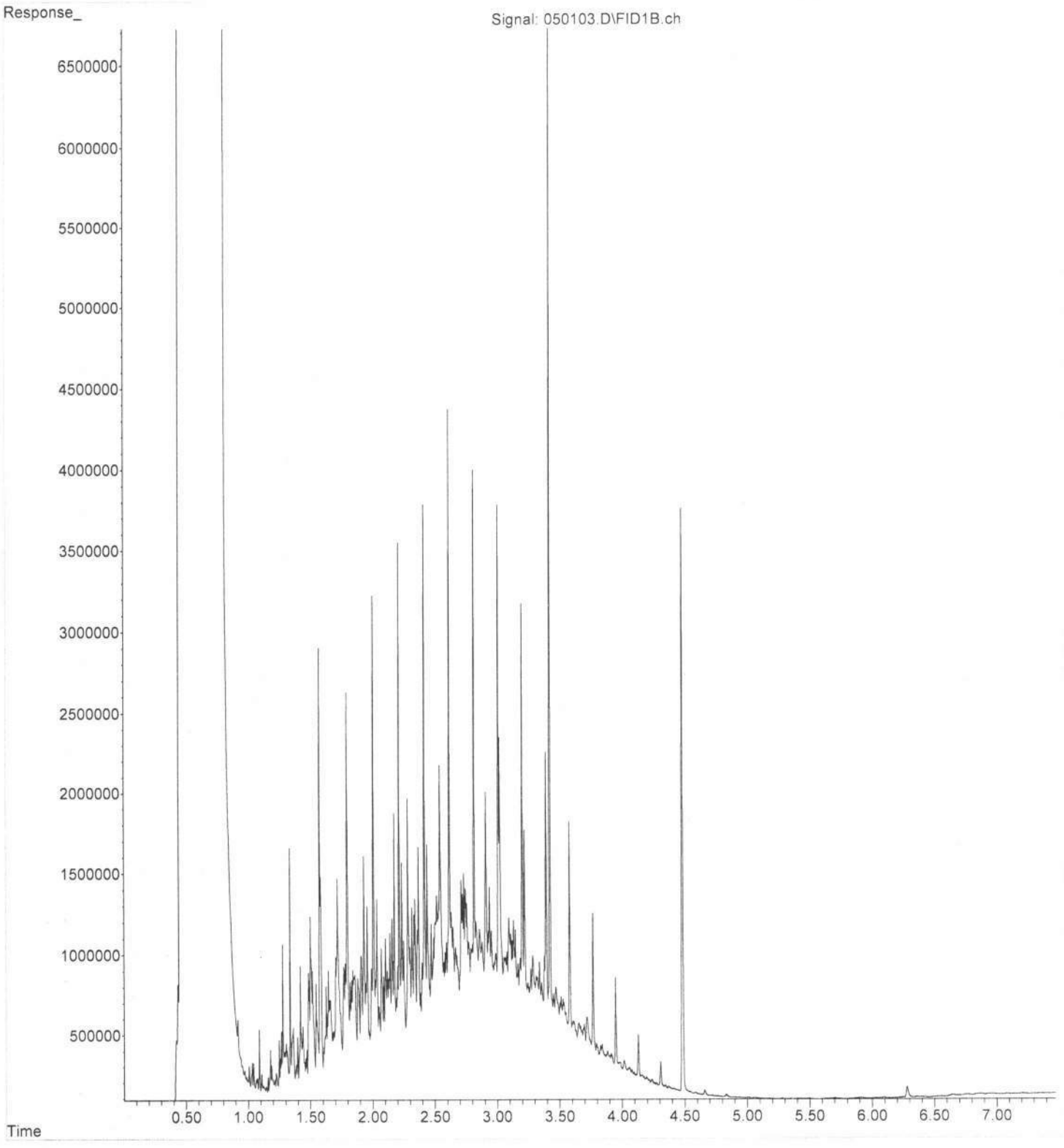
File :P:\Proc_GC10\05-01-24\050144.D
Operator : IJL
Acquired : 01 May 2024 08:19 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 404393-01 sg rr
Misc Info :
Vial Number: 15



File :P:\Proc_GC14\04-26-24\042619.D
Operator : TL
Acquired : 26 Apr 2024 12:36 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 04-1025 mb
Misc Info : ERR
Vial Number: 19

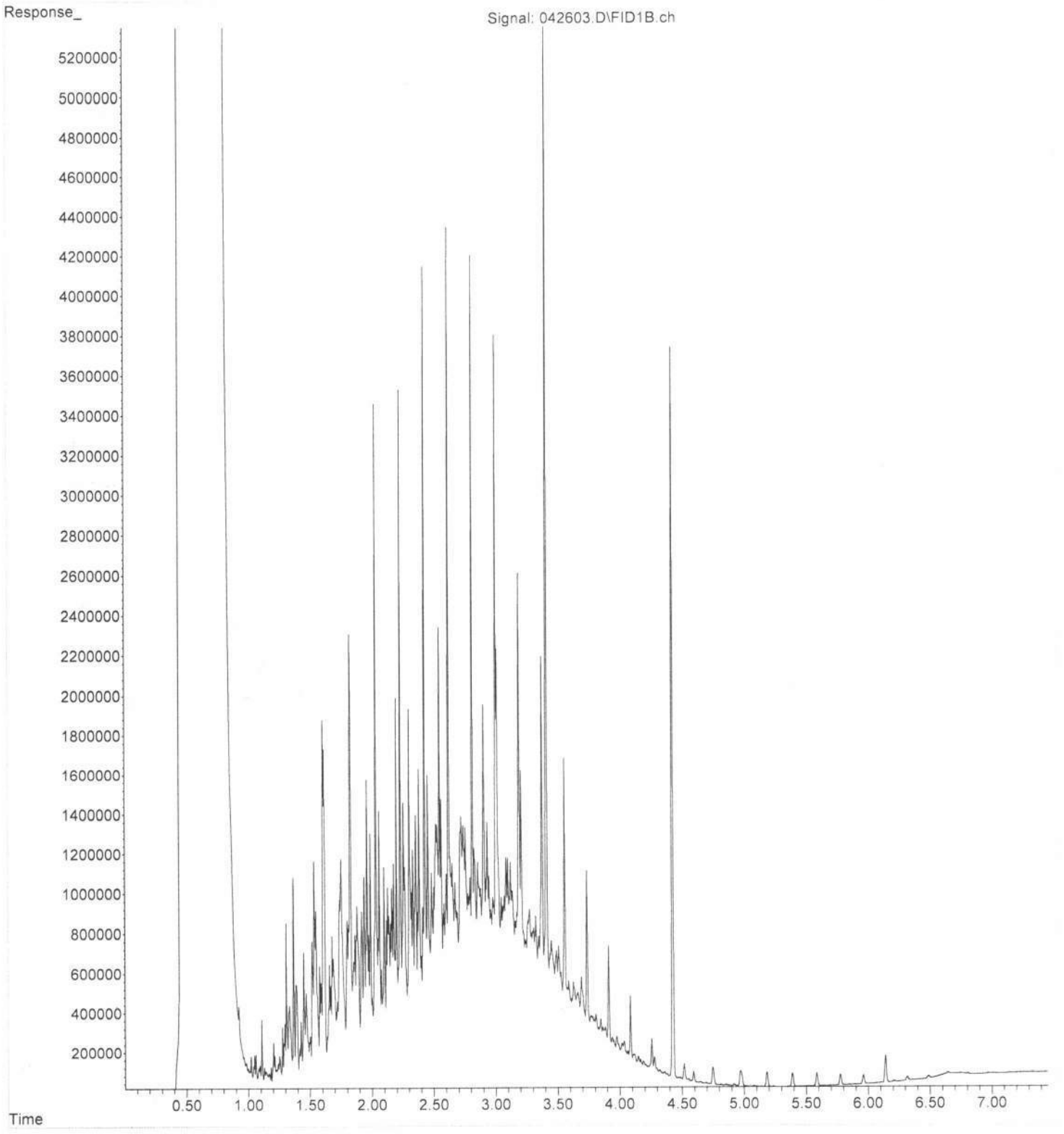


File :P:\Proc_GC10\05-01-24\050103.D
Operator : IJL
Acquired : 01 May 2024 09:02 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 500 DX 71-40G
Misc Info :
Vial Number: 3



File :P:\Proc_GC14\04-26-24\042603.D
Operator : TL
Acquired : 26 Apr 2024 08:45 am using AcqMethod DX.M
Instrument : GC14
Sample Name: 500 Dx 71-40G
Misc Info :
Vial Number: 3

ERR



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

June 26, 2024

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

Dear Mr Jones:

Included are the results from the testing of material submitted on June 6, 2024 from the Bridge Point Seattle 130 DAWN, F&BI 406075 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Grant Hainsworth, Jamie Stevens
CTC0626R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 6, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 406075 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
406075 -01	MW7-0624
406075 -02	DW-0624
406075 -03	MW5-0624

Samples DW-0624 was sent to Analytical Resources, Inc. for dioxins and furans. The report is enclosed.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW7-0624	Client:	Crete Consulting
Date Received:	06/06/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/10/24	Lab ID:	406075-01
Date Analyzed:	06/10/24	Data File:	061014.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

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

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0624	Client:	Crete Consulting
Date Received:	06/06/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/10/24	Lab ID:	406075-03
Date Analyzed:	06/10/24	Data File:	061017.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	78	126
Toluene-d8	85	84	115
4-Bromofluorobenzene	90	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	5.8
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	11

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/10/24	Lab ID:	04-1254 mb
Date Analyzed:	06/10/24	Data File:	061009.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	78	126
Toluene-d8	97	84	115
4-Bromofluorobenzene	95	72	130

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

Date of Report: 06/26/24
Date Received: 06/06/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406075

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

Laboratory Code: 406075-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	104	50-150
Chloroethane	ug/L (ppb)	10	<1	105	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	101	50-150
Methylene chloride	ug/L (ppb)	10	<5	95	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	102	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	102	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	106	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	99	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	107	50-150

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)	10	95	102	64-142	7
Chloroethane	ug/L (ppb)	10	98	104	70-130	6
1,1-Dichloroethene	ug/L (ppb)	10	92	98	64-140	6
Methylene chloride	ug/L (ppb)	10	84	91	43-134	8
trans-1,2-Dichloroethene	ug/L (ppb)	10	90	100	70-130	11
1,1-Dichloroethane	ug/L (ppb)	10	93	99	70-130	6
cis-1,2-Dichloroethene	ug/L (ppb)	10	94	100	70-130	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	96	100	70-130	4
1,1,1-Trichloroethane	ug/L (ppb)	10	96	103	70-130	7
Trichloroethene	ug/L (ppb)	10	90	94	70-130	4
Tetrachloroethene	ug/L (ppb)	10	94	99	70-130	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, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

406075

SAMPLE CHAIN OF CUSTODY 06/06/24 I3/VW1

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address 16300 Christensen Rd, Ste 214

City, State, ZIP Tukwila WA 98188

Phone 832-330-1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
- ☒ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

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

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	D/F			Notes
MW7-0624	01 A-C	6/6/2024	0935	WATER	3								X				
DW-0624	02	↓	1035	↓	1									X			
MW5-0624	03 A-C	↓	1227	↓	3								X				
													Samples received at 6 °C				

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	6/6/2024	1323
Received by:	Nhan Pham	FEBI	6/6/2024	1323
Relinquished by:				
Received by:				

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 406075 CLIENT Crete INITIALS/DATE: (NP) 6/6/24

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

Cooler/Sample temperature 0 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

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

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/Date: (NP) 6/6/24
*or other representative documents, letters, and/or shipping memos

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

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

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

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

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

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

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

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

Other comments (use a separate page if needed)

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

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

Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

25 June 2024

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

RE: 406075 (406075)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24F0156	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Kelly Bottem For Shelly Fishel, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

24F0156

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER ARI	
PROJECT NAME/NO. 406075	PO # E-227
REMARKS EIM EDD	

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

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

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins/Furans										Notes
DW-0624		6/6/2024	1035	water	1	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:		Michael Erdahl	Friedman & Bruya	6/7/24	0815
Received by:		Sarah Gunn	ARLLC	6/7/24	~~0815~~ 1131
Relinquished by:					
Received by:					

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DW-0624	24F0156-01	Water	06-Jun-2024 10:35	07-Jun-2024 11:31

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

Work Order Case Narrative

Client: Friedman & Bruya Inc
Project: 406075
Work Order: 24F0156

Sample receipt

Samples as listed on the preceding page were received June 7, 2024 under ARI work order 24F0156. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Dioxin/Furans - EPA Method 1613

The sample(s) were extracted and analyzed within the recommended holding times. Analysis was performed using an application specific column developed by Restek. The RTX-Dioxin2 column has unique isomer separation for the 2378-TCDF, eliminating the need for confirmation analysis.

Initial and continuing calibrations were within method requirements.

Labeled internal standard areas were within limits.

The cleanup surrogate percent recoveries were within control limits.

The method blank(s) contained OCDD. Samples that contain OCDD have been flagged with a "B" qualifer.

The OPR (Ongoing Precision and Recovery) standard percent recoveries were within control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Friedman & Bruya inc. Project Name: 406075

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 24F0156 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 2.8

Time 11:31

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 9708

Cooler Accepted by: Date: 6/7/24 Time: 11:31

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: Equipment: Split by:

Samples Logged by: PZB Date: 6/10/24 Time: 10:00 Labels checked by: PXB

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

DW-0624

24F0156-01 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 06/06/2024 10:35
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 06/18/2024 20:47

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 24F0156-01 A 01
	Preparation Batch: BMF0368	Sample Size: 1050 mL	
	Prepared: 06/17/2024	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24F0156-01 A 01
	Cleanup Batch: CMF0106	Initial Volume: 20 uL	
	Cleaned: 17-Jun-2024	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:24F0156-01 A 01
	Cleanup Batch: CMF0107	Initial Volume: 20 uL	
	Cleaned: 17-Jun-2024	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	1.55	9.52	ND	pg/L	U
2,3,7,8-TCDD			0.655-0.886	1.26	9.52	ND	pg/L	U
1,2,3,7,8-PeCDF			1.318-1.783	1.58	9.52	ND	pg/L	U
2,3,4,7,8-PeCDF			1.318-1.783	1.52	9.52	ND	pg/L	U
1,2,3,7,8-PeCDD			1.318-1.783	1.86	9.52	ND	pg/L	U
1,2,3,4,7,8-HxCDF			1.054-1.426	1.21	9.52	ND	pg/L	U
1,2,3,6,7,8-HxCDF			1.054-1.426	1.27	9.52	ND	pg/L	U
2,3,4,6,7,8-HxCDF			1.054-1.426	1.36	9.52	ND	pg/L	U
1,2,3,7,8,9-HxCDF			1.054-1.426	1.95	9.52	ND	pg/L	U
1,2,3,4,7,8-HxCDD			1.054-1.426	2.15	9.52	ND	pg/L	U
1,2,3,6,7,8-HxCDD			1.054-1.426	2.23	9.52	ND	pg/L	U
1,2,3,7,8,9-HxCDD			1.054-1.426	2.38	9.52	ND	pg/L	U
1,2,3,4,6,7,8-HpCDF			0.893-1.208	1.18	19.0	ND	pg/L	U
1,2,3,4,7,8,9-HpCDF			0.893-1.208	1.89	9.52	ND	pg/L	U
1,2,3,4,6,7,8-HpCDD		0.976	0.893-1.208	2.44	9.52	**6.72**	pg/L	J
OCDF		0.501	0.757-1.024	2.57	19.0	**2.65**	pg/L	EMPC, J
OCDD		0.840	0.757-1.024	3.97	47.6	**62.1**	pg/L	B
Homologue groups								
Total TCDF					9.52	ND	pg/L	U
Total TCDD					9.52	ND	pg/L	U
Total PeCDF					9.52	ND	pg/L	U
Total PeCDD					9.52	ND	pg/L	U
Total HxCDF					9.52	ND	pg/L	U
Total HxCDD					9.52	ND	pg/L	U
Total HpCDF					9.52	ND	pg/L	U
Total HpCDD					9.52	**6.72**	pg/L	J

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

DW-0624

24F0156-01 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 06/06/2024 10:35

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 06/18/2024 20:47

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					2.62		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.09		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					2.62		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.09		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

DW-0624

24F0156-01 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 06/06/2024 10:35

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 06/18/2024 20:47

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.725*	*0.655-0.886*	*24-169 %*	*95.3*	*%*	
13C12-2,3,7,8-TCDD		*0.792*	*0.655-0.886*	*25-164 %*	*96.2*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.602*	*1.318-1.783*	*24-185 %*	*106*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.497*	*1.318-1.783*	*21-178 %*	*102*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.647*	*1.318-1.783*	*25-181 %*	*104*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.537*	*0.434-0.587*	*26-152 %*	*141*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.536*	*0.434-0.587*	*26-130 %*	*125*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.547*	*0.434-0.587*	*28-136 %*	*120*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.536*	*0.434-0.587*	*29-147 %*	*115*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.236*	*1.054-1.426*	*32-141 %*	*111*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.244*	*1.054-1.426*	*28-130 %*	*115*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.443*	*0.374-0.506*	*28-143 %*	*121*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.429*	*0.374-0.506*	*26-138 %*	*118*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.091*	*0.893-1.208*	*23-140 %*	*127*	*%*	
13C12-OCDD		*0.924*	*0.757-1.024*	*17-157 %*	*130*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*99.5*	*%*	

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMF0368-BLK1)				Prepared: 17-Jun-2024 Analyzed: 18-Jun-2024 12:20							
2,3,7,8-TCDF		0.655-0.886	1.70	10.0	ND	pg/L					U
2,3,7,8-TCDD		0.655-0.886	1.39	10.0	ND	pg/L					U
1,2,3,7,8-PeCDF		1.318-1.783	1.84	10.0	ND	pg/L					U
2,3,4,7,8-PeCDF		1.318-1.783	1.85	10.0	ND	pg/L					U
1,2,3,7,8-PeCDD		1.318-1.783	2.35	10.0	ND	pg/L					U
1,2,3,4,7,8-HxCDF		1.054-1.426	1.42	10.0	ND	pg/L					U
1,2,3,6,7,8-HxCDF		1.054-1.426	1.37	10.0	ND	pg/L					U
2,3,4,6,7,8-HxCDF		1.054-1.426	1.46	10.0	ND	pg/L					U
1,2,3,7,8,9-HxCDF		1.054-1.426	2.05	10.0	ND	pg/L					U
1,2,3,4,7,8-HxCDD		1.054-1.426	2.09	10.0	ND	pg/L					U
1,2,3,6,7,8-HxCDD		1.054-1.426	2.08	10.0	ND	pg/L					U
1,2,3,7,8,9-HxCDD		1.054-1.426	2.26	10.0	ND	pg/L					U
1,2,3,4,6,7,8-HpCDF		0.893-1.208	1.48	20.0	ND	pg/L					U
1,2,3,4,7,8,9-HpCDF		0.893-1.208	2.62	10.0	ND	pg/L					U
1,2,3,4,6,7,8-HpCDD		0.893-1.208	2.59	10.0	ND	pg/L					U
OCDF		0.757-1.024	2.97	20.0	ND	pg/L					U
OCDD	0.850	0.757-1.024		50.0	5.16	pg/L					J
Homologue group											
Total TCDF				10.0	ND	pg/L					U
Total TCDD				10.0	ND	pg/L					U
Total PeCDF				10.0	ND	pg/L					U
Total PeCDD				10.0	ND	pg/L					U
Total HxCDF				10.0	ND	pg/L					U
Total HxCDD				10.0	ND	pg/L					U
Total HpCDF				10.0	ND	pg/L					U
Total HpCDD				10.0	ND	pg/L					U

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):	0.15
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):	0.00
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC=ND):	0.15
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0 EDL, EMPC=ND):	0.00

Labeled compounds					
13C12-2,3,7,8-TCDF	*0.739*	*0.655-0.886*	*94.5*	*24-169 %*	
13C12-2,3,7,8-TCDD	*0.802*	*0.655-0.886*	*101*	*25-164 %*	

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMF0368-BLK1)				Prepared: 17-Jun-2024 Analyzed: 18-Jun-2024 12:20							
13C12-1,2,3,7,8-PeCDF	*1.556*	*1.318-1.783*					*104*			*24-185 %*	
13C12-2,3,4,7,8-PeCDF	*1.557*	*1.318-1.783*					*101*			*21-178 %*	
13C12-1,2,3,7,8-PeCDD	*1.634*	*1.318-1.783*					*108*			*25-181 %*	
13C12-1,2,3,4,7,8-HxCDF	*0.535*	*0.434-0.587*					*128*			*26-152 %*	
13C12-1,2,3,6,7,8-HxCDF	*0.538*	*0.434-0.587*					*117*			*26-123 %*	
13C12-2,3,4,6,7,8-HxCDF	*0.540*	*0.434-0.587*					*117*			*28-136 %*	
13C12-1,2,3,7,8,9-HxCDF	*0.539*	*0.434-0.587*					*115*			*29-147 %*	
13C12-1,2,3,4,7,8-HxCDD	*1.245*	*1.054-1.426*					*113*			*32-141 %*	
13C12-1,2,3,6,7,8-HxCDD	*1.213*	*1.054-1.426*					*114*			*28-130 %*	
13C12-1,2,3,4,6,7,8-HpCDF	*0.453*	*0.374-0.506*					*115*			*28-143 %*	
13C12-1,2,3,4,7,8,9-HpCDF	*0.470*	*0.374-0.506*					*108*			*26-138 %*	
13C12-1,2,3,4,6,7,8-HpCDD	*1.054*	*0.893-1.208*					*120*			*23-140 %*	
13C12-OCDD	*0.977*	*0.757-1.024*					*137*			*17-157 %*	
37Cl4-2,3,7,8-TCDD							*101*			*35-197 %*	

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMF0368-BS1)				Prepared: 17-Jun-2024 Analyzed: 18-Jun-2024 13:08							
2,3,7,8-TCDF	0.866	0.655-0.886		10.0	190	pg/L	94.9	75-158 %			
2,3,7,8-TCDD	0.772	0.655-0.886		10.0	185	pg/L	92.3	67-158 %			
1,2,3,7,8-PeCDF	1.579	1.318-1.783		10.0	950	pg/L	95.0	80-134 %			
2,3,4,7,8-PeCDF	1.594	1.318-1.783		10.0	1020	pg/L	102	68-160 %			
1,2,3,7,8-PeCDD	1.515	1.318-1.783		10.0	948	pg/L	94.8	70-142 %			
1,2,3,4,7,8-HxCDF	1.242	1.054-1.426		10.0	975	pg/L	97.5	72-134 %			
1,2,3,6,7,8-HxCDF	1.164	1.054-1.426		10.0	1080	pg/L	108	84-130 %			
2,3,4,6,7,8-HxCDF	1.260	1.054-1.426		10.0	1100	pg/L	110	70-156 %			
1,2,3,7,8,9-HxCDF	1.274	1.054-1.426		10.0	1080	pg/L	108	78-130 %			
1,2,3,4,7,8-HxCDD	1.258	1.054-1.426		10.0	1120	pg/L	112	70-164 %			
1,2,3,6,7,8-HxCDD	1.313	1.054-1.426		10.0	1050	pg/L	105	76-134 %			
1,2,3,7,8,9-HxCDD	1.229	1.054-1.426		10.0	1060	pg/L	106	64-162 %			
1,2,3,4,6,7,8-HpCDF	1.075	0.893-1.208		20.0	990	pg/L	99.0	82-122 %			
1,2,3,4,7,8,9-HpCDF	1.105	0.893-1.208		10.0	970	pg/L	97.0	78-138 %			
1,2,3,4,6,7,8-HpCDD	1.060	0.893-1.208		10.0	934	pg/L	93.4	70-140 %			
OCDF	0.936	0.757-1.024		20.0	1570	pg/L	78.3	63-170 %			
OCDD	0.860	0.757-1.024		50.0	1900	pg/L	95.2	78-144 %			B
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.744*	*0.655-0.886*			*89.3*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.805*	*0.655-0.886*			*96.4*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.570*	*1.318-1.783*			*99.7*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.520*	*1.318-1.783*			*95.3*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.588*	*1.318-1.783*			*101*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.542*	*0.434-0.587*			*126*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.530*	*0.434-0.587*			*116*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.549*	*0.434-0.587*			*107*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.530*	*0.434-0.587*			*108*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.234*	*1.054-1.426*			*105*			*32-141 %*			

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMF0368-BS1)				Prepared: 17-Jun-2024	Analyzed: 18-Jun-2024 13:08						
13C12-1,2,3,6,7,8-HxCDD	*1.283*	*1.054-1.426*				*113*				*28-130 %*	
13C12-1,2,3,4,6,7,8-HpCDF	*0.435*	*0.374-0.506*				*109*				*28-143 %*	
13C12-1,2,3,4,7,8,9-HpCDF	*0.433*	*0.374-0.506*				*104*				*26-138 %*	
13C12-1,2,3,4,6,7,8-HpCDD	*1.172*	*0.893-1.208*				*118*				*23-140 %*	
13C12-OCDD	*0.874*	*0.757-1.024*				*125*				*17-157 %*	
37Cl4-2,3,7,8-TCDD						*98.7*				*35-197 %*	

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BMF0368-BSD1)				Prepared: 17-Jun-2024 Analyzed: 18-Jun-2024 14:10							
2,3,7,8-TCDF	0.738	0.655-0.886		10.0	181	pg/L	90.4	75-158 %	4.84	25	
2,3,7,8-TCDD	0.731	0.655-0.886		10.0	186	pg/L	93.1	67-158 %	0.85	25	
1,2,3,7,8-PeCDF	1.523	1.318-1.783		10.0	930	pg/L	93.0	80-134 %	2.11	25	
2,3,4,7,8-PeCDF	1.526	1.318-1.783		10.0	996	pg/L	99.6	68-160 %	2.55	25	
1,2,3,7,8-PeCDD	1.405	1.318-1.783		10.0	948	pg/L	94.8	70-142 %	0.01	25	
1,2,3,4,7,8-HxCDF	1.217	1.054-1.426		10.0	973	pg/L	97.3	72-134 %	0.21	25	
1,2,3,6,7,8-HxCDF	1.195	1.054-1.426		10.0	994	pg/L	99.4	84-130 %	7.92	25	
2,3,4,6,7,8-HxCDF	1.233	1.054-1.426		10.0	1030	pg/L	103	70-156 %	7.42	25	
1,2,3,7,8,9-HxCDF	1.088	1.054-1.426		10.0	1060	pg/L	106	78-130 %	1.81	25	
1,2,3,4,7,8-HxCDD	1.249	1.054-1.426		10.0	1040	pg/L	104	70-164 %	7.11	25	
1,2,3,6,7,8-HxCDD	1.313	1.054-1.426		10.0	996	pg/L	99.6	76-134 %	5.54	25	
1,2,3,7,8,9-HxCDD	1.237	1.054-1.426		10.0	1010	pg/L	101	64-162 %	4.75	25	
1,2,3,4,6,7,8-HpCDF	1.018	0.893-1.208		20.0	971	pg/L	97.1	82-122 %	1.92	25	
1,2,3,4,7,8,9-HpCDF	1.084	0.893-1.208		10.0	950	pg/L	95.0	78-138 %	2.10	25	
1,2,3,4,6,7,8-HpCDD	1.010	0.893-1.208		10.0	1040	pg/L	104	70-140 %	10.90	25	
OCDF	0.913	0.757-1.024		20.0	1500	pg/L	74.8	63-170 %	4.45	25	
OCDD	0.935	0.757-1.024		50.0	1890	pg/L	94.4	78-144 %	0.85	25	B
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.748*	*0.655-0.886*			*90.3*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.793*	*0.655-0.886*			*97.4*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.617*	*1.318-1.783*			*102*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.525*	*1.318-1.783*			*96.0*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.631*	*1.318-1.783*			*106*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.520*	*0.434-0.587*			*125*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.511*	*0.434-0.587*			*119*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.516*	*0.434-0.587*			*113*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.538*	*0.434-0.587*			*111*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.238*	*1.054-1.426*			*109*			*32-141 %*			

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BMF0368-BSD1)				Prepared: 17-Jun-2024	Analyzed: 18-Jun-2024 14:10						
13C12-1,2,3,6,7,8-HxCDD	*1.270*	*1.054-1.426*					*110*			*28-130 %*	
13C12-1,2,3,4,6,7,8-HpCDF	*0.454*	*0.374-0.506*					*110*			*28-143 %*	
13C12-1,2,3,4,7,8,9-HpCDF	*0.464*	*0.374-0.506*					*106*			*26-138 %*	
13C12-1,2,3,4,6,7,8-HpCDD	*0.960*	*0.893-1.208*					*116*			*23-140 %*	
13C12-OCDD	*1.018*	*0.757-1.024*					*127*			*17-157 %*	
37Cl4-2,3,7,8-TCDD							*98.7*			*35-197 %*	

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

Certified Analyses included in this Report

Analyte	Certifications
EPA 1613B in Water	
2,3,7,8-TCDF	DoD-ELAP,NELAP,WADOE
2,3,7,8-TCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
2,3,4,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
2,3,4,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8,9-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDD	DoD-ELAP,NELAP,WADOE
OCDF	DoD-ELAP,NELAP,WADOE
OCDD	DoD-ELAP,NELAP,WADOE
Total TCDF	DoD-ELAP,NELAP
Total TCDD	DoD-ELAP,NELAP
Total PeCDF	DoD-ELAP,NELAP
Total PeCDD	DoD-ELAP,NELAP
Total HxCDF	DoD-ELAP,NELAP
Total HxCDD	DoD-ELAP,NELAP
Total HpCDF	DoD-ELAP,NELAP
Total HpCDD	DoD-ELAP,NELAP
13C12-2,3,7,8-TCDF	DoD-ELAP
13C12-2,3,7,8-TCDD	DoD-ELAP
13C12-1,2,3,7,8-PeCDF	DoD-ELAP
13C12-2,3,4,7,8-PeCDF	DoD-ELAP
13C12-1,2,3,7,8-PeCDD	DoD-ELAP

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

13C12-1,2,3,4,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,6,7,8-HxCDF	DoD-ELAP
13C12-2,3,4,6,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,7,8,9-HxCDF	DoD-ELAP
13C12-1,2,3,4,7,8-HxCDD	DoD-ELAP
13C12-1,2,3,6,7,8-HxCDD	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDF	DoD-ELAP
13C12-1,2,3,4,7,8,9-HpCDF	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDD	DoD-ELAP
13C12-OCDD	DoD-ELAP
37Cl4-2,3,7,8-TCDD	DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2025
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Friedman & Bruya Inc.	Project: 406075	
5500 4th Ave S	Project Number: 406075	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 13:32

Notes and Definitions

B	This analyte was detected in the method blank.
EMPC	Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

June 27, 2024

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

Dear Mr Jones:

Included are the results from the testing of material submitted on June 5, 2024 from the Bridge Point Seattle 130 DAWN, F&BI 406051 project. There are 14 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: Grant Hainsworth, Jamie Stevens
CTC0627R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 5, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 406051 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
406051 -01	MW3-0624
406051 -02	MW8-0624

Samples MW3-0624 and MW8-0624 were sent to Analytical Resources, Inc. for dioxins and furans, both standard and centrifuged. The report is enclosed.

The 8082 laboratory control sample and laboratory control sample duplicate did not meet the relative percent. PCBs were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 06/27/24
Date Received: 06/05/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406051
Date Extracted: 06/05/24
Date Analyzed: 06/06/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW8-0624 406051-02	2,900	117
Method Blank 04-917 MB	<100	105

Date of Report: 06/27/24
Date Received: 06/05/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406051
Date Extracted: 06/06/24
Date Analyzed: 06/10/24

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW8-0624 406051-02	1,000 x	<250	89
Method Blank 04-1280 MB2	<50	<250	80

Date of Report: 06/27/24
Date Received: 06/05/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406051
Date Extracted: 06/07/24
Date Analyzed: 06/07/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW8-0624 406051-02	1,200 x	<250	95
Method Blank 04-1280 MB2	<50	<250	83

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW8-0624	Client:	Crete Consulting
Date Received:	06/05/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/06/24	Lab ID:	406051-02
Date Analyzed:	06/06/24	Data File:	060639.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	96	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.7
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)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	1.0
Tetrachloroethene	2.6

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/06/24	Lab ID:	04-1247 mb
Date Analyzed:	06/06/24	Data File:	060626.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	104	72	130

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

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW3-0624	Client:	Crete Consulting
Date Received:	06/05/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/06/24	Lab ID:	406051-01
Date Analyzed:	06/06/24	Data File:	060609.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	37	24	127
Decachlorobiphenyl	57	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.013 j
Aroclor 1232	<0.013 j
Aroclor 1016	<0.013 j
Aroclor 1242	<0.013 j
Aroclor 1248	<0.013 j
Aroclor 1254	<0.013 j
Aroclor 1260	<0.013 j
Aroclor 1262	<0.013 j
Aroclor 1268	<0.013 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/06/24	Lab ID:	04-1288 mb
Date Analyzed:	06/06/24	Data File:	060604.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	52	24	127
Decachlorobiphenyl	22	10	89

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.013 j
Aroclor 1232	<0.013 j
Aroclor 1016	<0.013 j
Aroclor 1242	<0.013 j
Aroclor 1248	<0.013 j
Aroclor 1254	<0.013 j
Aroclor 1260	<0.013 j
Aroclor 1262	<0.013 j
Aroclor 1268	<0.013 j

Date of Report: 06/27/24
Date Received: 06/05/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406051

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

Laboratory Code: 406059-01 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	70-130

Date of Report: 06/27/24
Date Received: 06/05/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406051

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

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	84	80	65-151	5

Date of Report: 06/27/24
Date Received: 06/05/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406051

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	84	80	65-151	5

Date of Report: 06/27/24
Date Received: 06/05/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406051

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

Laboratory Code: 406058-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	99	50-150
Chloroethane	ug/L (ppb)	10	<1	102	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	96	50-150
Methylene chloride	ug/L (ppb)	10	<5	91	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	95	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	96	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	97	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	99	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	93	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	99	50-150

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)	10	104	99	64-142	5
Chloroethane	ug/L (ppb)	10	105	103	70-130	2
1,1-Dichloroethene	ug/L (ppb)	10	98	97	64-140	1
Methylene chloride	ug/L (ppb)	10	98	96	43-134	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	100	96	70-130	4
1,1-Dichloroethane	ug/L (ppb)	10	99	97	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	97	95	70-130	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	106	104	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	103	101	70-130	2
Trichloroethene	ug/L (ppb)	10	100	99	70-130	1
Tetrachloroethene	ug/L (ppb)	10	105	104	70-130	1

Date of Report: 06/27/24
Date Received: 06/05/24
Project: Bridge Point Seattle 130 DAWN, F&BI 406051

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	58	72	20-94	22 vo
Aroclor 1260	ug/L (ppb)	0.25	59	74	23-123	23 vo

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

406051

SAMPLE CHAIN OF CUSTODY

06/05/24 VW1/I3

Report To Jones, Hainsworth, Stevens

Company CRETE CONSULTING

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*): Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO: CRETE

Page # 1 of 1

TURNAROUND TIME
- ~~X~~ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	D/F (regular)	D/F (centrifuged)	cVOCs		Notes
MW3-0624	01 A-C	6.5.2024	1035	WATER	3							X	X	X			
MW8-0624	02 A-G	6.5.2024	1211	↓	7	X	X								X		w/+w/out SGC
								Samples received at 0 °C									

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	6/5/2024	1306
Received by:	ANHPHAN	F&D	06/05/24	13:06
Relinquished by:				
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 406051 CLIENT CTC INITIALS/ DATE: AP 06/05/24

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

Cooler/Sample temperature 0 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

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

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: AP 06/05/24
*or other representative documents, letters, and/or shipping memos

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

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

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

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

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

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

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

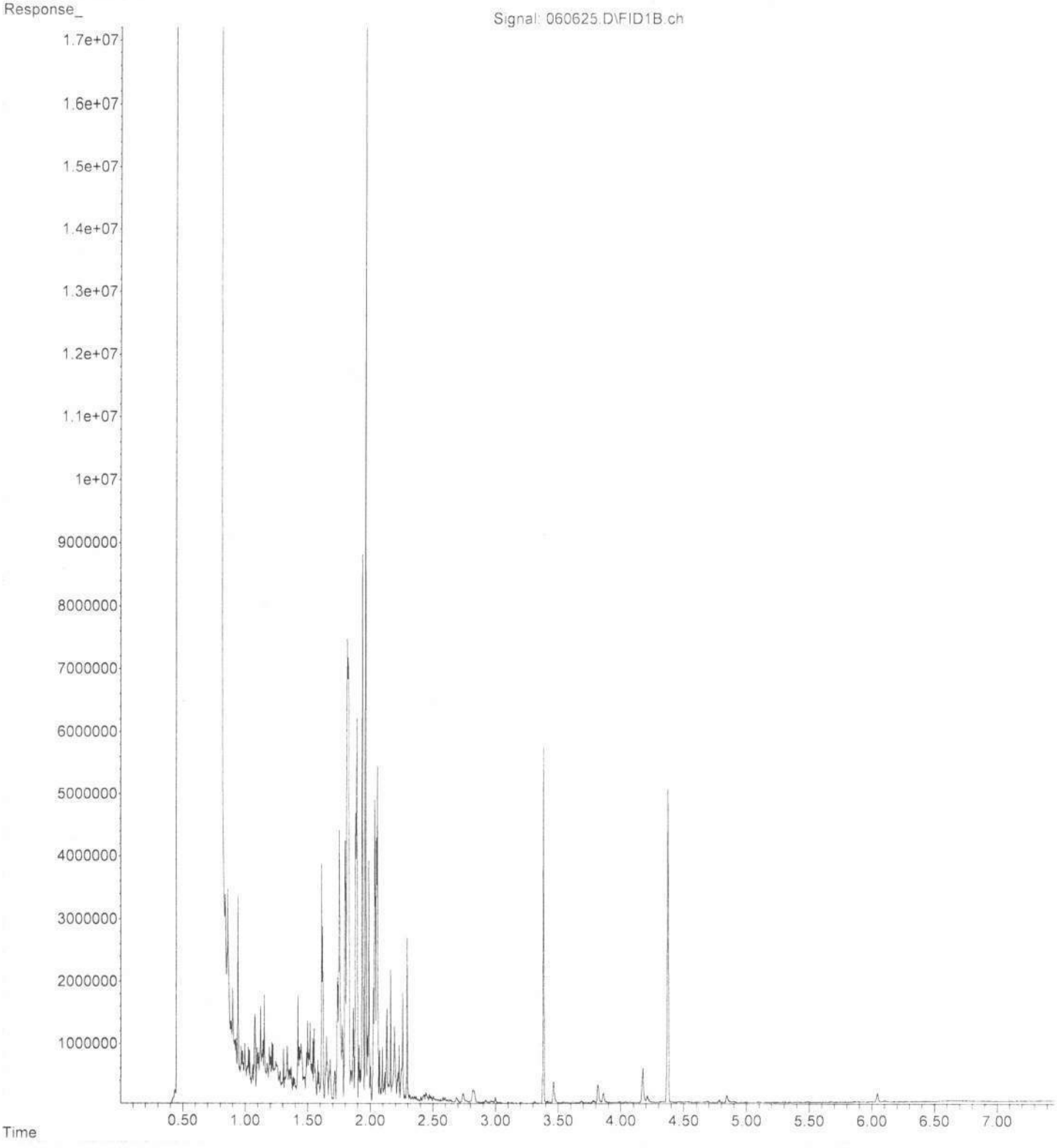
Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

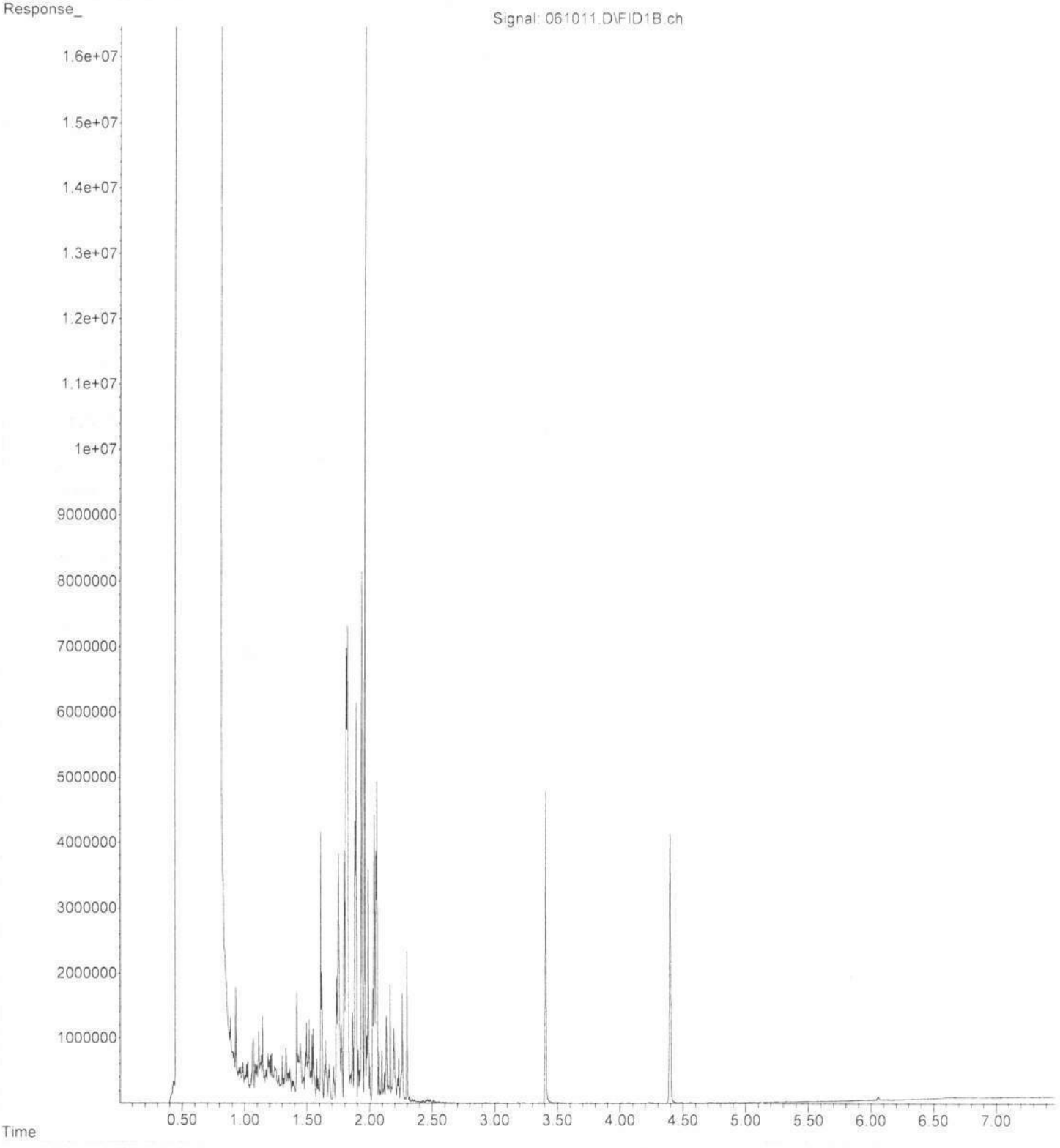
Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

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

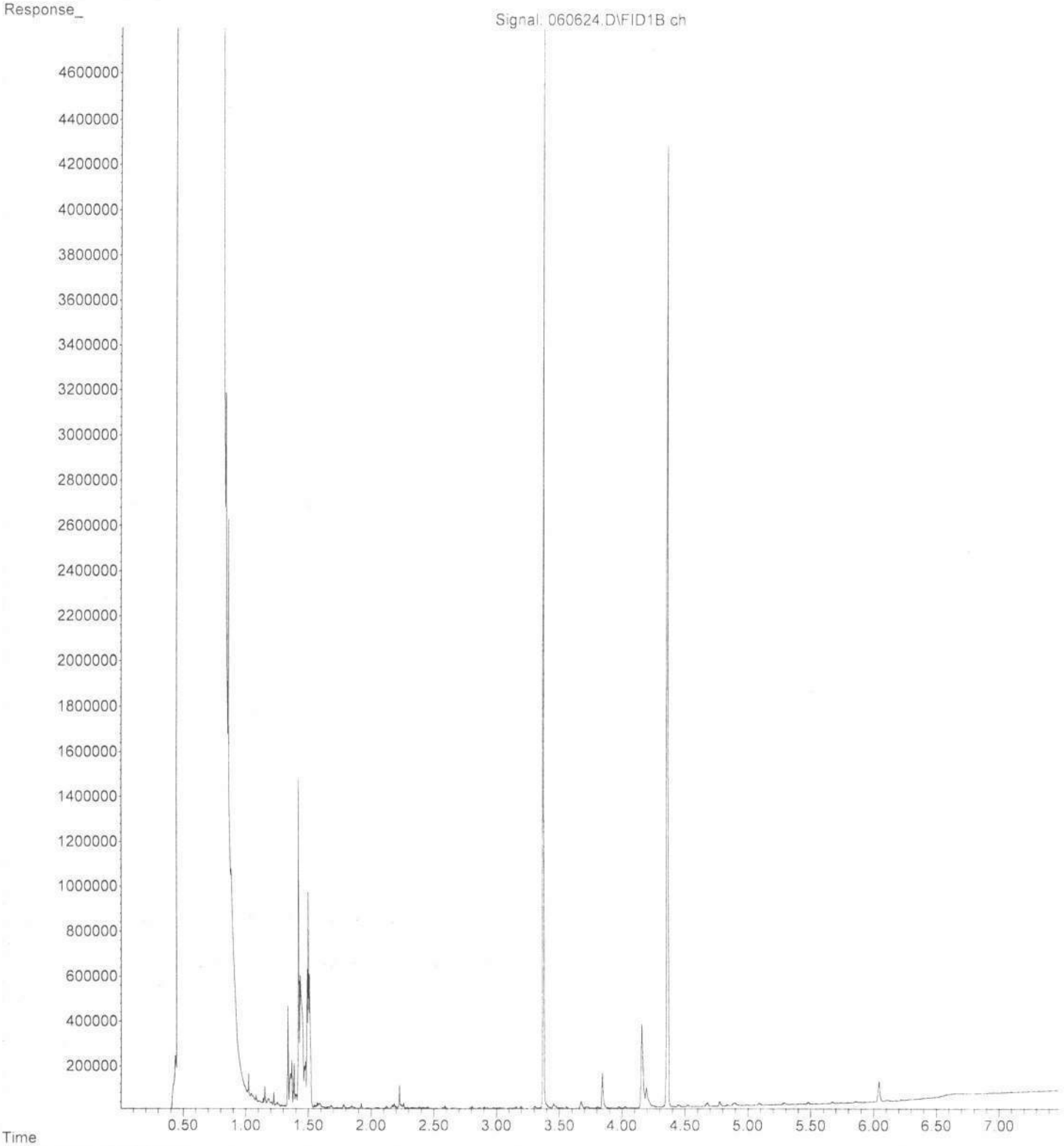
File :P:\Proc_GC14\06-06-24\060625.D
Operator : TL
Acquired : 06 Jun 2024 03:45 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 406051-02
Misc Info : ERR
Vial Number: 25



File :P:\Proc_GC14\06-10-24\061011.D
Operator : TL
Acquired : 10 Jun 2024 11:29 am using AcqMethod DX.M
Instrument : GC14
Sample Name: 406051-02 sg
Misc Info : ERR
Vial Number: 13

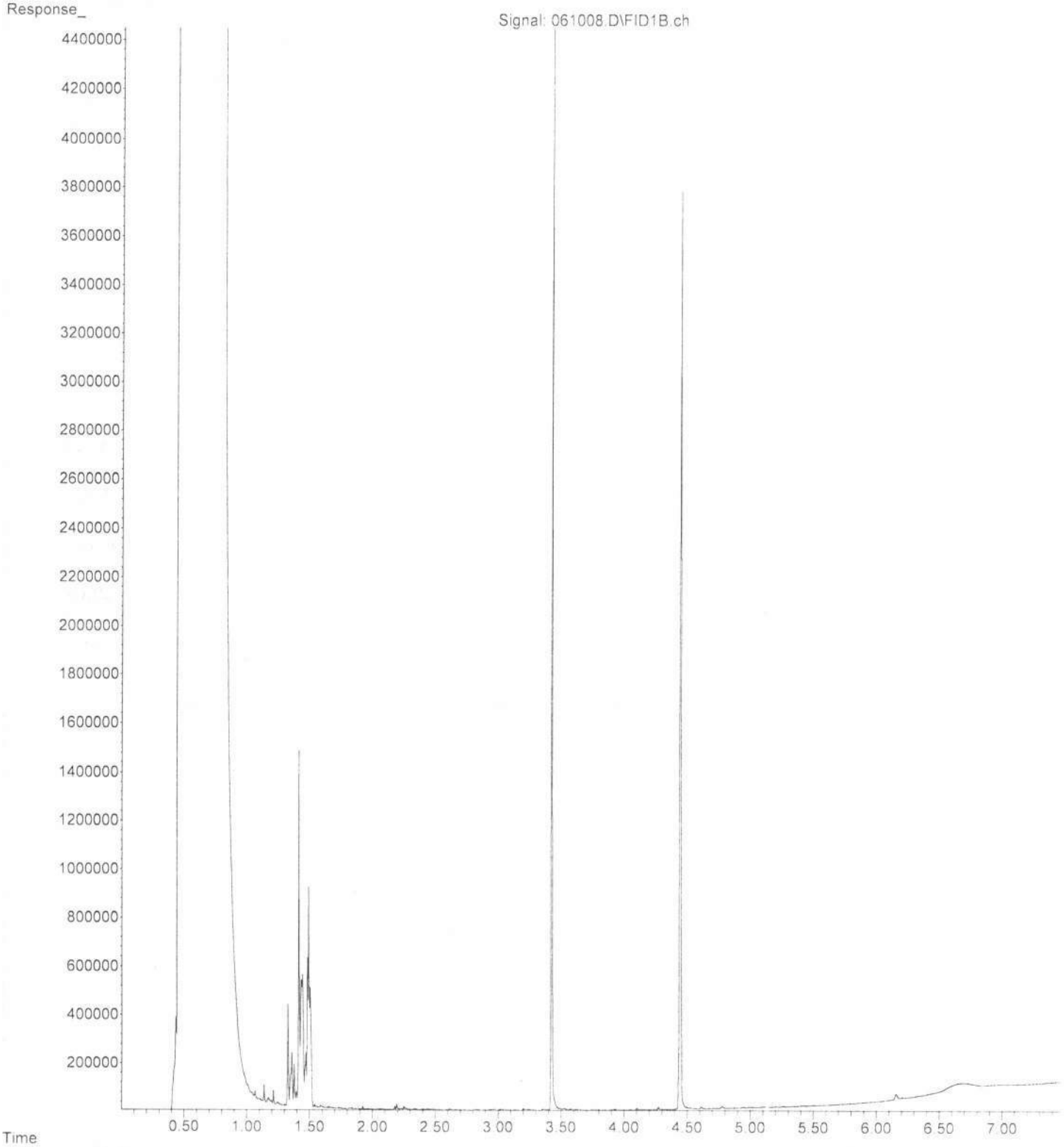


File :P:\Proc_GC14\06-06-24\060624.D
Operator : TL
Acquired : 06 Jun 2024 03:33 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 04-1280 mb2
Misc Info : ERR
Vial Number: 24



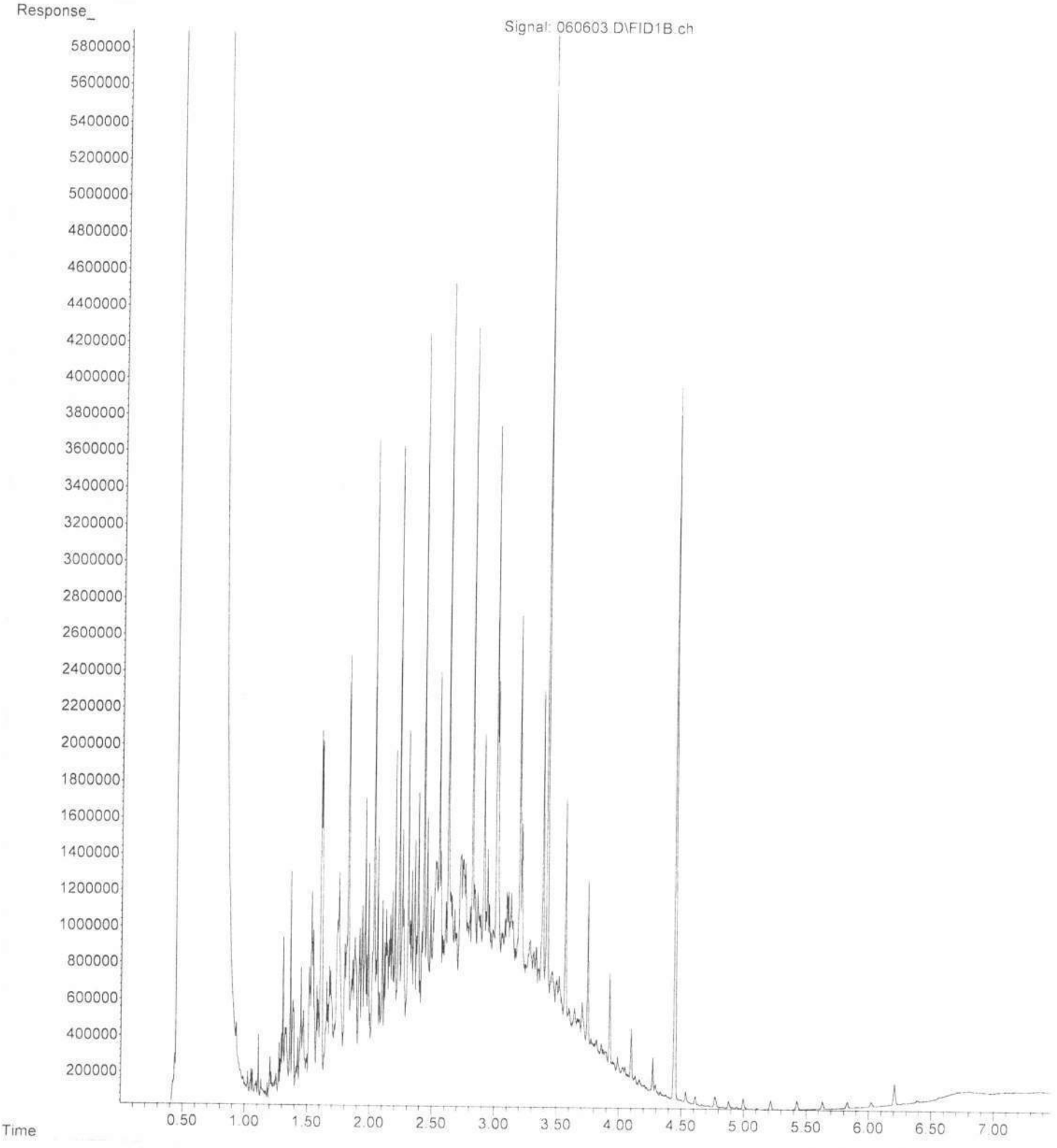
File : P:\Proc_GC14\06-10-24\061008.D
Operator : TL
Acquired : 10 Jun 2024 10:53 am using AcqMethod DX.M
Instrument : GC14
Sample Name: 04-1280 mb2 sg
Misc Info :
Vial Number: 10

ERR

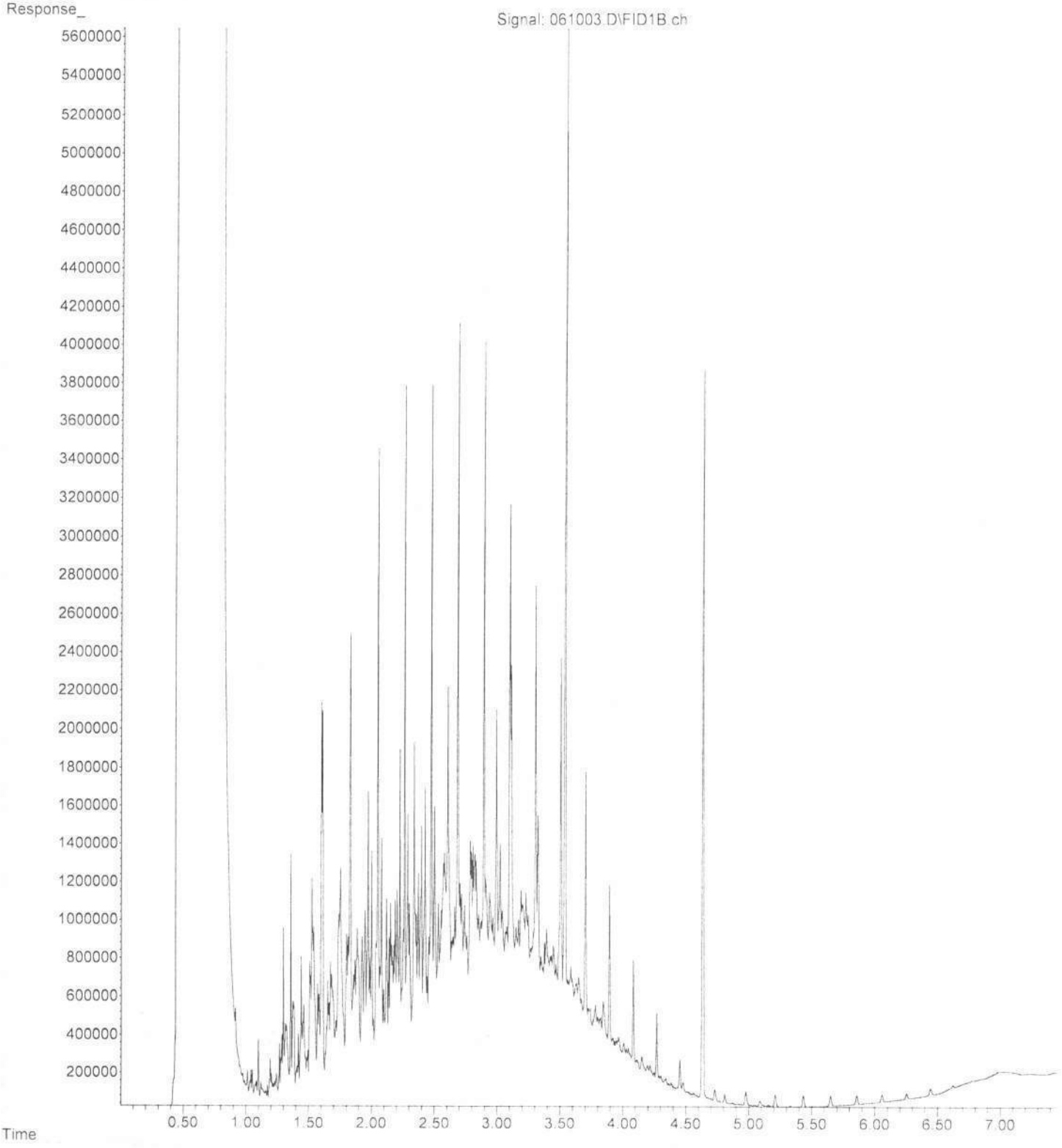


File :P:\Proc_GC14\06-06-24\060603.D
Operator : TL
Acquired : 06 Jun 2024 08:33 am using AcqMethod DX.M
Instrument : GC14
Sample Name: 500 Dx 71-152C
Misc Info :
Vial Number: 3

ERR



File :P:\Proc_GC14\06-10-24\061003.D
Operator : TL
Acquired : 10 Jun 2024 08:59 am using AcqMethod DX.M
Instrument : GC14
Sample Name: 500 Dx 71-152C
Misc Info : ERR
Vial Number: 3



Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

25 June 2024

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

RE: TBT and D/F 2024 (406051)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24F0124	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

24F0124

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER ARI	
PROJECT NAME/NO. 406051	PO # E-227
REMARKS EIM EDD	

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

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

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins and Furans										Notes
MW3-0624		6/5/2024	1035	water	1	x										
MW3-0624 (Centrifuged)		6/5/2024	1211	water	1	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:		Michael Erdahl	Friedman & Bruya	6/6/24	0 1220
Received by:	E. Steward	Emma Stewart	ARI	6/6/24	13:10
Relinquished by:					
Received by:					

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW3-0624	24F0124-01	Water	05-Jun-2024 10:35	06-Jun-2024 13:10
MW3-0624 (Centrifuged)	24F0124-02	Water	05-Jun-2024 12:11	06-Jun-2024 13:10

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

Work Order Case Narrative

Client: Friedman & Bruya Inc.
Project: TBT and D/F 2024
Work Order: 24F0124

Sample receipt

Samples as listed on the preceding page were received 06-Jun-2024 13:10 under ARI work order 24F0124. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Dioxin/Furans - EPA Method 1613

The sample(s) were extracted and analyzed within the recommended holding times. Analysis was performed using an application specific column developed by Restek. The RTX-Dioxin2 column has unique isomer separation for the 2378-TCDF, eliminating the need for confirmation analysis.

Initial and continuing calibrations were within method requirements.

Labeled internal standard areas were within limits.

The cleanup surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits, with low-level response for OCDD. Associated results have been "B"-flagged.

The OPR (Ongoing Precision and Recovery) standard percent or blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent differences (RPD) were within control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: FRIEDMAN & BRUYA Project Name: 406051

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 24F0124 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 4.8

Time 13:10

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 9708

Cooler Accepted by: ES Date: 6/06/24 Time: 13:10

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	Bubble Wrap (Wet Ice) Gel Packs Baggies Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
How were bottles sealed in plastic bags?	Individually	Grouped	(Not)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Were the sample(s) split by ARI? (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: Anthony G. Date: 6/6/24 Time: 1512 Labels checked by: _____

*** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

MW3-0624

24F0124-01 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 06/05/2024 10:35
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 06/18/2024 16:36

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 24F0124-01 A 01
	Preparation Batch: BMF0368	Sample Size: 960 mL	
	Prepared: 06/17/2024	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24F0124-01 A 01
	Cleanup Batch: CMF0106	Initial Volume: 20 uL	
	Cleaned: 17-Jun-2024	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:24F0124-01 A 01
	Cleanup Batch: CMF0107	Initial Volume: 20 uL	
	Cleaned: 17-Jun-2024	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	1.81	10.4	ND	pg/L	U
2,3,7,8-TCDD			0.655-0.886	1.83	10.4	ND	pg/L	U
1,2,3,7,8-PeCDF			1.318-1.783	1.73	10.4	ND	pg/L	U
2,3,4,7,8-PeCDF			1.318-1.783	1.75	10.4	ND	pg/L	U
1,2,3,7,8-PeCDD			1.318-1.783	2.79	10.4	ND	pg/L	U
1,2,3,4,7,8-HxCDF			1.054-1.426	1.21	10.4	ND	pg/L	U
1,2,3,6,7,8-HxCDF			1.054-1.426	1.17	10.4	ND	pg/L	U
2,3,4,6,7,8-HxCDF			1.054-1.426	1.35	10.4	ND	pg/L	U
1,2,3,7,8,9-HxCDF			1.054-1.426	1.76	10.4	ND	pg/L	U
1,2,3,4,7,8-HxCDD			1.054-1.426	2.61	10.4	ND	pg/L	U
1,2,3,6,7,8-HxCDD			1.054-1.426	2.46	10.4	ND	pg/L	U
1,2,3,7,8,9-HxCDD			1.054-1.426	2.74	10.4	ND	pg/L	U
1,2,3,4,6,7,8-HpCDF		7.120	0.893-1.208	1.36	20.8	**19.7**	pg/L	EMPC, J
1,2,3,4,7,8,9-HpCDF			0.893-1.208	2.25	10.4	ND	pg/L	U
1,2,3,4,6,7,8-HpCDD		0.992	0.893-1.208	2.98	10.4	**28.9**	pg/L	
OCDF		1.063	0.757-1.024	4.44	20.8	**23.1**	pg/L	EMPC
OCDD		0.900	0.757-1.024	5.17	52.1	**378**	pg/L	B
Homologue groups								
Total TCDF					10.4	ND	pg/L	U
Total TCDD					10.4	ND	pg/L	U
Total PeCDF					10.4	ND	pg/L	U
Total PeCDD					10.4	ND	pg/L	U
Total HxCDF					10.4	ND	pg/L	U
Total HxCDD					10.4	ND	pg/L	U
Total HpCDF					10.4	**18.7**	pg/L	
Total HpCDD					10.4	**55.2**	pg/L	

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

MW3-0624

24F0124-01 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 06/05/2024 10:35

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 06/18/2024 16:36

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					3.97		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.61		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					3.87		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.40		

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

MW3-0624

24F0124-01 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 06/05/2024 10:35

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 06/18/2024 16:36

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.760*	*0.655-0.886*	*24-169 %*	*91.5*	*%*	
13C12-2,3,7,8-TCDD		*0.789*	*0.655-0.886*	*25-164 %*	*95.0*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.588*	*1.318-1.783*	*24-185 %*	*98.4*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.573*	*1.318-1.783*	*21-178 %*	*95.2*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.641*	*1.318-1.783*	*25-181 %*	*101*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.558*	*0.434-0.587*	*26-152 %*	*124*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.534*	*0.434-0.587*	*26-123 %*	*116*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.554*	*0.434-0.587*	*28-136 %*	*107*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.538*	*0.434-0.587*	*29-147 %*	*111*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.242*	*1.054-1.426*	*32-141 %*	*102*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.214*	*1.054-1.426*	*28-130 %*	*113*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.463*	*0.374-0.506*	*28-143 %*	*120*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.465*	*0.374-0.506*	*26-138 %*	*115*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*0.999*	*0.893-1.208*	*23-140 %*	*126*	*%*	
13C12-OCDD		*1.023*	*0.757-1.024*	*17-157 %*	*138*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*98.2*	*%*	

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

MW3-0624 (Centrifuged)

24F0124-02 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 06/05/2024 12:11

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 06/18/2024 17:25

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 24F0124-02 A 01
	Preparation Batch: BMF0368	Sample Size: 980 mL	
	Prepared: 06/17/2024	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24F0124-02 A 01
	Cleanup Batch: CMF0106	Initial Volume: 20 uL	
	Cleaned: 17-Jun-2024	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:24F0124-02 A 01
	Cleanup Batch: CMF0107	Initial Volume: 20 uL	
	Cleaned: 17-Jun-2024	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	1.71	10.2	ND	pg/L	U
2,3,7,8-TCDD			0.655-0.886	1.62	10.2	ND	pg/L	U
1,2,3,7,8-PeCDF			1.318-1.783	1.58	10.2	ND	pg/L	U
2,3,4,7,8-PeCDF			1.318-1.783	1.54	10.2	ND	pg/L	U
1,2,3,7,8-PeCDD			1.318-1.783	2.09	10.2	ND	pg/L	U
1,2,3,4,7,8-HxCDF			1.054-1.426	1.28	10.2	ND	pg/L	U
1,2,3,6,7,8-HxCDF			1.054-1.426	1.28	10.2	ND	pg/L	U
2,3,4,6,7,8-HxCDF			1.054-1.426	1.45	10.2	ND	pg/L	U
1,2,3,7,8,9-HxCDF			1.054-1.426	1.85	10.2	ND	pg/L	U
1,2,3,4,7,8-HxCDD			1.054-1.426	2.47	10.2	ND	pg/L	U
1,2,3,6,7,8-HxCDD			1.054-1.426	2.32	10.2	ND	pg/L	U
1,2,3,7,8,9-HxCDD			1.054-1.426	2.60	10.2	ND	pg/L	U
1,2,3,4,6,7,8-HpCDF			0.893-1.208	1.38	20.4	ND	pg/L	U
1,2,3,4,7,8,9-HpCDF			0.893-1.208	2.46	10.2	ND	pg/L	U
1,2,3,4,6,7,8-HpCDD		1.015	0.893-1.208	2.19	10.2	**9.47**	pg/L	J
OCDF		1.015	0.757-1.024	2.57	20.4	**7.18**	pg/L	J
OCDD		0.838	0.757-1.024	3.76	51.0	**143**	pg/L	B
Homologue groups								
Total TCDF					10.2	ND	pg/L	U
Total TCDD					10.2	ND	pg/L	U
Total PeCDF					10.2	ND	pg/L	U
Total PeCDD					10.2	ND	pg/L	U
Total HxCDF					10.2	ND	pg/L	U
Total HxCDD					10.2	ND	pg/L	U
Total HpCDF					10.2	ND	pg/L	U
Total HpCDD					10.2	**9.47**	pg/L	J

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):	3.02
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):	0.14
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):	3.02
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):	0.14

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

MW3-0624 (Centrifuged)

24F0124-02 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 06/05/2024 12:11

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 06/18/2024 17:25

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.736*	*0.655-0.886*	*24-169 %*	*101*	*%*	
13C12-2,3,7,8-TCDD		*0.799*	*0.655-0.886*	*25-164 %*	*103*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.522*	*1.318-1.783*	*24-185 %*	*109*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.631*	*1.318-1.783*	*21-178 %*	*106*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.751*	*1.318-1.783*	*25-181 %*	*112*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.531*	*0.434-0.587*	*26-152 %*	*132*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.545*	*0.434-0.587*	*26-130 %*	*125*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.543*	*0.434-0.587*	*28-136 %*	*119*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.533*	*0.434-0.587*	*29-147 %*	*117*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.234*	*1.054-1.426*	*32-141 %*	*112*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.246*	*1.054-1.426*	*28-130 %*	*121*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.449*	*0.374-0.506*	*28-143 %*	*133*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.472*	*0.374-0.506*	*26-138 %*	*122*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.050*	*0.893-1.208*	*23-140 %*	*131*	*%*	
13C12-OCDD		*0.914*	*0.757-1.024*	*17-157 %*	*146*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*105*	*%*	

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMF0368-BLK1)				Prepared: 17-Jun-2024 Analyzed: 18-Jun-2024 12:20							
2,3,7,8-TCDF		0.655-0.886	1.70	10.0	ND	pg/L					U
2,3,7,8-TCDD		0.655-0.886	1.39	10.0	ND	pg/L					U
1,2,3,7,8-PeCDF		1.318-1.783	1.84	10.0	ND	pg/L					U
2,3,4,7,8-PeCDF		1.318-1.783	1.85	10.0	ND	pg/L					U
1,2,3,7,8-PeCDD		1.318-1.783	2.35	10.0	ND	pg/L					U
1,2,3,4,7,8-HxCDF		1.054-1.426	1.42	10.0	ND	pg/L					U
1,2,3,6,7,8-HxCDF		1.054-1.426	1.37	10.0	ND	pg/L					U
2,3,4,6,7,8-HxCDF		1.054-1.426	1.46	10.0	ND	pg/L					U
1,2,3,7,8,9-HxCDF		1.054-1.426	2.05	10.0	ND	pg/L					U
1,2,3,4,7,8-HxCDD		1.054-1.426	2.09	10.0	ND	pg/L					U
1,2,3,6,7,8-HxCDD		1.054-1.426	2.08	10.0	ND	pg/L					U
1,2,3,7,8,9-HxCDD		1.054-1.426	2.26	10.0	ND	pg/L					U
1,2,3,4,6,7,8-HpCDF		0.893-1.208	1.48	20.0	ND	pg/L					U
1,2,3,4,7,8,9-HpCDF		0.893-1.208	2.62	10.0	ND	pg/L					U
1,2,3,4,6,7,8-HpCDD		0.893-1.208	2.59	10.0	ND	pg/L					U
OCDF		0.757-1.024	2.97	20.0	ND	pg/L					U
OCDD	0.850	0.757-1.024		50.0	5.16	pg/L					J
Homologue group											
Total TCDF				10.0	ND	pg/L					U
Total TCDD				10.0	ND	pg/L					U
Total PeCDF				10.0	ND	pg/L					U
Total PeCDD				10.0	ND	pg/L					U
Total HxCDF				10.0	ND	pg/L					U
Total HxCDD				10.0	ND	pg/L					U
Total HpCDF				10.0	ND	pg/L					U
Total HpCDD				10.0	ND	pg/L					U

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):	0.15
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):	0.00
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC=ND):	0.15
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0 EDL, EMPC=ND):	0.00

Labeled compounds					
13C12-2,3,7,8-TCDF	*0.739*	*0.655-0.886*	*94.5*	*24-169 %*	
13C12-2,3,7,8-TCDD	*0.802*	*0.655-0.886*	*101*	*25-164 %*	

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMF0368-BLK1)				Prepared: 17-Jun-2024	Analyzed: 18-Jun-2024 12:20						
13C12-1,2,3,7,8-PeCDF	*1.556*	*1.318-1.783*					*104*			*24-185 %*	
13C12-2,3,4,7,8-PeCDF	*1.557*	*1.318-1.783*					*101*			*21-178 %*	
13C12-1,2,3,7,8-PeCDD	*1.634*	*1.318-1.783*					*108*			*25-181 %*	
13C12-1,2,3,4,7,8-HxCDF	*0.535*	*0.434-0.587*					*128*			*26-152 %*	
13C12-1,2,3,6,7,8-HxCDF	*0.538*	*0.434-0.587*					*117*			*26-123 %*	
13C12-2,3,4,6,7,8-HxCDF	*0.540*	*0.434-0.587*					*117*			*28-136 %*	
13C12-1,2,3,7,8,9-HxCDF	*0.539*	*0.434-0.587*					*115*			*29-147 %*	
13C12-1,2,3,4,7,8-HxCDD	*1.245*	*1.054-1.426*					*113*			*32-141 %*	
13C12-1,2,3,6,7,8-HxCDD	*1.213*	*1.054-1.426*					*114*			*28-130 %*	
13C12-1,2,3,4,6,7,8-HpCDF	*0.453*	*0.374-0.506*					*115*			*28-143 %*	
13C12-1,2,3,4,7,8,9-HpCDF	*0.470*	*0.374-0.506*					*108*			*26-138 %*	
13C12-1,2,3,4,6,7,8-HpCDD	*1.054*	*0.893-1.208*					*120*			*23-140 %*	
13C12-OCDD	*0.977*	*0.757-1.024*					*137*			*17-157 %*	
37Cl4-2,3,7,8-TCDD							*101*			*35-197 %*	

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMF0368-BS1)				Prepared: 17-Jun-2024 Analyzed: 18-Jun-2024 13:08							
2,3,7,8-TCDF	0.866	0.655-0.886		10.0	190	pg/L	94.9	75-158 %			
2,3,7,8-TCDD	0.772	0.655-0.886		10.0	185	pg/L	92.3	67-158 %			
1,2,3,7,8-PeCDF	1.579	1.318-1.783		10.0	950	pg/L	95.0	80-134 %			
2,3,4,7,8-PeCDF	1.594	1.318-1.783		10.0	1020	pg/L	102	68-160 %			
1,2,3,7,8-PeCDD	1.515	1.318-1.783		10.0	948	pg/L	94.8	70-142 %			
1,2,3,4,7,8-HxCDF	1.242	1.054-1.426		10.0	975	pg/L	97.5	72-134 %			
1,2,3,6,7,8-HxCDF	1.164	1.054-1.426		10.0	1080	pg/L	108	84-130 %			
2,3,4,6,7,8-HxCDF	1.260	1.054-1.426		10.0	1100	pg/L	110	70-156 %			
1,2,3,7,8,9-HxCDF	1.274	1.054-1.426		10.0	1080	pg/L	108	78-130 %			
1,2,3,4,7,8-HxCDD	1.258	1.054-1.426		10.0	1120	pg/L	112	70-164 %			
1,2,3,6,7,8-HxCDD	1.313	1.054-1.426		10.0	1050	pg/L	105	76-134 %			
1,2,3,7,8,9-HxCDD	1.229	1.054-1.426		10.0	1060	pg/L	106	64-162 %			
1,2,3,4,6,7,8-HpCDF	1.075	0.893-1.208		20.0	990	pg/L	99.0	82-122 %			
1,2,3,4,7,8,9-HpCDF	1.105	0.893-1.208		10.0	970	pg/L	97.0	78-138 %			
1,2,3,4,6,7,8-HpCDD	1.060	0.893-1.208		10.0	934	pg/L	93.4	70-140 %			
OCDF	0.936	0.757-1.024		20.0	1570	pg/L	78.3	63-170 %			
OCDD	0.860	0.757-1.024		50.0	1900	pg/L	95.2	78-144 %			B
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.744*	*0.655-0.886*					*89.3*	*24-169 %*			
13C12-2,3,7,8-TCDD	*0.805*	*0.655-0.886*					*96.4*	*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.570*	*1.318-1.783*					*99.7*	*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.520*	*1.318-1.783*					*95.3*	*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.588*	*1.318-1.783*					*101*	*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.542*	*0.434-0.587*					*126*	*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.530*	*0.434-0.587*					*116*	*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.549*	*0.434-0.587*					*107*	*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.530*	*0.434-0.587*					*108*	*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.234*	*1.054-1.426*					*105*	*32-141 %*			

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMF0368-BS1)				Prepared: 17-Jun-2024	Analyzed: 18-Jun-2024 13:08						
13C12-1,2,3,6,7,8-HxCDD	*1.283*	*1.054-1.426*				*113*				*28-130 %*	
13C12-1,2,3,4,6,7,8-HpCDF	*0.435*	*0.374-0.506*				*109*				*28-143 %*	
13C12-1,2,3,4,7,8,9-HpCDF	*0.433*	*0.374-0.506*				*104*				*26-138 %*	
13C12-1,2,3,4,6,7,8-HpCDD	*1.172*	*0.893-1.208*				*118*				*23-140 %*	
13C12-OCDD	*0.874*	*0.757-1.024*				*125*				*17-157 %*	
37Cl4-2,3,7,8-TCDD						*98.7*				*35-197 %*	

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BMF0368-BSD1)				Prepared: 17-Jun-2024 Analyzed: 18-Jun-2024 14:10							
2,3,7,8-TCDF	0.738	0.655-0.886		10.0	181	pg/L	90.4	75-158 %	4.84	25	
2,3,7,8-TCDD	0.731	0.655-0.886		10.0	186	pg/L	93.1	67-158 %	0.85	25	
1,2,3,7,8-PeCDF	1.523	1.318-1.783		10.0	930	pg/L	93.0	80-134 %	2.11	25	
2,3,4,7,8-PeCDF	1.526	1.318-1.783		10.0	996	pg/L	99.6	68-160 %	2.55	25	
1,2,3,7,8-PeCDD	1.405	1.318-1.783		10.0	948	pg/L	94.8	70-142 %	0.01	25	
1,2,3,4,7,8-HxCDF	1.217	1.054-1.426		10.0	973	pg/L	97.3	72-134 %	0.21	25	
1,2,3,6,7,8-HxCDF	1.195	1.054-1.426		10.0	994	pg/L	99.4	84-130 %	7.92	25	
2,3,4,6,7,8-HxCDF	1.233	1.054-1.426		10.0	1030	pg/L	103	70-156 %	7.42	25	
1,2,3,7,8,9-HxCDF	1.088	1.054-1.426		10.0	1060	pg/L	106	78-130 %	1.81	25	
1,2,3,4,7,8-HxCDD	1.249	1.054-1.426		10.0	1040	pg/L	104	70-164 %	7.11	25	
1,2,3,6,7,8-HxCDD	1.313	1.054-1.426		10.0	996	pg/L	99.6	76-134 %	5.54	25	
1,2,3,7,8,9-HxCDD	1.237	1.054-1.426		10.0	1010	pg/L	101	64-162 %	4.75	25	
1,2,3,4,6,7,8-HpCDF	1.018	0.893-1.208		20.0	971	pg/L	97.1	82-122 %	1.92	25	
1,2,3,4,7,8,9-HpCDF	1.084	0.893-1.208		10.0	950	pg/L	95.0	78-138 %	2.10	25	
1,2,3,4,6,7,8-HpCDD	1.010	0.893-1.208		10.0	1040	pg/L	104	70-140 %	10.90	25	
OCDF	0.913	0.757-1.024		20.0	1500	pg/L	74.8	63-170 %	4.45	25	
OCDD	0.935	0.757-1.024		50.0	1890	pg/L	94.4	78-144 %	0.85	25	B
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.748*	*0.655-0.886*			*90.3*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.793*	*0.655-0.886*			*97.4*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.617*	*1.318-1.783*			*102*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.525*	*1.318-1.783*			*96.0*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.631*	*1.318-1.783*			*106*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.520*	*0.434-0.587*			*125*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.511*	*0.434-0.587*			*119*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.516*	*0.434-0.587*			*113*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.538*	*0.434-0.587*			*111*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.238*	*1.054-1.426*			*109*			*32-141 %*			

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMF0368 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BMF0368-BSD1)				Prepared: 17-Jun-2024	Analyzed: 18-Jun-2024 14:10						
13C12-1,2,3,6,7,8-HxCDD	*1.270*	*1.054-1.426*					*110*			*28-130 %*	
13C12-1,2,3,4,6,7,8-HpCDF	*0.454*	*0.374-0.506*					*110*			*28-143 %*	
13C12-1,2,3,4,7,8,9-HpCDF	*0.464*	*0.374-0.506*					*106*			*26-138 %*	
13C12-1,2,3,4,6,7,8-HpCDD	*0.960*	*0.893-1.208*					*116*			*23-140 %*	
13C12-OCDD	*1.018*	*0.757-1.024*					*127*			*17-157 %*	
37Cl4-2,3,7,8-TCDD							*98.7*			*35-197 %*	

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

Certified Analyses included in this Report

Analyte	Certifications
EPA 1613B in Water	
2,3,7,8-TCDF	DoD-ELAP,NELAP,WADOE
2,3,7,8-TCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
2,3,4,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
2,3,4,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8,9-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDD	DoD-ELAP,NELAP,WADOE
OCDF	DoD-ELAP,NELAP,WADOE
OCDD	DoD-ELAP,NELAP,WADOE
Total TCDF	DoD-ELAP,NELAP
Total TCDD	DoD-ELAP,NELAP
Total PeCDF	DoD-ELAP,NELAP
Total PeCDD	DoD-ELAP,NELAP
Total HxCDF	DoD-ELAP,NELAP
Total HxCDD	DoD-ELAP,NELAP
Total HpCDF	DoD-ELAP,NELAP
Total HpCDD	DoD-ELAP,NELAP
13C12-2,3,7,8-TCDF	DoD-ELAP
13C12-2,3,7,8-TCDD	DoD-ELAP
13C12-1,2,3,7,8-PeCDF	DoD-ELAP
13C12-2,3,4,7,8-PeCDF	DoD-ELAP
13C12-1,2,3,7,8-PeCDD	DoD-ELAP

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

13C12-1,2,3,4,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,6,7,8-HxCDF	DoD-ELAP
13C12-2,3,4,6,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,7,8,9-HxCDF	DoD-ELAP
13C12-1,2,3,4,7,8-HxCDD	DoD-ELAP
13C12-1,2,3,6,7,8-HxCDD	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDF	DoD-ELAP
13C12-1,2,3,4,7,8,9-HpCDF	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDD	DoD-ELAP
13C12-OCDD	DoD-ELAP
37Cl4-2,3,7,8-TCDD	DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2025
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Friedman & Bruya Inc.	Project: TBT and D/F 2024	
5500 4th Ave S	Project Number: 406051	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	25-Jun-2024 15:12

Notes and Definitions

B	This analyte was detected in the method blank.
EMPC	Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

21 March 2024

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

RE: 401151 (401151)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24A0272	N/A

Susan Dunnihoo
Digitally signed by Susan Dunnihoo
Date: 2024.03.21 15:39:27 -07'00'

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Accredited in accordance with nelac
Cert# 100006-012

24A0272

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER ARI	
PROJECT NAME/NO. 401151	PO # D-629
REMARKS EIM - Hold D/F Testing.	

TURNAROUND TIME
☒ Standard TAT
RUSH
Rush charges authorized by:

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

						ANALYSES REQUESTED									
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	TBT	D/F								Notes
MW4-0124		1/11/2024	2246	water	2	x									
MW3-0124		1/11/2024	28	water	2										Hold

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	1/12/24	1130
Received by:		Matthew Danver	ARI	01/12/24	1151
Relinquished by:					
Received by:					

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 15:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW4-0124	24A0272-01	Water	11-Jan-2024 22:46	12-Jan-2024 11:51
MW3-0124	24A0272-02	Water	11-Jan-2024 00:28	12-Jan-2024 11:51

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
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Work Order Case Narrative

Client: Friedman & Bruya Inc.
Project: 401151
Work Order: 24A0272

Sample receipt

Samples as listed on the preceding page were received 12-Jan-2024 11:51 under ARI work order 24A0272. For details regarding sample receipt, please refer to the Cooler Receipt Form.

The dioxin sample initially on hold was activated in February.

Butyl Tin(s) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirement with accepted excursions: response for the tributyl tin ion was high of limits in the second source calibration verification SMA0353-SCV1.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Dioxin/Furans - EPA Method 1613

The sample(s) were extracted and analyzed within the recommended holding times. Analysis was performed using an application specific column developed by Restek. The RTX-Dioxin2 column has unique isomer separation for the 2378-TCDF, eliminating the need for confirmation analysis.

Initial calibrations were within method requirements. Response was high of limits for 124789-HxCDD, 12378-PeCDD, 13C12-1,2,3,4,6,7,8-HpCDD,13C12-1,2,3,4,6,7,8-HpCDF and 13C12-1,2,3,4,7,8,9-HpCDF in SMC0278-CCV1. As the bias is high, the sample was clean, and OPR recoveries were within limits, the outliers are noted no further corrective action was taken.

Labeled internal standard areas were within limits.

The cleanup surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits, except for OCDD. Low-level EMPC response is also noted for

Friedman & Bruya Inc.	Project: 401151	
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1,2,3,4,6,7,8-HpCDD and OCDF. Associated results have been "B"-flagged.

The OPR (Ongoing Precision and Recovery) standard percent recoveries were within control limits.

Revised 03/21/2024 to include dioxins.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Freidman & Bruya
Project Name: 401151
COC No(s): NA
Delivered by: Fed-Ex UPS Courier Hand Delivered Other:
Assigned ARI Job No: 24A0272
Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.6 °C
Time 1151
If cooler temperature is out of compliance fill out form 00070F
Temp Gun ID#: 50497708
Cooler Accepted by: MD Date: 9/12/24 Time: 1151

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: Equipment: Split by:

Samples Logged by: PEB Date: 11/12/24 Time: 16:08 16:36 PEB 11/13/24 Labels checked by: PIB

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
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MW4-0124

24A0272-01 (Water)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 01/11/2024 22:46
Instrument: NT18 Analyst: VTS — Analyzed: 01/31/2024 13:30

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 24A0272-01 A 01
	Preparation Batch: BMA0375	Sample Size: 150 mL	
	Prepared: 01/17/2024	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 24A0272-01 A 01
	Cleanup Batch: CMA0133	Initial Volume: 0.5 uL	
	Cleaned: 30-Jan-2024	Final Volume: 0.5 uL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.0052	ND	ug/L	U
Surrogate: Tripentyltin			*30-160 %*	*73.0*	*%*	
Surrogate: Tripropyltin			*30-160 %*	*51.2*	*%*	

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MW4-0124

24A0272-01 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 01/11/2024 22:46
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 03/20/2024 15:05

Sample Preparation: Preparation Method: EPA 1613 — Extract ID: 24A0272-01 A 01
Preparation Batch: BMC0464 — Sample Size: 920 mL
Prepared: 03/19/2024 — Final Volume: 20 uL

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	2.65	10.9	ND	pg/L	U
2,3,7,8-TCDD			0.655-0.886	2.37	10.9	ND	pg/L	U
1,2,3,7,8-PeCDF			1.318-1.783	2.33	10.9	ND	pg/L	U
2,3,4,7,8-PeCDF			1.318-1.783	2.23	10.9	ND	pg/L	U
1,2,3,7,8-PeCDD			1.318-1.783	3.99	10.9	ND	pg/L	U
1,2,3,4,7,8-HxCDF			1.054-1.426	2.58	10.9	ND	pg/L	U
1,2,3,6,7,8-HxCDF			1.054-1.426	2.51	10.9	ND	pg/L	U
2,3,4,6,7,8-HxCDF			1.054-1.426	2.63	10.9	ND	pg/L	U
1,2,3,7,8,9-HxCDF			1.054-1.426	3.77	10.9	ND	pg/L	U
1,2,3,4,7,8-HxCDD			1.054-1.426	3.43	10.9	ND	pg/L	U
1,2,3,6,7,8-HxCDD			1.054-1.426	3.49	10.9	ND	pg/L	U
1,2,3,7,8,9-HxCDD			1.054-1.426	3.76	10.9	ND	pg/L	U
1,2,3,4,6,7,8-HpCDF			0.893-1.208	2.62	21.7	ND	pg/L	U
1,2,3,4,7,8,9-HpCDF			0.893-1.208	4.39	10.9	ND	pg/L	U
1,2,3,4,6,7,8-HpCDD			0.893-1.208	4.34	10.9	ND	pg/L	U
OCDF			0.757-1.024	6.43	21.7	ND	pg/L	U
OCDD		0.628	0.757-1.024	10.3	54.3	**12.0**	pg/L	EMPC, J, B
Homologue groups								
Total TCDF					10.9	ND	pg/L	U
Total TCDD					10.9	ND	pg/L	U
Total PeCDF					10.9	**ND**	pg/L	U
Total PeCDD					10.9	ND	pg/L	U
Total HxCDF					10.9	ND	pg/L	U
Total HxCDD					10.9	ND	pg/L	U
Total HpCDF					10.9	ND	pg/L	U
Total HpCDD					10.9	ND	pg/L	U

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):	4.85
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):	0.00
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):	4.85
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):	0.00

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MW4-0124

24A0272-01 (Water)

Dioxins/Furans

Method: EPA 1613B — Sampled: 01/11/2024 22:46

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 03/20/2024 15:05

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.702*	*0.655-0.886*	*24-169 %*	*85.1*	*%*	
13C12-2,3,7,8-TCDD		*0.794*	*0.655-0.886*	*25-164 %*	*93.0*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.689*	*1.318-1.783*	*24-185 %*	*102*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.541*	*1.318-1.783*	*21-178 %*	*97.1*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.739*	*1.318-1.783*	*25-181 %*	*81.5*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.533*	*0.434-0.587*	*26-152 %*	*102*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.536*	*0.434-0.587*	*26-123 %*	*101*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.541*	*0.434-0.587*	*28-136 %*	*103*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.544*	*0.434-0.587*	*29-147 %*	*95.2*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.266*	*1.054-1.426*	*32-141 %*	*101*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.254*	*1.054-1.426*	*28-130 %*	*101*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.461*	*0.374-0.506*	*28-143 %*	*104*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.448*	*0.374-0.506*	*26-138 %*	*104*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.042*	*0.893-1.208*	*23-140 %*	*99.9*	*%*	
13C12-OCDD		*0.915*	*0.757-1.024*	*17-157 %*	*104*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*99.4*	*%*	

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Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0375 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMA0375-BLK1)				Prepared: 17-Jan-2024 Analyzed: 31-Jan-2024 13:02						
Tributyltin Ion	ND	0.0052	ug/L							U
Surrogate: Tripentyltin	0.0437		ug/L	*0.0753*		*58.0*	*30-160*			
Surrogate: Tripropyltin	0.0397		ug/L	*0.0729*		*54.5*	*30-160*			

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Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 15:30

Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0375 - EPA 8270E-SIM

Instrument: NT18 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMA0375-BS1)				Prepared: 17-Jan-2024 Analyzed: 31-Jan-2024 13:16						
Tributyltin Ion	0.118	0.0052	ug/L	0.149		79.6	30-160			
Surrogate: Tripentyltin	0.0546		ug/L	*0.0753*		*72.5*	*30-160*			
Surrogate: Tripropyltin	0.0400		ug/L	*0.0729*		*54.9*	*30-160*			

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Analysis by: Analytical Resources, LLC

Butyl Tins - Quality Control

Batch BMA0375 - EPA 8270E-SIM

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMC0464 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMC0464-BLK1)				Prepared: 19-Mar-2024 Analyzed: 20-Mar-2024 12:32							
2,3,7,8-TCDF		0.655-0.886	1.87	10.0	ND	pg/L					U
2,3,7,8-TCDD		0.655-0.886	1.44	10.0	ND	pg/L					U
1,2,3,7,8-PeCDF		1.318-1.783	2.22	10.0	ND	pg/L					U
2,3,4,7,8-PeCDF		1.318-1.783	2.18	10.0	ND	pg/L					U
1,2,3,7,8-PeCDD		1.318-1.783	2.57	10.0	ND	pg/L					U
1,2,3,4,7,8-HxCDF		1.054-1.426	1.56	10.0	ND	pg/L					U
1,2,3,6,7,8-HxCDF		1.054-1.426	1.53	10.0	ND	pg/L					U
2,3,4,6,7,8-HxCDF		1.054-1.426	1.58	10.0	ND	pg/L					U
1,2,3,7,8,9-HxCDF		1.054-1.426	2.40	10.0	ND	pg/L					U
1,2,3,4,7,8-HxCDD		1.054-1.426	2.81	10.0	ND	pg/L					U
1,2,3,6,7,8-HxCDD		1.054-1.426	2.69	10.0	ND	pg/L					U
1,2,3,7,8,9-HxCDD		1.054-1.426	2.98	10.0	ND	pg/L					U
1,2,3,4,6,7,8-HpCDF		0.893-1.208	2.09	20.0	ND	pg/L					U
1,2,3,4,7,8,9-HpCDF		0.893-1.208	3.47	10.0	ND	pg/L					U
1,2,3,4,6,7,8-HpCDD	0.330	0.893-1.208		10.0	4.18	pg/L					EMPC, J
OCDF	0.228	0.757-1.024		20.0	5.92	pg/L					EMPC, J
OCDD	0.886	0.757-1.024		50.0	75.4	pg/L					
Homologue group											
Total TCDF				10.0	ND	pg/L					U
Total TCDD				10.0	ND	pg/L					U
Total PeCDF				10.0	ND	pg/L					U
Total PeCDD				10.0	ND	pg/L					U
Total HxCDF				10.0	ND	pg/L					U
Total HxCDD				10.0	ND	pg/L					U
Total HpCDF				10.0	ND	pg/L					U
Total HpCDD				10.0	ND	pg/L					U

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):	0.23
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):	0.07
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC=ND):	0.19
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0 EDL, EMPC=ND):	0.00

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Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMC0464 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMC0464-BLK1)				Prepared: 19-Mar-2024 Analyzed: 20-Mar-2024 12:32							
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.736*	*0.655-0.886*					*94.4*	*24-169 %*			
13C12-2,3,7,8-TCDD	*0.792*	*0.655-0.886*					*103*	*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.582*	*1.318-1.783*					*108*	*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.518*	*1.318-1.783*					*106*	*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.660*	*1.318-1.783*					*99.9*	*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.522*	*0.434-0.587*					*113*	*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.514*	*0.434-0.587*					*107*	*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.522*	*0.434-0.587*					*108*	*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.516*	*0.434-0.587*					*102*	*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.318*	*1.054-1.426*					*112*	*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.184*	*1.054-1.426*					*111*	*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.451*	*0.374-0.506*					*110*	*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.474*	*0.374-0.506*					*104*	*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*0.990*	*0.893-1.208*					*113*	*23-140 %*			
13C12-OCDD	*0.930*	*0.757-1.024*					*121*	*17-157 %*			
37Cl4-2,3,7,8-TCDD							*101*	*35-197 %*			

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Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 15:30

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMC0464 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMC0464-BS1)				Prepared: 19-Mar-2024	Analyzed: 20-Mar-2024 13:22						
2,3,7,8-TCDF	0.827	0.655-0.886		10.0	201	pg/L	100	75-158 %			
2,3,7,8-TCDD	0.749	0.655-0.886		10.0	184	pg/L	91.8	67-158 %			
1,2,3,7,8-PeCDF	1.481	1.318-1.783		10.0	997	pg/L	99.7	80-134 %			
2,3,4,7,8-PeCDF	1.557	1.318-1.783		10.0	1030	pg/L	103	68-160 %			
1,2,3,7,8-PeCDD	1.528	1.318-1.783		10.0	988	pg/L	98.8	70-142 %			
1,2,3,4,7,8-HxCDF	1.278	1.054-1.426		10.0	993	pg/L	99.3	72-134 %			
1,2,3,6,7,8-HxCDF	1.232	1.054-1.426		10.0	1060	pg/L	106	84-130 %			
2,3,4,6,7,8-HxCDF	1.173	1.054-1.426		10.0	1050	pg/L	105	70-156 %			
1,2,3,7,8,9-HxCDF	1.319	1.054-1.426		10.0	1110	pg/L	111	78-130 %			
1,2,3,4,7,8-HxCDD	1.254	1.054-1.426		10.0	1000	pg/L	100	70-164 %			
1,2,3,6,7,8-HxCDD	1.268	1.054-1.426		10.0	919	pg/L	91.9	76-134 %			
1,2,3,7,8,9-HxCDD	1.154	1.054-1.426		10.0	971	pg/L	97.1	64-162 %			
1,2,3,4,6,7,8-HpCDF	0.985	0.893-1.208		20.0	953	pg/L	95.3	82-122 %			
1,2,3,4,7,8,9-HpCDF	1.190	0.893-1.208		10.0	1050	pg/L	105	78-138 %			
1,2,3,4,6,7,8-HpCDD	0.935	0.893-1.208		10.0	1050	pg/L	105	70-140 %			B
OCDF	0.903	0.757-1.024		20.0	1890	pg/L	94.3	63-170 %			B
OCDD	0.874	0.757-1.024		50.0	1910	pg/L	95.3	78-144 %			B
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.728*	*0.655-0.886*			*81.0*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.787*	*0.655-0.886*			*87.8*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.559*	*1.318-1.783*			*90.6*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.585*	*1.318-1.783*			*89.9*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.670*	*1.318-1.783*			*82.2*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.516*	*0.434-0.587*			*97.7*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.520*	*0.434-0.587*			*92.1*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.539*	*0.434-0.587*			*93.6*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.548*	*0.434-0.587*			*88.6*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.232*	*1.054-1.426*			*96.8*			*32-141 %*			

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 15:30

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMC0464 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BMC0464-BS1)				Prepared: 19-Mar-2024	Analyzed: 20-Mar-2024 13:22						
13C12-1,2,3,6,7,8-HxCDD	*1.221*	*1.054-1.426*			*97.7*					*28-130 %*	
13C12-1,2,3,4,6,7,8-HpCDF	*0.480*	*0.374-0.506*			*101*					*28-143 %*	
13C12-1,2,3,4,7,8,9-HpCDF	*0.446*	*0.374-0.506*			*100*					*26-138 %*	
13C12-1,2,3,4,6,7,8-HpCDD	*1.071*	*0.893-1.208*			*103*					*23-140 %*	
13C12-OCDD	*0.898*	*0.757-1.024*			*107*					*17-157 %*	
37Cl4-2,3,7,8-TCDD					*94.6*					*35-197 %*	

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 15:30

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMC0464 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BMC0464-BSD1)				Prepared: 19-Mar-2024	Analyzed: 20-Mar-2024 14:16						
2,3,7,8-TCDF	0.812	0.655-0.886		10.0	190	pg/L	95.1	75-158 %	5.30	25	
2,3,7,8-TCDD	0.862	0.655-0.886		10.0	178	pg/L	88.9	67-158 %	3.16	25	
1,2,3,7,8-PeCDF	1.483	1.318-1.783		10.0	970	pg/L	97.0	80-134 %	2.83	25	
2,3,4,7,8-PeCDF	1.524	1.318-1.783		10.0	1080	pg/L	108	68-160 %	4.97	25	
1,2,3,7,8-PeCDD	1.470	1.318-1.783		10.0	1060	pg/L	106	70-142 %	6.71	25	
1,2,3,4,7,8-HxCDF	1.258	1.054-1.426		10.0	989	pg/L	98.9	72-134 %	0.33	25	
1,2,3,6,7,8-HxCDF	1.323	1.054-1.426		10.0	1010	pg/L	101	84-130 %	4.55	25	
2,3,4,6,7,8-HxCDF	1.286	1.054-1.426		10.0	1040	pg/L	104	70-156 %	1.03	25	
1,2,3,7,8,9-HxCDF	1.285	1.054-1.426		10.0	1170	pg/L	117	78-130 %	4.92	25	
1,2,3,4,7,8-HxCDD	1.243	1.054-1.426		10.0	1020	pg/L	102	70-164 %	1.98	25	
1,2,3,6,7,8-HxCDD	1.284	1.054-1.426		10.0	1000	pg/L	100	76-134 %	8.78	25	
1,2,3,7,8,9-HxCDD	1.188	1.054-1.426		10.0	1020	pg/L	102	64-162 %	4.87	25	
1,2,3,4,6,7,8-HpCDF	1.090	0.893-1.208		20.0	944	pg/L	94.4	82-122 %	0.88	25	
1,2,3,4,7,8,9-HpCDF	1.089	0.893-1.208		10.0	1120	pg/L	112	78-138 %	6.43	25	
1,2,3,4,6,7,8-HpCDD	1.068	0.893-1.208		10.0	1050	pg/L	105	70-140 %	0.40	25	B
OCDF	0.887	0.757-1.024		20.0	1880	pg/L	94.2	63-170 %	0.16	25	B
OCDD	0.886	0.757-1.024		50.0	1940	pg/L	96.9	78-144 %	1.64	25	B
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.713*	*0.655-0.886*			*84.2*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.781*	*0.655-0.886*			*92.9*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.501*	*1.318-1.783*			*101*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.619*	*1.318-1.783*			*94.9*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.674*	*1.318-1.783*			*83.1*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.536*	*0.434-0.587*			*106*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.526*	*0.434-0.587*			*99.3*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.549*	*0.434-0.587*			*101*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.521*	*0.434-0.587*			*94.0*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.269*	*1.054-1.426*			*103*			*32-141 %*			

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 15:30

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BMC0464 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BMC0464-BSD1)				Prepared: 19-Mar-2024	Analyzed: 20-Mar-2024 14:16						
13C12-1,2,3,6,7,8-HxCDD	*1.243*	*1.054-1.426*			*97.9*			*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.479*	*0.374-0.506*			*105*			*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.447*	*0.374-0.506*			*94.4*			*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.117*	*0.893-1.208*			*100*			*23-140 %*			
13C12-OCDD	*0.883*	*0.757-1.024*			*98.8*			*17-157 %*			
37Cl4-2,3,7,8-TCDD					*97.2*			*35-197 %*			

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 15:30

Certified Analyses included in this Report

Analyte	Certifications
EPA 1613B in Water	
2,3,7,8-TCDF	DoD-ELAP,NELAP,WADOE
2,3,7,8-TCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
2,3,4,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
2,3,4,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8,9-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDD	DoD-ELAP,NELAP,WADOE
OCDF	DoD-ELAP,NELAP,WADOE
OCDD	DoD-ELAP,NELAP,WADOE
Total TCDF	DoD-ELAP,NELAP
Total TCDD	DoD-ELAP,NELAP
Total PeCDF	DoD-ELAP,NELAP
Total PeCDD	DoD-ELAP,NELAP
Total HxCDF	DoD-ELAP,NELAP
Total HxCDD	DoD-ELAP,NELAP
Total HpCDF	DoD-ELAP,NELAP
Total HpCDD	DoD-ELAP,NELAP
13C12-2,3,7,8-TCDF	DoD-ELAP
13C12-2,3,7,8-TCDD	DoD-ELAP
13C12-1,2,3,7,8-PeCDF	DoD-ELAP
13C12-2,3,4,7,8-PeCDF	DoD-ELAP
13C12-1,2,3,7,8-PeCDD	DoD-ELAP

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 15:30

13C12-1,2,3,4,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,6,7,8-HxCDF	DoD-ELAP
13C12-2,3,4,6,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,7,8,9-HxCDF	DoD-ELAP
13C12-1,2,3,4,7,8-HxCDD	DoD-ELAP
13C12-1,2,3,6,7,8-HxCDD	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDF	DoD-ELAP
13C12-1,2,3,4,7,8,9-HpCDF	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDD	DoD-ELAP
13C12-OCDD	DoD-ELAP
37Cl4-2,3,7,8-TCDD	DoD-ELAP

EPA 8270E-SIM in Water

Tributyltin Ion	NELAP,WADOE,DoD-ELAP
Tetrapentyltin	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2024
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Friedman & Bruya Inc.	Project: 401151	
5500 4th Ave S	Project Number: 401151	**Reported:**
Seattle WA, 98108	Project Manager: Michael Erdahl	21-Mar-2024 15:30

Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
EMPC	Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin
H	Hold time violation - Hold time was exceeded.
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

October 3, 2024

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

Dear Mr Jones:

Included are the results from the testing of material submitted on September 24, 2024 from the Bridge Point Seattle 130 DAWN, F&BI 409361 project. There are 8 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: Rusty Jones, Grant Hainsworth, Jamie Stevens
CTC1003R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 24, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 409361 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
409361 -01	SEEP-MW1-0924
409361 -02	MW1-0924

Sample MW1-0924 wase sent to Alliance Technical Group for major gases, ammonia, TOC, nitrate, nitrite, chloride, sulfate, and phosphate analyses. The report is enclosed.

The 6020B manganese calibration standard exceeded the acceptance criteria. The metal was not detected, therefore this did not represent an out of control condition, and the results are not considered estimates.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW1-0924	Client:	Crete Consulting
Date Received:	09/24/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/30/24	Lab ID:	409361-02
Date Analyzed:	09/30/24	Data File:	093013.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	104	62	136

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

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/30/24	Lab ID:	04-2230 mb
Date Analyzed:	09/30/24	Data File:	093009.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	101	84	115
4-Bromofluorobenzene	114	72	130

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

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW1-0924	Client:	Crete Consulting
Date Received:	09/24/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/25/24	Lab ID:	409361-02 x10
Date Analyzed:	09/26/24	Data File:	409361-02 x10.233
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	560
Manganese	<10 k

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/25/24	Lab ID:	I4-797 mb
Date Analyzed:	09/26/24	Data File:	I4-797 mb.222
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

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

Date of Report: 10/03/24
Date Received: 09/24/24
Project: Bridge Point Seattle 130 DAWN, F&BI 409361

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

Laboratory Code: 409381-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	116	50-150
Chloroethane	ug/L (ppb)	10	<1	111	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	93	50-150
Methylene chloride	ug/L (ppb)	10	<5	91	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	92	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	102	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	92	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	103	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	90	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	94	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	82	50-150

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)	10	129	121	64-142	6
Chloroethane	ug/L (ppb)	10	121	114	70-130	6
1,1-Dichloroethene	ug/L (ppb)	10	103	98	64-140	5
Methylene chloride	ug/L (ppb)	10	109	101	43-134	8
trans-1,2-Dichloroethene	ug/L (ppb)	10	101	96	70-130	5
1,1-Dichloroethane	ug/L (ppb)	10	112	106	70-130	6
cis-1,2-Dichloroethene	ug/L (ppb)	10	100	97	70-130	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	106	101	70-130	5
1,1,1-Trichloroethane	ug/L (ppb)	10	97	92	70-130	5
Trichloroethene	ug/L (ppb)	10	97	93	70-130	4
Tetrachloroethene	ug/L (ppb)	10	87	83	70-130	5

Date of Report: 10/03/24
Date Received: 09/24/24
Project: Bridge Point Seattle 130 DAWN, F&BI 409361

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

Laboratory Code: 409361-02 (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	473	68 b	64 b	70-130	6 b
Manganese	ug/L (ppb)	20	<1	73	74	70-130	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	98	85-115
Manganese	ug/L (ppb)	20	95	85-115

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

409361

SAMPLE CHAIN OF CUSTODY

09/24/24 VW1/41/I/2

Page # 1 of 2

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R Jones

PROJECT NAME ~~Dawn~~ Bridge Point Seattle 130

PO # DAWN

REMARKS cVOCs only by 8260

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME

X Standard turnaround

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: MEE RSK175 NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	cVOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Nitrate/Nitrite, Sulfate,	Chloride, Phosphate	TOC SM5310 Ammonia SM4500	Dissolved (6020) Fe+Mn	Notes
SEEP-MW1-0924	01	9/24/2024	0355	WATER	1												HOLD
MW1-0924	02 A-I	↓	0505	↓	9	X				X			X	X	X	X	
																	Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	9/24/24	0739
Received by:	Nhan Phan	FeBT	9/24/24	0739
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 409361 CLIENT Crete INITIALS/ DATE: (NP) 9/24/24

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

Cooler/Sample temperature 3 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

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

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: (NP) 9/24/24
*or other representative documents, letters, and/or shipping memos

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

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

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

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

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

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

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

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

Other comments (use a separate page if needed)

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

Number of unused TO15 canisters _____ Number of unused TO17 tubes _____

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

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

RE: 409361,
Work Order Number: 2409455

October 16, 2024

Attention Michael Erdahl:

Fremont Analytical, Inc, an Alliance Technical Group company, received 1 sample(s) on 9/24/2024 for the analyses presented in the following report.

Ammonia by SM 4500 NH3G
Dissolved Gases by RSK-175
Ion Chromatography by EPA 300.0
Total Organic Carbon by SM 5310C

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Please note, while the appearance of our logo and branding will update, our commitment to accuracy, speed, and customer service remain values celebrated and shared by Alliance Technical Group. Thank you for the opportunity to serve you.

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: *10/16/2024*

CLIENT: Friedman & Bruya
Project: 409361
Work Order: 2409455

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2409455-001	MW1-0924	09/24/2024 5:05 AM	09/24/2024 4:30 PM

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

Case Narrative

WO#: **2409455**

Date: **10/16/2024**

CLIENT: Friedman & Bruya
Project: 409361

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.

10/16/24: Rev1 includes additional analysis per client request.

Qualifiers:

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

Acronyms:

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

Analytical Report

Work Order: **2409455**
Date Reported: **10/16/2024**

CLIENT: Friedman & Bruya
Project: 409361

Lab ID: 2409455-001 **Collection Date:** 9/24/2024 5:05:00 AM
Client Sample ID: **MW1-0924** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R94894		Analyst: CO
Methane	ND	0.00500	H	mg/L	1	10/10/2024 9:14:00 AM
Ethene	ND	0.0100	H	mg/L	1	10/10/2024 9:14:00 AM
Ethane	ND	0.0100	H	mg/L	1	10/10/2024 9:14:00 AM
Ion Chromatography by EPA 300.0				Batch ID: 45320		Analyst: SS
Chloride	5,090	400	D	mg/L	2000	9/25/2024 5:24:00 PM
Nitrite (as N)	ND	0.200		mg/L	1	9/24/2024 9:42:00 PM
Nitrate (as N)	0.314	0.200		mg/L	1	9/24/2024 9:42:00 PM
Ortho-Phosphate (as P)	ND	0.400	Q*	mg/L	1	9/24/2024 9:42:00 PM
Sulfate	739	50.0	D	mg/L	50	9/26/2024 3:27:00 AM
Total Organic Carbon by SM 5310C				Batch ID: R94626		Analyst: OP
Total Organic Carbon	0.930	0.700		mg/L-dry	1	10/1/2024 12:24:00 PM
Ammonia by SM 4500 NH3G				Batch ID: 45334		Analyst: SLL
Nitrogen, Ammonia	ND	0.150		mg/L	1	9/26/2024 2:55:00 PM

NOTES:
Q - Associated calibration verification is below acceptance criteria (87.0%, nominal 90-110). Result may be low-biased.

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **LCS-45334**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **LCSW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975686**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.495	0.150	0.5000	0	99.0	81.7	121.7				

Sample ID: **MB-45334**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **MBLKW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975688**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **2409421-001BDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **BATCH**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975694**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0		30	

Sample ID: **2409421-001BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **BATCH**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975695**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138				S

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

Sample ID: **2409421-001BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **BATCH**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975696**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138	0		30	S

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

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **LCS-45334**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94608**
Client ID: **LCSW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975715**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.460	0.150	0.5000	0	92.0	81.7	121.7				

Sample ID: **MB-45334**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94608**
Client ID: **MBLKW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975717**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **LCSD-45334**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94608**
Client ID: **LCSW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975718**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.517	0.150	0.5000	0	103	81.7	121.7				

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **MB-45306**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **MBLKW**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974798**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.200									
Nitrate (as N)	ND	0.200									
Ortho-Phosphate (as P)	ND	0.400									

Sample ID: **LCS-45306**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **LCSW**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974799**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.694	0.200	0.7500	0	92.5	90	110				
Nitrate (as N)	0.734	0.200	0.7500	0	97.9	90	110				
Ortho-Phosphate (as P)	1.12	0.400	1.250	0	89.4	90	110				S

NOTES:
S - Outlying spike recovery observed (low bias). Samples will be qualified with a *.

Sample ID: **2409428-001BDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974804**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.200						0		20	
Nitrate (as N)	ND	0.200						0		20	
Ortho-Phosphate (as P)	0.510	0.400						0.3800	29.2	20	Q*

NOTES:
Q - Associated calibration verification is above acceptance criteria. Result may be high-biased.

Sample ID: **2409428-001BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974805**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.715	0.200	0.7500	0	95.3	80	120				
Nitrate (as N)	0.709	0.200	0.7500	0	94.5	80	120				
Ortho-Phosphate (as P)	1.93	0.400	1.250	0.3800	124	80	120				S

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2409428-001BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974805**

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

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample ID: **2409428-001BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974806**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.718	0.200	0.7500	0	95.7	80	120	0.7150	0.419	20	
Nitrate (as N)	0.711	0.200	0.7500	0	94.8	80	120	0.7090	0.282	20	
Ortho-Phosphate (as P)	2.06	0.400	1.250	0.3800	135	80	120	1.929	6.76	20	S

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample ID: **LCS-45320**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/25/2024**	RunNo: **94587**
Client ID: **LCSW**	Batch ID: **45320**		Analysis Date: **9/25/2024**	SeqNo: **1975260**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.731	0.200	0.7500	0	97.5	90	110				
Sulfate	3.47	1.00	3.750	0	92.4	90	110				

Sample ID: **MB-45320**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/25/2024**	RunNo: **94587**
Client ID: **MBLKW**	Batch ID: **45320**		Analysis Date: **9/25/2024**	SeqNo: **1975262**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									
Sulfate	ND	1.00									

Sample ID: **2409470-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/25/2024**	RunNo: **94587**
Client ID: **BATCH**	Batch ID: **45320**		Analysis Date: **9/25/2024**	SeqNo: **1975265**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.71	0.200						1.736	1.74	20	

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2409470-001CDUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/25/2024** RunNo: **94587**
Client ID: **BATCH** Batch ID: **45320** Analysis Date: **9/25/2024** SeqNo: **1975265**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.00						0		20	

Sample ID: **2409470-001CMS** SampType: **MS** Units: **mg/L** Prep Date: **9/25/2024** RunNo: **94587**
Client ID: **BATCH** Batch ID: **45320** Analysis Date: **9/25/2024** SeqNo: **1975266**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.56	0.200	0.7500	1.736	110	80	120				
Sulfate	3.60	1.00	3.750	0	96.1	80	120				

Sample ID: **2409470-001CMSD** SampType: **MSD** Units: **mg/L** Prep Date: **9/25/2024** RunNo: **94587**
Client ID: **BATCH** Batch ID: **45320** Analysis Date: **9/25/2024** SeqNo: **1975267**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.58	0.200	0.7500	1.736	112	80	120	2.561	0.662	20	
Sulfate	3.60	1.00	3.750	0	96.1	80	120	3.602	0.0833	20	

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB-R94626**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **MBLKW**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977302**

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

Sample ID: **LCS-R94626**	SampType: **LCS**	Units: **mg/L**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **LCSW**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977303**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	26.1	0.700	25.00	0	104	87.6	109				

Sample ID: **2409455-001ADUP**	SampType: **DUP**	Units: **mg/L-dry**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **MW1-0924**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977305**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	0.925	0.700						0.9300	0.539	20	

Sample ID: **2409455-001AMS**	SampType: **MS**	Units: **mg/L-dry**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **MW1-0924**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977306**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	20.4	0.700	25.00	0.9300	78.0	73.1	113.1				

Sample ID: **2409455-001AMSD**	SampType: **MSD**	Units: **mg/L-dry**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **MW1-0924**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977307**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	20.3	0.700	25.00	0.9300	77.4	73.1	113.1	20.42	0.644	30	

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R94894**	SampType: **LCS**	Units: **ppmv**	Prep Date: **10/9/2024**	RunNo: **94894**
Client ID: **LCSW**	Batch ID: **R94894**		Analysis Date: **10/9/2024**	SeqNo: **1981204**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,050	0.00500	1,000	0	105	73.6	124				
Ethene	1,050	0.0100	1,000	0	105	76.3	122				
Ethane	1,020	0.0100	1,000	0	102	76.1	123				

Sample ID: **MB-R94894**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **10/9/2024**	RunNo: **94894**
Client ID: **MBLKW**	Batch ID: **R94894**		Analysis Date: **10/9/2024**	SeqNo: **1981203**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2410058-001FREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **10/9/2024**	RunNo: **94894**
Client ID: **BATCH**	Batch ID: **R94894**		Analysis Date: **10/9/2024**	SeqNo: **1981189**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500						0		30	
Ethene	ND	0.0100						0		30	
Ethane	ND	0.0100						0		30	

Sample ID: **2409455-001DREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **10/10/2024**	RunNo: **94894**
Client ID: **MW1-0924**	Batch ID: **R94894**		Analysis Date: **10/10/2024**	SeqNo: **1984420**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500						0		30	H
Ethene	ND	0.0100						0		30	H
Ethane	ND	0.0100						0		30	H

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2409455
Logged by:	Morgan Wilson	Date Received:	9/24/2024 4:30:00 PM

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified:	Michael Erdahl	Date:	10/9/2024
By Whom:	Clare Griggs	Via:	☑ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	The hold time expired for RSK prior to analysis being requested.		
Client Instructions:	OK to proceed out of hold.		

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	6.0

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

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2409455

Send Report To Michael Erdahl
Company Friedman and Bruya, Inc.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Alliance Technical Group

PROJECT NAME/NO.	PO #
409361	E-418

REMARKS
EIM

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: TOC	Ammonia	Anions								Notes
MW1-0924		9/24/2024	505	water	1	x	x	x								Anions=nitrate,
																nitrite, sulfate,
																chloride, phosphate

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	9/24/24	0759
Received by:		Briana Ballard	ATG	9/24	4:30PM
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2409455

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

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

SUBCONTRACTER
Alliance Technical Group

PROJECT NAME/NO.	PO #
409361	E-418

REMARKS X = add per M.E. 10/9/24 -cg

EIM

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: TOC	Ammonia	Anions	RSK MEE							Notes
MW1-0924		9/24/2024	505	water	1	x	x	x	X							Anions=nitrate,
																nitrite, sulfate,
																chloride, phosphate

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	9/24/24	0759
Received by:		Briana Ballard	ATG	9/24	4:30PM
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

October 7, 2024

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

Dear Mr Jones:

Included are the results from the testing of material submitted on September 25, 2024 from the Bridge Point Seattle 130 DAWN, F&BI 409395 project. There are 10 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: Grant Hainsworth, Jamie Stevens
CTC1007R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 25, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 409395 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
409395 -01	MW4-0924
409395 -02	MW5-0924

The samples were sent to Alliance Technical Group for major gases, ammonia, TOC, nitrate, nitrite, chloride, sulfate, and phosphate analyses. The report is enclosed.

The 6020B iron calibration standard exceeded the acceptance criteria for the method blank. The metal was not detected, therefore this did not represent an out of control condition, and the results are not considered estimates.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0924	Client:	Crete Consulting
Date Received:	09/25/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	10/01/24	Lab ID:	409395-01
Date Analyzed:	10/01/24	Data File:	100121.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	71	132
Toluene-d8	102	68	139
4-Bromofluorobenzene	105	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.26
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	5.8

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0924	Client:	Crete Consulting
Date Received:	09/25/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	10/01/24	Lab ID:	409395-02
Date Analyzed:	10/01/24	Data File:	100122.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	71	132
Toluene-d8	104	68	139
4-Bromofluorobenzene	105	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	5.5
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	11

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	10/01/24	Lab ID:	04-2342 mb
Date Analyzed:	10/01/24	Data File:	100109.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	101	84	115
4-Bromofluorobenzene	122	72	130

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

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW4-0924	Client:	Crete Consulting
Date Received:	09/25/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/30/24	Lab ID:	409395-01 x50
Date Analyzed:	10/02/24	Data File:	409395-01 x50.142
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	14,000
Manganese	730

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW5-0924	Client:	Crete Consulting
Date Received:	09/25/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/30/24	Lab ID:	409395-02 x50
Date Analyzed:	10/02/24	Data File:	409395-02 x50.143
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	8,500
Manganese	660

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/30/24	Lab ID:	I4-816 mb
Date Analyzed:	09/30/24	Data File:	I4-816 mb.100
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

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

Date of Report: 10/07/24
Date Received: 09/25/24
Project: Bridge Point Seattle 130 DAWN, F&BI 409395

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

Laboratory Code: 409434-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	131	50-150
Chloroethane	ug/L (ppb)	10	<1	124	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	101	50-150
Methylene chloride	ug/L (ppb)	10	<5	95	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	111	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	105	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	96	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	95	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	85	50-150

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)	10	128	122	64-142	5
Chloroethane	ug/L (ppb)	10	120	115	70-130	4
1,1-Dichloroethene	ug/L (ppb)	10	99	96	64-140	3
Methylene chloride	ug/L (ppb)	10	105	100	43-134	5
trans-1,2-Dichloroethene	ug/L (ppb)	10	99	96	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	107	105	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	98	95	70-130	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	103	106	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	10	93	90	70-130	3
Trichloroethene	ug/L (ppb)	10	94	98	70-130	4
Tetrachloroethene	ug/L (ppb)	10	85	87	70-130	2

Date of Report: 10/07/24
Date Received: 09/25/24
Project: Bridge Point Seattle 130 DAWN, F&BI 409395

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

Laboratory Code: 409434-01 (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	50.0	105 b	109 b	75-125	4 b
Manganese	ug/L (ppb)	20	3.52	101	104	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	97	80-120
Manganese	ug/L (ppb)	20	102	80-120

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

409395

SAMPLE CHAIN OF CUSTODY

09/25/24 Page # 1 of 1 VWI / L3

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting Inc

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS: cVOCs only by 8260

Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: MEE RSK (S) NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTFH-HCID	cVOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Ammonia (4500 TO CSUSSIO)	Nitrate, Nitrite Chloride	Sulfate Phosphate	Dissolved Fe + Mn	Notes
MW4-0924	01 A-I	9/25/2024	0535	WATER	9	X				X			X	X	X	X	
MW5-0924	02 V	↓	0627	↓	9	X				V			X	X	X	X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	9/25/2024	0902
Received by:	Nhan Pham	FEBI	9/25/24	0902
Relinquished by:				
Received by:		Samples received at 3 °C		

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 409395 CLIENT Crete INITIALS/ DATE: NP 9/25/24

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 3 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO **Initials/ Date:** NP 9/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes	☐ No	☐ Not on COC/label
Date Sampled	☑ Yes	☐ No	☐ Not on COC/label
Time Sampled	☑ Yes	☐ No	☐ Not on COC/label
# of Containers	☑ Yes	☐ No	
Relinquished	☑ Yes	☐ No	
Requested analysis	☑ Yes	☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 409361,
Work Order Number: 2409455

October 16, 2024

Attention Michael Erdahl:

Fremont Analytical, Inc, an Alliance Technical Group company, received 1 sample(s) on 9/24/2024 for the analyses presented in the following report.

Ammonia by SM 4500 NH3G
Dissolved Gases by RSK-175
Ion Chromatography by EPA 300.0
Total Organic Carbon by SM 5310C

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Please note, while the appearance of our logo and branding will update, our commitment to accuracy, speed, and customer service remain values celebrated and shared by Alliance Technical Group. Thank you for the opportunity to serve you.

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: *10/16/2024*

CLIENT: Friedman & Bruya
Project: 409361
Work Order: 2409455

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2409455-001	MW1-0924	09/24/2024 5:05 AM	09/24/2024 4:30 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2409455**

Date: **10/16/2024**

CLIENT: Friedman & Bruya
Project: 409361

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.

10/16/24: Rev1 includes additional analysis per client request.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2409455**
Date Reported: **10/16/2024**

CLIENT: Friedman & Bruya
Project: 409361

Lab ID: 2409455-001 **Collection Date:** 9/24/2024 5:05:00 AM
Client Sample ID: **MW1-0924** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R94894		Analyst: CO
Methane	ND	0.00500	H	mg/L	1	10/10/2024 9:14:00 AM
Ethene	ND	0.0100	H	mg/L	1	10/10/2024 9:14:00 AM
Ethane	ND	0.0100	H	mg/L	1	10/10/2024 9:14:00 AM
Ion Chromatography by EPA 300.0				Batch ID: 45320		Analyst: SS
Chloride	5,090	400	D	mg/L	2000	9/25/2024 5:24:00 PM
Nitrite (as N)	ND	0.200		mg/L	1	9/24/2024 9:42:00 PM
Nitrate (as N)	0.314	0.200		mg/L	1	9/24/2024 9:42:00 PM
Ortho-Phosphate (as P)	ND	0.400	Q*	mg/L	1	9/24/2024 9:42:00 PM
Sulfate	739	50.0	D	mg/L	50	9/26/2024 3:27:00 AM
Total Organic Carbon by SM 5310C				Batch ID: R94626		Analyst: OP
Total Organic Carbon	0.930	0.700		mg/L-dry	1	10/1/2024 12:24:00 PM
Ammonia by SM 4500 NH3G				Batch ID: 45334		Analyst: SLL
Nitrogen, Ammonia	ND	0.150		mg/L	1	9/26/2024 2:55:00 PM

NOTES:
Q - Associated calibration verification is below acceptance criteria (87.0%, nominal 90-110). Result may be low-biased.

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **LCS-45334**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **LCSW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975686**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.495	0.150	0.5000	0	99.0	81.7	121.7				

Sample ID: **MB-45334**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **MBLKW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975688**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **2409421-001BDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **BATCH**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975694**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0		30	

Sample ID: **2409421-001BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **BATCH**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975695**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138				S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2409421-001BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94607**
Client ID: **BATCH**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975696**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138	0		30	S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **LCS-45334**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94608**
Client ID: **LCSW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975715**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.460	0.150	0.5000	0	92.0	81.7	121.7				

Sample ID: **MB-45334**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94608**
Client ID: **MBLKW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975717**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **LCSD-45334**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/26/2024**	RunNo: **94608**
Client ID: **LCSW**	Batch ID: **45334**		Analysis Date: **9/26/2024**	SeqNo: **1975718**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.517	0.150	0.5000	0	103	81.7	121.7				

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **MB-45306**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **MBLKW**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974798**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.200									
Nitrate (as N)	ND	0.200									
Ortho-Phosphate (as P)	ND	0.400									

Sample ID: **LCS-45306**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **LCSW**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974799**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.694	0.200	0.7500	0	92.5	90	110				
Nitrate (as N)	0.734	0.200	0.7500	0	97.9	90	110				
Ortho-Phosphate (as P)	1.12	0.400	1.250	0	89.4	90	110				S

NOTES:
S - Outlying spike recovery observed (low bias). Samples will be qualified with a *.

Sample ID: **2409428-001BDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974804**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.200						0		20	
Nitrate (as N)	ND	0.200						0		20	
Ortho-Phosphate (as P)	0.510	0.400						0.3800	29.2	20	Q*

NOTES:
Q - Associated calibration verification is above acceptance criteria. Result may be high-biased.

Sample ID: **2409428-001BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974805**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.715	0.200	0.7500	0	95.3	80	120				
Nitrate (as N)	0.709	0.200	0.7500	0	94.5	80	120				
Ortho-Phosphate (as P)	1.93	0.400	1.250	0.3800	124	80	120				S

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2409428-001BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974805**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample ID: **2409428-001BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974806**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.718	0.200	0.7500	0	95.7	80	120	0.7150	0.419	20	
Nitrate (as N)	0.711	0.200	0.7500	0	94.8	80	120	0.7090	0.282	20	
Ortho-Phosphate (as P)	2.06	0.400	1.250	0.3800	135	80	120	1.929	6.76	20	S

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample ID: **LCS-45320**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/25/2024**	RunNo: **94587**
Client ID: **LCSW**	Batch ID: **45320**		Analysis Date: **9/25/2024**	SeqNo: **1975260**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.731	0.200	0.7500	0	97.5	90	110				
Sulfate	3.47	1.00	3.750	0	92.4	90	110				

Sample ID: **MB-45320**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/25/2024**	RunNo: **94587**
Client ID: **MBLKW**	Batch ID: **45320**		Analysis Date: **9/25/2024**	SeqNo: **1975262**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									
Sulfate	ND	1.00									

Sample ID: **2409470-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/25/2024**	RunNo: **94587**
Client ID: **BATCH**	Batch ID: **45320**		Analysis Date: **9/25/2024**	SeqNo: **1975265**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.71	0.200						1.736	1.74	20	

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2409470-001CDUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/25/2024** RunNo: **94587**
Client ID: **BATCH** Batch ID: **45320** Analysis Date: **9/25/2024** SeqNo: **1975265**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.00						0		20	

Sample ID: **2409470-001CMS** SampType: **MS** Units: **mg/L** Prep Date: **9/25/2024** RunNo: **94587**
Client ID: **BATCH** Batch ID: **45320** Analysis Date: **9/25/2024** SeqNo: **1975266**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.56	0.200	0.7500	1.736	110	80	120				
Sulfate	3.60	1.00	3.750	0	96.1	80	120				

Sample ID: **2409470-001CMSD** SampType: **MSD** Units: **mg/L** Prep Date: **9/25/2024** RunNo: **94587**
Client ID: **BATCH** Batch ID: **45320** Analysis Date: **9/25/2024** SeqNo: **1975267**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.58	0.200	0.7500	1.736	112	80	120	2.561	0.662	20	
Sulfate	3.60	1.00	3.750	0	96.1	80	120	3.602	0.0833	20	

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB-R94626**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **MBLKW**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977302**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **LCS-R94626**	SampType: **LCS**	Units: **mg/L**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **LCSW**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977303**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	26.1	0.700	25.00	0	104	87.6	109				

Sample ID: **2409455-001ADUP**	SampType: **DUP**	Units: **mg/L-dry**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **MW1-0924**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977305**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	0.925	0.700						0.9300	0.539	20	

Sample ID: **2409455-001AMS**	SampType: **MS**	Units: **mg/L-dry**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **MW1-0924**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977306**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	20.4	0.700	25.00	0.9300	78.0	73.1	113.1				

Sample ID: **2409455-001AMSD**	SampType: **MSD**	Units: **mg/L-dry**	Prep Date: **10/1/2024**	RunNo: **94626**
Client ID: **MW1-0924**	Batch ID: **R94626**		Analysis Date: **10/1/2024**	SeqNo: **1977307**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	20.3	0.700	25.00	0.9300	77.4	73.1	113.1	20.42	0.644	30	

Work Order: 2409455
CLIENT: Friedman & Bruya
Project: 409361

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R94894**	SampType: **LCS**	Units: **ppmv**	Prep Date: **10/9/2024**	RunNo: **94894**
Client ID: **LCSW**	Batch ID: **R94894**		Analysis Date: **10/9/2024**	SeqNo: **1981204**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,050	0.00500	1,000	0	105	73.6	124				
Ethene	1,050	0.0100	1,000	0	105	76.3	122				
Ethane	1,020	0.0100	1,000	0	102	76.1	123				

Sample ID: **MB-R94894**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **10/9/2024**	RunNo: **94894**
Client ID: **MBLKW**	Batch ID: **R94894**		Analysis Date: **10/9/2024**	SeqNo: **1981203**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2410058-001FREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **10/9/2024**	RunNo: **94894**
Client ID: **BATCH**	Batch ID: **R94894**		Analysis Date: **10/9/2024**	SeqNo: **1981189**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500						0		30	
Ethene	ND	0.0100						0		30	
Ethane	ND	0.0100						0		30	

Sample ID: **2409455-001DREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **10/10/2024**	RunNo: **94894**
Client ID: **MW1-0924**	Batch ID: **R94894**		Analysis Date: **10/10/2024**	SeqNo: **1984420**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500						0		30	H
Ethene	ND	0.0100						0		30	H
Ethane	ND	0.0100						0		30	H

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2409455
Logged by:	Morgan Wilson	Date Received:	9/24/2024 4:30:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Courier		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☐	No ☑	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☑ No ☐ NA ☐

Person Notified:	Michael Erdahl	Date:	10/9/2024
By Whom:	Clare Griggs	Via:	☑ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	The hold time expired for RSK prior to analysis being requested.		
Client Instructions:	OK to proceed out of hold.		

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	6.0

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2409455

Send Report To Michael Erdahl
Company Friedman and Bruya, Inc.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Alliance Technical Group

PROJECT NAME/NO.	PO #
409361	E-418

REMARKS
EIM

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: TOC	Ammonia	Anions								Notes
MW1-0924		9/24/2024	505	water	1	x	x	x								Anions=nitrate,
																nitrite, sulfate,
																chloride, phosphate

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	9/24/24	0759
Received by:		Briana Ballard	ATG	9/24	4:30PM
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2409455

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Alliance Technical Group

PROJECT NAME/NO.	PO #
409361	E-418

REMARKS X = add per M.E. 10/9/24 -cg

EIM

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: TOC	Ammonia	Anions	RSK MEE							Notes
MW1-0924		9/24/2024	505	water	1	x	x	x	X							Anions=nitrate,
																nitrite, sulfate,
																chloride, phosphate

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	9/24/24	0759
Received by:		Briana Ballard	ATG	9/24	4:30PM
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

October 23, 2024

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on September 23, 2024 from the Bridge Point Seattle 130 DAWN, F&BI 409348 project. There are 12 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: Rusty Jones, Grant Hainsworth, Jamie Stevens
CTC1023R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 23, 2024 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 409348 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
409348 -01	SEEP-MW2-0924
409348 -02	SEEP-MW3-0924
409348 -03	MW3-0924
409348 -04	MW11-0924
409348 -05	MW10-0924
409348 -06	MW8-0924

Samples MW11-0924, MW10-0924, and MW8-0924 were sent to Alliance Technical Group for major gases, ammonia, TOC, nitrate, nitrite, chloride, sulfate, and phosphate analyses. In additional, samples SEEP-MW3-0924 and MW3-0924 were sent to Pacific Rim laboratories for dioxin and furan analysis. The reports are enclosed.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW11-0924	Client:	Crete Consulting
Date Received:	09/23/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/27/24	Lab ID:	409348-04
Date Analyzed:	09/27/24	Data File:	092712.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	103	62	136

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	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW10-0924	Client:	Crete Consulting
Date Received:	09/23/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/27/24	Lab ID:	409348-05
Date Analyzed:	09/27/24	Data File:	092713.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	71	132
Toluene-d8	102	68	139
4-Bromofluorobenzene	102	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	24
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	48
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.56
Tetrachloroethene	1.7

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW8-0924	Client:	Crete Consulting
Date Received:	09/23/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/27/24	Lab ID:	409348-06
Date Analyzed:	09/27/24	Data File:	092714.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	71	132
Toluene-d8	116	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.95
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4.6
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.90
Tetrachloroethene	4.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/27/24 05:34	Lab ID:	04-2226 mb
Date Analyzed:	09/27/24 08:53	Data File:	092709.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	96	84	115
4-Bromofluorobenzene	118	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW11-0924	Client:	Crete Consulting
Date Received:	09/23/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/25/24	Lab ID:	409348-04 x100
Date Analyzed:	09/27/24	Data File:	409348-04 x100.300
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	20,000
Manganese	600

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW10-0924	Client:	Crete Consulting
Date Received:	09/23/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/25/24	Lab ID:	409348-05 x25
Date Analyzed:	09/30/24	Data File:	409348-05 x25.125
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	1,600
Manganese	660

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW8-0924	Client:	Crete Consulting
Date Received:	09/23/24	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/25/24	Lab ID:	409348-06 x25
Date Analyzed:	09/30/24	Data File:	409348-06 x25.126
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	28,000
Manganese	7,200

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/25/24	Lab ID:	I4-797 mb
Date Analyzed:	09/26/24	Data File:	I4-797 mb.222
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<50 k
Manganese	<1

Date of Report: 10/23/24
Date Received: 09/23/24
Project: Bridge Point Seattle 130 DAWN, F&BI 409348

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 409409-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	121	50-150
Chloroethane	ug/L (ppb)	10	<1	115	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
Methylene chloride	ug/L (ppb)	10	<5	93	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	106	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	102	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	92	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	94	35-149
Tetrachloroethene	ug/L (ppb)	10	<1	87	50-150

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)	10	124	113	64-142	9
Chloroethane	ug/L (ppb)	10	119	107	70-130	11
1,1-Dichloroethene	ug/L (ppb)	10	101	92	64-140	9
Methylene chloride	ug/L (ppb)	10	103	93	43-134	10
trans-1,2-Dichloroethene	ug/L (ppb)	10	99	90	70-130	10
1,1-Dichloroethane	ug/L (ppb)	10	109	99	70-130	10
cis-1,2-Dichloroethene	ug/L (ppb)	10	98	89	70-130	10
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	107	98	70-130	9
1,1,1-Trichloroethane	ug/L (ppb)	10	93	88	70-130	6
Trichloroethene	ug/L (ppb)	10	98	93	70-130	5
Tetrachloroethene	ug/L (ppb)	10	88	83	70-130	6

Date of Report: 10/23/24
Date Received: 09/23/24
Project: Bridge Point Seattle 130 DAWN, F&BI 409348

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 409361-02 (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	473	68 b	64 b	75-125	6 b
Manganese	ug/L (ppb)	20	<1	73	74	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	98	80-120
Manganese	ug/L (ppb)	20	95	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

409348

SAMPLE CHAIN OF CUSTODY

09/23/24 43/ KW2/I41

Page # _____ of _____

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address _____

City, State, ZIP _____

Phone 832.330.1359 Email _____

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS: cVOCs by 8260 only
Contact Rusty on COCs
Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
X Standard turnaround
☐ RUSH _____
Rush charges authorized by: _____

SAMPLE DISPOSAL
☐ Archive samples
☐ Other _____
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: ~~NWTPH-Dx~~ ~~MCE (KSK 175)~~ NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	cVOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	D/F (Diox./Fur.)	Dissolved Iron + Manganese	Nitrate/Nitrite, Sulfate, Phosphate	TOC, Ammonia	Notes
SEEP-MW2-0924	01 A-B	9.23.2024	0315	WATER	2											HOLD
SEEP-MW3-0924	02 A-B	↓	~~0330~~ ~~0347 RS~~	↓	1							X				
MW3-0924	03		0425		1							X				
~~MW2-0924~~			0509													RS
MW11-0924	04 A-K	9.23.2024	0650	WATER	11		X		X				X	X	X	HOLD Total Fe+Mn
MW10-0924	05-A-I	↓	0840	↓	9		X		X				X	X	X	
MW8-0924	06 A-I	↓	0953	↓	9		X		X				X	X	X	
											Samples received at 4 °C					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	9/23/2024	1101
Received by: Nhan Phan	Nhan Phan	FEBI	9/23/24	1101
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 409348 CLIENT Arcadis INITIALS/ DATE: NP 09/23/24

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 4 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: NP 9/23/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☐ Yes ☑ No	Received 2 containers of: SEEP-MW3-0924
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ Number of unused TO17 tubes _____

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 409348,
Work Order Number: 2409421

September 27, 2024

Attention Michael Erdahl:

Fremont Analytical, Inc, an Alliance Technical Group company, received 3 sample(s) on 9/23/2024 for the analyses presented in the following report.

Ammonia by SM 4500 NH3G
Dissolved Gases by RSK-175
Ion Chromatography by EPA 300.0
Total Organic Carbon by SM 5310C

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Please note, while the appearance of our logo and branding will update, our commitment to accuracy, speed, and customer service remain values celebrated and shared by Alliance Technical Group. Thank you for the opportunity to serve you.

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *09/27/2024*

CLIENT: Friedman & Bruya
Project: 409348
Work Order: 2409421

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2409421-001	MW11-0924	09/23/2024 6:50 AM	09/23/2024 3:42 PM
2409421-002	MW10-0924	09/23/2024 8:40 AM	09/23/2024 3:42 PM
2409421-003	MW8-0924	09/23/2024 9:53 AM	09/23/2024 3:42 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2409421**

Date: **9/27/2024**

CLIENT: Friedman & Bruya
Project: 409348

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2409421**
Date Reported: **9/27/2024**

CLIENT: Friedman & Bruya
Project: 409348

Lab ID: 2409421-001 **Collection Date:** 9/23/2024 6:50:00 AM
Client Sample ID: **MW11-0924** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R94537		Analyst: CO
Methane	1.31	0.0500	D	mg/L	10	9/24/2024 2:37:00 PM
Ethene	ND	0.0100		mg/L	1	9/24/2024 2:23:00 PM
Ethane	ND	0.0100		mg/L	1	9/24/2024 2:23:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 45306		Analyst: SS
Chloride	61.0	4.00	D	mg/L	20	9/25/2024 1:33:00 PM
Nitrite (as N)	ND	0.200	H	mg/L	1	9/26/2024 1:55:00 AM
Nitrate (as N)	ND	0.200	H	mg/L	1	9/26/2024 1:55:00 AM
Ortho-Phosphate (as P)	ND	0.400	HQ*	mg/L	1	9/26/2024 1:55:00 AM
Sulfate	3.27	1.00		mg/L	1	9/26/2024 1:55:00 AM
Total Organic Carbon by SM 5310C				Batch ID: R94544		Analyst: OP
Total Organic Carbon	2.45	0.700		mg/L	1	9/25/2024 1:55:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 45334		Analyst: SLL
Nitrogen, Ammonia	ND	0.150		mg/L	1	9/26/2024 1:43:00 PM

NOTES:
Q* - Calibration verification (86% recovery, nominal 90-110) and LCS are below acceptance criteria. Result may be low-biased.

Analytical Report

Work Order: **2409421**
Date Reported: **9/27/2024**

CLIENT: Friedman & Bruya
Project: 409348

Lab ID: 2409421-002 **Collection Date:** 9/23/2024 8:40:00 AM
Client Sample ID: **MW10-0924** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R94537		Analyst: CO
Methane	0.0510	0.00500		mg/L	1	9/24/2024 2:25:00 PM
Ethene	ND	0.0100		mg/L	1	9/24/2024 2:25:00 PM
Ethane	ND	0.0100		mg/L	1	9/24/2024 2:25:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 45306		Analyst: SS
Chloride	10.4	1.00	D	mg/L	5	9/25/2024 2:19:00 PM
Nitrite (as N)	ND	0.200	H	mg/L	1	9/26/2024 2:18:00 AM
Nitrate (as N)	ND	0.200	H	mg/L	1	9/26/2024 2:18:00 AM
Ortho-Phosphate (as P)	ND	0.400	HQ*	mg/L	1	9/26/2024 2:18:00 AM
Sulfate	15.0	5.00	D	mg/L	5	9/24/2024 7:23:00 PM

NOTES:
Q* - Calibration verification (86% recovery, nominal 90-110) and LCS are below acceptance criteria. Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R94544		Analyst: OP
Total Organic Carbon	5.41	0.700		mg/L	1	9/25/2024 2:18:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 45334		Analyst: SLL
Nitrogen, Ammonia	ND	0.150		mg/L	1	9/26/2024 2:40:00 PM

Analytical Report

Work Order: **2409421**
Date Reported: **9/27/2024**

CLIENT: Friedman & Bruya
Project: 409348

Lab ID: 2409421-003 **Collection Date:** 9/23/2024 9:53:00 AM
Client Sample ID: **MW8-0924** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R94537		Analyst: CO
Methane	2.42	0.100	D	mg/L	20	9/24/2024 2:39:00 PM
Ethene	ND	0.0100		mg/L	1	9/24/2024 2:28:00 PM
Ethane	ND	0.0100		mg/L	1	9/24/2024 2:28:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 45306		Analyst: SS
Chloride	59.5	4.00	D	mg/L	20	9/25/2024 3:05:00 PM
Nitrite (as N)	ND	0.200	H	mg/L	1	9/26/2024 2:41:00 AM
Nitrate (as N)	ND	0.200	H	mg/L	1	9/26/2024 2:41:00 AM
Ortho-Phosphate (as P)	ND	0.400	HQ*	mg/L	1	9/26/2024 2:41:00 AM
Sulfate	6.11	5.00	D	mg/L	5	9/24/2024 7:46:00 PM

NOTES:
Q* - Calibration verification (86% recovery, nominal 90-110) and LCS are below acceptance criteria. Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R94544		Analyst: OP
Total Organic Carbon	8.56	0.700		mg/L	1	9/25/2024 2:41:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 45334		Analyst: SLL
Nitrogen, Ammonia	ND	0.150		mg/L	1	9/26/2024 2:45:00 PM

Work Order: 2409421
CLIENT: Friedman & Bruya
Project: 409348

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **LCS-45334** SampType: **LCS** Units: **mg/L** Prep Date: **9/26/2024** RunNo: **94607**
Client ID: **LCSW** Batch ID: **45334** Analysis Date: **9/26/2024** SeqNo: **1975686**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.495	0.150	0.5000	0	99.0	81.7	121.7				

Sample ID: **MB-45334** SampType: **MBLK** Units: **mg/L** Prep Date: **9/26/2024** RunNo: **94607**
Client ID: **MBLKW** Batch ID: **45334** Analysis Date: **9/26/2024** SeqNo: **1975688**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **2409421-001BDUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/26/2024** RunNo: **94607**
Client ID: **MW11-0924** Batch ID: **45334** Analysis Date: **9/26/2024** SeqNo: **1975694**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0		30	

Sample ID: **2409421-001BMS** SampType: **MS** Units: **mg/L** Prep Date: **9/26/2024** RunNo: **94607**
Client ID: **MW11-0924** Batch ID: **45334** Analysis Date: **9/26/2024** SeqNo: **1975695**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138				S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2409421-001BMSD** SampType: **MSD** Units: **mg/L** Prep Date: **9/26/2024** RunNo: **94607**
Client ID: **MW11-0924** Batch ID: **45334** Analysis Date: **9/26/2024** SeqNo: **1975696**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138	0		30	S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 2409421
CLIENT: Friedman & Bruya
Project: 409348

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **LCS-45334** SampType: **LCS** Units: **mg/L** Prep Date: **9/26/2024** RunNo: **94608**
Client ID: **LCSW** Batch ID: **45334** Analysis Date: **9/26/2024** SeqNo: **1975715**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.460	0.150	0.5000	0	92.0	81.7	121.7				

Sample ID: **MB-45334** SampType: **MBLK** Units: **mg/L** Prep Date: **9/26/2024** RunNo: **94608**
Client ID: **MBLKW** Batch ID: **45334** Analysis Date: **9/26/2024** SeqNo: **1975717**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **LCSD-45334** SampType: **LCS** Units: **mg/L** Prep Date: **9/26/2024** RunNo: **94608**
Client ID: **LCSW** Batch ID: **45334** Analysis Date: **9/26/2024** SeqNo: **1975718**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.517	0.150	0.5000	0	103	81.7	121.7				

Work Order: 2409421
CLIENT: Friedman & Bruya
Project: 409348

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **MB-45306**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **MBLKW**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974798**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									
Sulfate	ND	1.00									

Sample ID: **LCS-45306**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **LCSW**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974799**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.739	0.200	0.7500	0	98.5	90	110				
Sulfate	3.67	1.00	3.750	0	97.9	90	110				

Sample ID: **2409428-001BDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974804**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.56	0.200						1.589	1.65	20	Q
Sulfate	ND	1.00						0		20	

NOTES:
Q - Associated calibration verification is above acceptance criteria. Result may be high-biased.

Sample ID: **2409428-001BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974805**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.36	0.200	0.7500	1.589	103	80	120				
Sulfate	3.98	1.00	3.750	0	106	80	120				

Sample ID: **2409428-001BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974806**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.38	0.200	0.7500	1.589	105	80	120	2.361	0.633	20	

Work Order: 2409421
CLIENT: Friedman & Bruya
Project: 409348

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2409428-001BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/24/2024**	RunNo: **94565**
Client ID: **BATCH**	Batch ID: **45306**		Analysis Date: **9/24/2024**	SeqNo: **1974806**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.98	1.00	3.750	0	106	80	120	3.978	0.101	20	

Sample ID: **LCS-45320**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/25/2024**	RunNo: **94587**
Client ID: **LCSW**	Batch ID: **45320**		Analysis Date: **9/25/2024**	SeqNo: **1975260**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.723	0.200	0.7500	0	96.4	90	110				
Nitrate (as N)	0.724	0.200	0.7500	0	96.5	90	110				
Ortho-Phosphate (as P)	1.09	0.400	1.250	0	86.9	90	110				BS
Sulfate	3.47	1.00	3.750	0	92.4	90	110				

NOTES:
S - Outlying spike recovery observed (low bias). Samples will be qualified with a *.

Sample ID: **MB-45320**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/25/2024**	RunNo: **94587**
Client ID: **MBLKW**	Batch ID: **45320**		Analysis Date: **9/25/2024**	SeqNo: **1975262**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.200									
Nitrate (as N)	ND	0.200									
Ortho-Phosphate (as P)	ND	0.400									Q*
Sulfate	ND	1.00									

NOTES:
Q* - Calibration verification and LCS are below acceptance criteria. Result may be low-biased.

Sample ID: **2409470-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/25/2024**	RunNo: **94587**
Client ID: **BATCH**	Batch ID: **45320**		Analysis Date: **9/25/2024**	SeqNo: **1975265**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.200						0		20	
Nitrate (as N)	ND	0.200						0		20	
Ortho-Phosphate (as P)	ND	0.400						0		20	Q*
Sulfate	ND	1.00						0		20	

Work Order: 2409421
CLIENT: Friedman & Bruya
Project: 409348

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2409470-001CDUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/25/2024** RunNo: **94587**
Client ID: **BATCH** Batch ID: **45320** Analysis Date: **9/25/2024** SeqNo: **1975265**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
Q* - Calibration verification and LCS are below acceptance criteria. Result may be low-biased.

Sample ID: **2409470-001CMS** SampType: **MS** Units: **mg/L** Prep Date: **9/25/2024** RunNo: **94587**
Client ID: **BATCH** Batch ID: **45320** Analysis Date: **9/25/2024** SeqNo: **1975266**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.712	0.200	0.7500	0	94.9	80	120				
Nitrate (as N)	0.719	0.200	0.7500	0	95.9	80	120				
Ortho-Phosphate (as P)	1.06	0.400	1.250	0	84.6	80	120				B
Sulfate	3.60	1.00	3.750	0	96.1	80	120				

Sample ID: **2409470-001CMSD** SampType: **MSD** Units: **mg/L** Prep Date: **9/25/2024** RunNo: **94587**
Client ID: **BATCH** Batch ID: **45320** Analysis Date: **9/25/2024** SeqNo: **1975267**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.717	0.200	0.7500	0	95.6	80	120	0.7120	0.700	20	
Nitrate (as N)	0.728	0.200	0.7500	0	97.1	80	120	0.7190	1.24	20	
Ortho-Phosphate (as P)	1.20	0.400	1.250	0	95.9	80	120	1.057	12.6	20	B
Sulfate	3.60	1.00	3.750	0	96.1	80	120	3.602	0.0833	20	

Work Order: 2409421
CLIENT: Friedman & Bruya
Project: 409348

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB-R94544**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **9/24/2024**			RunNo: **94544**		
Client ID: **MBLKW**	Batch ID: **R94544**					Analysis Date: **9/24/2024**			SeqNo: **1974308**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **LCS-R94544**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/24/2024**			RunNo: **94544**		
Client ID: **LCSW**	Batch ID: **R94544**					Analysis Date: **9/24/2024**			SeqNo: **1974309**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.4	0.700	25.00	0	101	87.6	109				

Sample ID: **2409376-001DDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/24/2024**			RunNo: **94544**		
Client ID: **BATCH**	Batch ID: **R94544**					Analysis Date: **9/24/2024**			SeqNo: **1974311**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700						0		20	

Sample ID: **2409376-001DMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/24/2024**			RunNo: **94544**		
Client ID: **BATCH**	Batch ID: **R94544**					Analysis Date: **9/24/2024**			SeqNo: **1974312**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	26.1	0.700	25.00	0.3320	103	73.1	113.1				

Sample ID: **2409376-001DMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **9/24/2024**			RunNo: **94544**		
Client ID: **BATCH**	Batch ID: **R94544**					Analysis Date: **9/24/2024**			SeqNo: **1974313**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.7	0.700	25.00	0.3320	102	73.1	113.1	26.12	1.46	30	

Work Order: 2409421
CLIENT: Friedman & Bruya
Project: 409348

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R94537** SampType: **LCS** Units: **ppmv** Prep Date: **9/24/2024** RunNo: **94537**
Client ID: **LCSW** Batch ID: **R94537** Analysis Date: **9/24/2024** SeqNo: **1974215**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,120	0.00500	1,000	0	112	73.6	124				
Ethene	1,140	0.0100	1,000	0	114	76.3	122				
Ethane	1,140	0.0100	1,000	0	114	76.1	123				

Sample ID: **MB-R94537** SampType: **MBLK** Units: **mg/L** Prep Date: **9/24/2024** RunNo: **94537**
Client ID: **MBLKW** Batch ID: **R94537** Analysis Date: **9/24/2024** SeqNo: **1974214**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2409332-017AREP** SampType: **REP** Units: **mg/L** Prep Date: **9/24/2024** RunNo: **94537**
Client ID: **BATCH** Batch ID: **R94537** Analysis Date: **9/24/2024** SeqNo: **1974197**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1.03	0.00500						0.9583	7.49	30	E
Ethene	ND	0.0100						0		30	
Ethane	ND	0.0100						0		30	

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2409421
Logged by:	Morgan Wilson	Date Received:	9/23/2024 3:42:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☐	No ☑	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	3.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2409421

Send Report To Michael Erdahl
Company Friedman and Bruya, Inc.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Alliance Technical Group

PROJECT NAME/NO.	PO #
409348	E-416

REMARKS
EIM

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Anions	TOC	Ammonia	RSK 175 MEE							Notes
MW11-0924		9/23/2024	650	water	5	x	x	x	x							Anions=nitrate,
MW10-0924		9/23/2024	840	water	5	x	x	x	x							nitrite, chloride,
MW8-0924		9/23/2024	953	water	5	x	x	x	x							sulfate, phosphate

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	9/23/24	1157
Received by:		Nicholas Kaffler	ATG	9/23/24	1542
Relinquished by:					
Received by:					

SAMPLE RECEIPT FORM / CHEMICAL ANALYSIS FORM

FILE #: PR242723

CLIENT: Friedman and Bruya Inc.
5500 4th Ave S
Seattle, WA
98108
USA

Phone: (206) 285-8282
Email: merdahl@friedmanandbruya.com

RECEIVED BY: T. Nguyen
DATE/TIME: September 26, 2024 (3:00 p.m.)
CONDITION: Okay, 7.8°C

# of Containers	Sample Type	Sample (Client Codes)	Lab Codes	Test Requested
1	Water	SEEP-MW3-0924	PR242723	PCDD/F
1	Water	MW3-0924	PR242724	PCDD/F

STORAGE: Stored at 4°C.

ANALYTES: HRGC/HRMS analysis for polychlorinated dibenzo(p)dioxins and dibenzofurans (PCDD/F).

SPECIAL INSTRUCTIONS: EIM EDD Requested.

METHODOLOGY

Reference Method: PCDD/F: SOP LAB01; EPA Method 1613b

Data summarized in Data Report attached.

Report sent to: Michael Erdahl Date: October 22, 2024

Comments: Results relate only to samples as received.

The following flags or qualifiers have been used with this data set:

B: sample concentration is <5x concentration found in the blank
U: not detected at the concentration listed
J: sample concentration is less than lowest point on calibration curve
N: not detected due to incorrect ion ratio. Concentration report is EMPC.
Q: one or more quality control criteria has failed

_____
David Hope, P.Chem., CEO

DATA REPORT

Client:	Friedman and Bruya Inc.	Contact:	Michael Erdahl
Client ID:	SEEP-MW3-0924	Date Extracted:	10/11/2024
Field ID:		Date Analysed:	10/18/2024
PRL ID:	PR242723	HRMS File:	HR10182405

DIOXINS (PCDD)		**Conc.**	**DL**		**EQL**
Congeners		**pg/L**	**pg/L**	**Flag**	**pg/L**
2,3,7,8-TCDD	1746-01-6	0.23	0.23	UJ	0.48
1,2,3,7,8-PeCDD	40321-76-4	0.50	0.50	UJ	2.38
1,2,3,4,7,8-HxCDD	39227-28-6	0.33	0.33	UJ	2.38
1,2,3,6,7,8-HxCDD	57653-85-7	0.38	0.38	UJ	2.38
1,2,3,7,8,9-HxCDD	19408-74-3	0.38	0.38	UJ	2.38
1,2,3,4,6,7,8-HpCDD	35822-46-9	2.29	2.29	UJ	2.38
OCDD	3268-87-9	313	2.08		4.76

FURANS (PCDF)					
Congeners					
2,3,7,8-TCDF	51207-31-9	0.49	0.49	U	0.48
1,2,3,7,8-PeCDF	57117-41-6	0.21	0.21	UJ	2.38
2,3,4,7,8-PeCDF	57117-31-4	1.15	0.21	NJ	2.38
1,2,3,4,7,8-HxCDF	70648-26-9	1.19	1.19	UJ	2.38
1,2,3,6,7,8-HxCDF	57117-44-9	1.18	1.18	UJ	2.38
2,3,4,6,7,8-HxCDF	60851-34-5	1.17	1.17	UJ	2.38
1,2,3,7,8,9-HxCDF	72918-21-9	1.58	1.58	UJ	2.38
1,2,3,4,6,7,8-HpCDF	67562-39-4	3.54	0.31	NJ	2.38
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.30	0.30	UJ	2.38
OCDF	39001-02-0	25.7	0.75		4.76

Standard Recoveries (%)				
$^{13}C_{12}$ -2,3,7,8-TCDD	76523-40-5	64		
$^{13}C_{12}$ -1,2,3,7,8-PeCDD	109719-79-1	56		
$^{13}C_{12}$ -1,2,3,4,7,8-HxCDD	109719-80-4	78		
$^{13}C_{12}$ -1,2,3,6,7,8-HxCDD	109719-81-5	76		
$^{13}C_{12}$ -1,2,3,4,6,7,8-HpCDD	109719-83-7	60		
$^{13}C_{12}$ -OCDD	114423-97-1	56		
$^{13}C_{12}$ -2,3,7,8-TCDF	89059-46-1	48		
$^{13}C_{12}$ -1,2,3,7,8-PeCDF	109719-77-9	60		
$^{13}C_{12}$ -2,3,4,7,8-PeCDF	116843-02-8	62		
$^{13}C_{12}$ -1,2,3,4,7,8-HxCDF	114423-98-2	72		
$^{13}C_{12}$ -1,2,3,6,7,8-HxCDF	116843-03-9	72		
$^{13}C_{12}$ -1,2,3,7,8,9-HxCDF	116843-04-0	74		
$^{13}C_{12}$ -2,3,4,6,7,8-HxCDF	116843-05-1	68		
$^{13}C_{12}$ -1,2,3,4,6,7,8-HpCDF	109719-84-8	60		
$^{13}C_{12}$ -1,2,3,4,7,8,9-HpCDF	109719-94-0	46		
$^{37}Cl_4$ -2,3,7,8-TCDD	85508-50-5	52		

DATA REPORT

Client:	Friedman and Bruya Inc.	Contact:	Michael Erdahl
Client ID:	SEEP-MW3-0924	Date Extracted:	10/11/2024
Field ID:		Date Analysed:	10/18/2024
PRL ID:	PR242723	HRMS File:	HR10182405

Totals		**Conc.**	**DL**	
		pg/L	**pg/L**	**Flag**
Total TCDD	41903-57-5	0.23	0.23	UJ
Total PeCDD	36088-22-9	0.50	0.50	UJ
Total HxCDD	34465-46-8	0.33	0.33	UJ
Total HpCDD	37871-00-4	2.29	2.29	UJ
Total TCDF	55722-27-5	0.49	0.49	U
Total PeCDF	30402-15-4	0.21	0.21	UJ
Total HxCDF	55684-94-1	1.17	1.17	UJ
Total HpCDF	38998-75-3	0.30	0.30	UJ

WHOTEQ		**Conc.**		
		pg/L		
Lower Bound (ND=0)		0.09		
Mid Bound (ND=1/2DL)		0.52		
Upper Bound (ND=DL)		0.95		

DATA REPORT

Client:	Friedman and Bruya Inc.	Contact:	Michael Erdahl
Client ID:	MW3-0924	Date Extracted:	10/11/2024
Field ID:		Date Analysed:	10/18/2024
PRL ID:	PR242724	HRMS File:	HR10182406

DIOXINS (PCDD)		**Conc.**	**DL**		**EQL**
Congeners		**pg/L**	**pg/L**	**Flag**	**pg/L**
2,3,7,8-TCDD	1746-01-6	0.42	0.18	NJ	0.49
1,2,3,7,8-PeCDD	40321-76-4	0.20	0.27	UJ	2.44
1,2,3,4,7,8-HxCDD	39227-28-6	0.20	0.20	UJ	2.44
1,2,3,6,7,8-HxCDD	57653-85-7	0.73	0.21	NJ	2.44
1,2,3,7,8,9-HxCDD	19408-74-3	0.22	0.22	UJ	2.44
1,2,3,4,6,7,8-HpCDD	35822-46-9	81.0	1.33		2.44
OCDD	3268-87-9	1100	1.22		4.88

FURANS (PCDF)					
Congeners					
2,3,7,8-TCDF	51207-31-9	0.31	0.31	UJ	0.49
1,2,3,7,8-PeCDF	57117-41-6	0.15	0.15	UJ	2.44
2,3,4,7,8-PeCDF	57117-31-4	0.16	0.16	UJ	2.44
1,2,3,4,7,8-HxCDF	70648-26-9	0.66	0.66	UJ	2.44
1,2,3,6,7,8-HxCDF	57117-44-9	0.68	0.68	UJ	2.44
2,3,4,6,7,8-HxCDF	60851-34-5	0.65	0.65	UJ	2.44
1,2,3,7,8,9-HxCDF	72918-21-9	0.90	0.90	UJ	2.44
1,2,3,4,6,7,8-HpCDF	67562-39-4	15.7	0.41		2.44
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.36	0.36	UJ	2.44
OCDF	39001-02-0	160	0.48		4.88

Standard Recoveries (%)				
$^{13}C_{12}$ -2,3,7,8-TCDD	76523-40-5	76		
$^{13}C_{12}$ -1,2,3,7,8-PeCDD	109719-79-1	92		
$^{13}C_{12}$ -1,2,3,4,7,8-HxCDD	109719-80-4	94		
$^{13}C_{12}$ -1,2,3,6,7,8-HxCDD	109719-81-5	90		
$^{13}C_{12}$ -1,2,3,4,6,7,8-HpCDD	109719-83-7	84		
$^{13}C_{12}$ -OCDD	114423-97-1	86		
$^{13}C_{12}$ -2,3,7,8-TCDF	89059-46-1	56		
$^{13}C_{12}$ -1,2,3,7,8-PeCDF	109719-77-9	86		
$^{13}C_{12}$ -2,3,4,7,8-PeCDF	116843-02-8	86		
$^{13}C_{12}$ -1,2,3,4,7,8-HxCDF	114423-98-2	80		
$^{13}C_{12}$ -1,2,3,6,7,8-HxCDF	116843-03-9	82		
$^{13}C_{12}$ -1,2,3,7,8,9-HxCDF	116843-04-0	86		
$^{13}C_{12}$ -2,3,4,6,7,8-HxCDF	116843-05-1	82		
$^{13}C_{12}$ -1,2,3,4,6,7,8-HpCDF	109719-84-8	68		
$^{13}C_{12}$ -1,2,3,4,7,8,9-HpCDF	109719-94-0	60		
$^{37}Cl_4$ -2,3,7,8-TCDD	85508-50-5	70		

DATA REPORT

Client:	Friedman and Bruya Inc.	Contact:	Michael Erdahl
Client ID:	MW3-0924	Date Extracted:	10/11/2024
Field ID:		Date Analysed:	10/18/2024
PRL ID:	PR242724	HRMS File:	HR10182406

Totals		**Conc.**	**DL**	
		pg/L	**pg/L**	**Flag**
Total TCDD	41903-57-5	0.18	0.18	UJ
Total PeCDD	36088-22-9	0.27	0.27	UJ
Total HxCDD	34465-46-8	0.20	0.20	UJ
Total HpCDD	37871-00-4	168	1.33	
Total TCDF	55722-27-5	0.31	0.31	UJ
Total PeCDF	30402-15-4	0.15	0.15	UJ
Total HxCDF	55684-94-1	0.65	0.65	UJ
Total HpCDF	38998-75-3	84.3	0.36	

WHOTEQ		**Conc.**		
		pg/L		
Lower Bound (ND=0)		1.14		
Mid Bound (ND=1/2DL)		1.41		
Upper Bound (ND=DL)		1.68		

QC REPORT - BLANK

Client:	Friedman and Bruya Inc.	Contact:	Michael Erdahl
Client ID:	BLANK	Date Extracted:	10/11/2024
Field ID:		Date Analysed:	10/18/2024
PRL ID:	DF240664B	HRMS File:	HR10182404

DIOXINS (PCDD)		**Conc.**	**DL**		**EQL**
Congeners		**pg/L**	**pg/L**	**Flag**	**pg/L**
2,3,7,8-TCDD	1746-01-6	0.28	0.28	UJ	0.40
1,2,3,7,8-PeCDD	40321-76-4	0.33	0.33	UJ	2.00
1,2,3,4,7,8-HxCDD	39227-28-6	0.19	0.19	UJ	2.00
1,2,3,6,7,8-HxCDD	57653-85-7	0.20	0.20	UJ	2.00
1,2,3,7,8,9-HxCDD	19408-74-3	0.21	0.21	UJ	2.00
1,2,3,4,6,7,8-HpCDD	35822-46-9	1.84	1.84	UJ	2.00
OCDD	3268-87-9	1.61	1.61	UJ	4.00

FURANS (PCDF)					
Congeners					
2,3,7,8-TCDF	51207-31-9	0.42	0.42	U	0.40
1,2,3,7,8-PeCDF	57117-41-6	0.19	0.19	UJ	2.00
2,3,4,7,8-PeCDF	57117-31-4	0.23	0.23	UJ	2.00
1,2,3,4,7,8-HxCDF	70648-26-9	1.13	1.13	UJ	2.00
1,2,3,6,7,8-HxCDF	57117-44-9	1.14	1.14	UJ	2.00
2,3,4,6,7,8-HxCDF	60851-34-5	1.25	1.25	UJ	2.00
1,2,3,7,8,9-HxCDF	72918-21-9	1.81	1.81	UJ	2.00
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.20	0.20	UJ	2.00
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.21	0.21	UJ	2.00
OCDF	39001-02-0	0.73	0.73	UJ	4.00

Standard Recoveries (%)				
$^{13}C_{12}$ -2,3,7,8-TCDD	76523-40-5	62		
$^{13}C_{12}$ -1,2,3,7,8-PeCDD	109719-79-1	58		
$^{13}C_{12}$ -1,2,3,4,7,8-HxCDD	109719-80-4	74		
$^{13}C_{12}$ -1,2,3,6,7,8-HxCDD	109719-81-5	70		
$^{13}C_{12}$ -1,2,3,4,6,7,8-HpCDD	109719-83-7	62		
$^{13}C_{12}$ -OCDD	114423-97-1	52		
$^{13}C_{12}$ -2,3,7,8-TCDF	89059-46-1	50		
$^{13}C_{12}$ -1,2,3,7,8-PeCDF	109719-77-9	66		
$^{13}C_{12}$ -2,3,4,7,8-PeCDF	116843-02-8	62		
$^{13}C_{12}$ -1,2,3,4,7,8-HxCDF	114423-98-2	72		
$^{13}C_{12}$ -1,2,3,6,7,8-HxCDF	116843-03-9	70		
$^{13}C_{12}$ -1,2,3,7,8,9-HxCDF	116843-04-0	72		
$^{13}C_{12}$ -2,3,4,6,7,8-HxCDF	116843-05-1	64		
$^{13}C_{12}$ -1,2,3,4,6,7,8-HpCDF	109719-84-8	58		
$^{13}C_{12}$ -1,2,3,4,7,8,9-HpCDF	109719-94-0	44		
$^{37}Cl_4$ -2,3,7,8-TCDD	85508-50-5	54		

QC REPORT - BLANK

Client:	Friedman and Bruya Inc.	Contact:	Michael Erdahl
Client ID:	BLANK	Date Extracted:	10/11/2024
Field ID:		Date Analysed:	10/18/2024
PRL ID:	DF240664B	HRMS File:	HR10182404

Totals		**Conc.**	**DL**	
		pg/L	**pg/L**	**Flag**
Total TCDD	41903-57-5	0.28	0.28	UJ
Total PeCDD	36088-22-9	0.33	0.33	UJ
Total HxCDD	34465-46-8	0.19	0.19	UJ
Total HpCDD	37871-00-4	1.84	1.84	UJ
Total TCDF	55722-27-5	0.42	0.42	U
Total PeCDF	30402-15-4	0.19	0.19	UJ
Total HxCDF	55684-94-1	1.13	1.13	UJ
Total HpCDF	38998-75-3	0.20	0.20	UJ

WHOTEQ		**Conc.**		
		pg/L		
Lower Bound (ND=0)		0.00		
Mid Bound (ND=1/2DL)		0.30		
Upper Bound (ND=DL)		0.60		

QC REPORT - SPIKE

Client:	Friedman and Bruya Inc.	Contact:	Michael Erdahl
Client ID:	SPIKE (LCS)	Date Extracted:	10/11/2024
Field ID:		Date Analysed:	10/18/2024
PRL ID:	DF240665S	HRMS File:	HR10182413

DIOXINS			Acceptable Recovery		Pass/Fail	Surrogate Recoveries
	LOF	Recovery	Min	Max		
Congeners	pg/L	%	%	%		%
2,3,7,8-TCDD	200	89	67	158	Pass	64
1,2,3,7,8-PeCDD	200	111	70	142	Pass	60
1,2,3,4,7,8-HxCDD	400	88	70	164	Pass	86
1,2,3,6,7,8-HxCDD	400	88	76	134	Pass	84
1,2,3,7,8,9-HxCDD	400	93	64	162	Pass	-
1,2,3,4,6,7,8-HpCDD	400	91	70	140	Pass	68
OCDD	1000	83	78	144	Pass	60

FURANS			Acceptable Recovery		Pass/Fail	Surrogate Recoveries
	LOF	Recovery	Min	Max		
Congeners	pg/L	%	%	%		%
2,3,7,8-TCDF	200	107	75	158	Pass	48
1,2,3,7,8-PeCDF	200	89	80	134	Pass	60
2,3,4,7,8-PeCDF	200	106	68	160	Pass	56
1,2,3,4,7,8-HxCDF	400	87	72	134	Pass	72
1,2,3,6,7,8-HxCDF	400	95	84	130	Pass	72
2,3,4,6,7,8-HxCDF	400	97	78	130	Pass	74
1,2,3,7,8,9-HxCDF	400	96	70	156	Pass	74
1,2,3,4,6,7,8-HpCDF	400	112	82	122	Pass	58
1,2,3,4,7,8,9-HpCDF	400	100	78	138	Pass	50
OCDF	1000	84	63	170	Pass	-

LOF - Level of Fortification

Acronyms used in reporting dioxins and furans:

TCDD = Tetrachlorodibenzo-*p*-dioxin
PeCDD = Pentachlorodibenzo-*p*-dioxin
HxCDD = Hexachlorodibenzo-*p*-dioxin
HpCDD = Heptachlorodibenzo-*p*-dioxin
OCDD = Octachlorodibenzo-*p*-dioxin

TCDF = Tetrachlorodibenzofuran
PeCDF = Pentachlorodibenzofuran
HxCDF = Hexachlorodibenzofuran
HpCDF = Heptachlorodibenzofuran
OCDF = Octachlorodibenzofuran

Acceptable recoveries for surrogates	**EPA 1613**	
	Min (%)	**Max (%)**
$^{13}C_{12}$ -2,3,7,8-TCDD	25	164
$^{13}C_{12}$ -1,2,3,7,8-PeCDD	25	181
$^{13}C_{12}$ -1,2,3,4,7,8-HxCDD	32	141
$^{13}C_{12}$ -1,2,3,6,7,8-HxCDD	28	130
$^{13}C_{12}$ -1,2,3,4,6,7,8-HpCDD	23	140
$^{13}C_{12}$ -OCDD	17	157
$^{13}C_{12}$ -2,3,7,8-TCDF	24	169
$^{13}C_{12}$ -1,2,3,7,8-PeCDF	24	185
$^{13}C_{12}$ -2,3,4,7,8-PeCDF	21	178
$^{13}C_{12}$ -1,2,3,4,7,8-HxCDF	26	152
$^{13}C_{12}$ -1,2,3,6,7,8-HxCDF	26	123
$^{13}C_{12}$ -1,2,3,7,8,9-HxCDF	29	147
$^{13}C_{12}$ -2,3,4,6,7,8-HxCDF	28	136
$^{13}C_{12}$ -1,2,3,4,6,7,8-HpCDF	28	143
$^{13}C_{12}$ -1,2,3,4,7,8,9-HpCDF	26	138

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Pacific Rim Labs	
PROJECT NAME/NO.	PO #
409348	E-419
REMARKS	
EIM	

TURNAROUND TIME
- ☒ Standard TAT
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- Dispose after 30 days
- Return samples
- Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Dioxins/Furans										Notes
SEEP-MW3-0924 PR24	2723	9/23/2024	330	water	1	x										
MW3-0924 PR24	2724	9/23/2024	424	water	1	x										

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	9/24/24	0830
Received by: TN T = 7.8°C			26Sep24	3PM
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

BROOKS APPLIED LABS
13751 Lake City Way NE, Ste 108, Seattle, WA 98125 • USA • T:206-632-6206 • info@brooksapplied.com

October 10, 2024

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Dear Rusty Jones,

On September 25, 2024, Brooks Applied Labs (BAL) received eight (5) sets of aqueous samples in a sealed cooler at an acceptable temperature of 2.9°C. The samples were logged-in for total recoverable and dissolved *chromium [Cr], zinc [Zn], and hexavalent chromium [Cr(VI)]* analyses, according to the issued quotation. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*Cr, Zn*) were preserved to a pH <2 upon receipt at BAL.

The dissolved Cr request was placed on hold for samples 2409438-02 (SEEP-MW2-0924) and 2409438-04 (MW2-0924) per the client's COC request, and no dissolved Cr results are included in this report for these samples.

Total Recoverable and Dissolved (Cr and Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed for (*Cr and Zn*) content via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

Some of the total results were less than the corresponding dissolved result. In all of these cases, the total and dissolved samples meet RPD, or the results met secondary criteria (within 5x the MRL and within the MRL of each other) and no further action was required.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL, the relative percent difference (RPD) was not calculated (N/C).

Hexavalent Chromium Analysis
Hexavalent chromium [Cr(VI)] analysis was performed by ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Chromium species are first chromatographically separated on an ion exchange column and then quantified using inductively coupled plasma collision reaction cell mass spectrometry (ICP-CRC-MS). For more information on this determinative technique, please visit the *Interference Reduction Technology* section on our website.

The results were not method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification and all associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E An estimated value due to the presence of interferences. A full explanation is presented in the narrative.

H Holding time and/or preservation requirements not met. Please see narrative for explanation.

J Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.

J-1 Estimated value. A full explanation is presented in the narrative.

M Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.

N Spike recovery was not within acceptance criteria. Please see narrative for explanation.

R Rejected, unusable value. A full explanation is presented in the narrative.

U Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.

X Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

Z Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

13751 Lake City Way NE, Suite 108, Seattle, WA 98125 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
SEEP-MW2-0924	2409438-01	Water	Sample	09/23/2024	09/25/2024
SEEP-MW2-0924	2409438-02	Water	Sample	09/23/2024	09/25/2024
MW2-0924	2409438-03	Water	Sample	09/23/2024	09/25/2024
MW2-0924	2409438-04	Water	Sample	09/23/2024	09/25/2024
MW11-0924	2409438-05	Water	Sample	09/23/2024	09/25/2024
MW11-0924	2409438-06	Water	Sample	09/23/2024	09/25/2024
PD1-0924	2409438-07	Water	Sample	09/24/2024	09/25/2024
PD1-0924	2409438-08	Water	Sample	09/24/2024	09/25/2024
SEEP-MW1-0924	2409438-09	Water	Sample	09/24/2024	09/25/2024
SEEP-MW1-0924	2409438-10	Water	Sample	09/24/2024	09/25/2024
MW1-0924	2409438-11	Water	Sample	09/24/2024	09/25/2024
MW1-0924	2409438-12	Water	Sample	09/24/2024	09/25/2024
MW4-0924	2409438-13	Water	Sample	09/25/2024	09/25/2024
MW4-0924	2409438-14	Water	Sample	09/25/2024	09/25/2024
MW5-0924	2409438-15	Water	Sample	09/25/2024	09/25/2024
MW5-0924	2409438-16	Water	Sample	09/25/2024	09/25/2024

Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
Cr	Water	EPA 1638 Mod	ISO,TNI	10/01/24	10/01/24	B242448	S240949
Cr(VI)	Water	SOP BAL-4300	ISO,TNI	10/02/24	10/02/24	B242474	S240956
Zn	Water	EPA 1638 Mod	ISO,TNI	10/01/24	10/01/24	B242448	S240949

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
SEEP-MW2-0924										
2409438-01	Cr	Water	TR	≤ 4.29	U	4.29	15.2	µg/L	B242448	S240949
SEEP-MW2-0924										
2409438-02	Cr(VI)	Water	D	0.642		0.025	0.051	µg/L	B242474	S240956
MW2-0924										
2409438-03	Cr	Water	TR	≤ 4.29	U	4.29	15.2	µg/L	B242448	S240949
MW2-0924										
2409438-04	Cr(VI)	Water	D	0.645		0.025	0.051	µg/L	B242474	S240956
MW11-0924										
2409438-05	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B242448	S240949
MW11-0924										
2409438-06	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B242448	S240949
PD1-0924										
2409438-07	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B242448	S240949
PD1-0924										
2409438-08	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B242448	S240949
2409438-08	Cr(VI)	Water	D	0.057		0.025	0.051	µg/L	B242474	S240956
SEEP-MW1-0924										
2409438-09	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B242448	S240949
SEEP-MW1-0924										
2409438-10	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B242448	S240949
2409438-10	Cr(VI)	Water	D	0.890		0.025	0.051	µg/L	B242474	S240956
MW1-0924										
2409438-11	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B242448	S240949
2409438-11	Zn	Water	TR	487		12.1	24.2	µg/L	B242448	S240949

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW1-0924										
2409438-12	Cr	Water	D	≤ 1.72	U	1.72	6.06	µg/L	B242448	S240949
2409438-12	Cr(VI)	Water	D	0.204		0.025	0.051	µg/L	B242474	S240956
2409438-12	Zn	Water	D	508		12.1	24.2	µg/L	B242448	S240949
MW4-0924										
2409438-13	Zn	Water	TR	145		12.1	24.2	µg/L	B242448	S240949
MW4-0924										
2409438-14	Zn	Water	D	136		12.1	24.2	µg/L	B242448	S240949
MW5-0924										
2409438-15	Zn	Water	TR	69.2		12.1	24.2	µg/L	B242448	S240949
MW5-0924										
2409438-16	Zn	Water	D	12.3	J	12.1	24.2	µg/L	B242448	S240949

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Accuracy & Precision Summary

Batch: B242448
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B242448-BS1	**Blank Spike, (2401036)**						
	Cr		55.56	56.59	µg/L	102% 75-125	
	Zn		55.56	55.28	µg/L	100% 75-125	
B242448-BS2	**Blank Spike, (2401036)**						
	Cr		55.56	58.22	µg/L	105% 75-125	
	Zn		55.56	56.90	µg/L	102% 75-125	
B242448-SRM3	**Reference Material (2428016, NIST 1643f)**						
	Cr		18.50	20.80	µg/L	112% 75-125	
	Zn		74.40	79.27	µg/L	107% 75-125	
B242448-SRM4	**Reference Material (2428016, NIST 1643f)**						
	Cr		18.50	20.47	µg/L	111% 75-125	
	Zn		74.40	79.40	µg/L	107% 75-125	
B242448-DUP2	**Duplicate, (2409438-01)**						
	Cr	ND		ND	µg/L		N/C 20
	Zn	ND		ND	µg/L		N/C 20
B242448-MS2	**Matrix Spike, (2409438-01)**						
	Cr	ND	56.12	61.61	µg/L	110% 75-125	
	Zn	ND	56.12	70.29	µg/L	125% 75-125	
B242448-MSD2	**Matrix Spike Duplicate, (2409438-01)**						
	Cr	ND	56.12	64.32	µg/L	115% 75-125	4% 20
	Zn	ND	56.12	70.27	µg/L	125% 75-125	0.04% 20
B242448-DUP3	**Duplicate, (2409438-15)**						
	Cr	ND		ND	µg/L		N/C 20
	Zn	69.24		67.58	µg/L		2% 20
B242448-MS3	**Matrix Spike, (2409438-15)**						
	Cr	ND	56.12	57.05	µg/L	102% 75-125	
	Zn	69.24	56.12	124.2	µg/L	98% 75-125	

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B242448
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B242448-MSD3	**Matrix Spike Duplicate, (2409438-15)**						
	Cr	ND	56.12	56.70	µg/L	101% 75-125	0.6% 20
	Zn	69.24	56.12	126.9	µg/L	103% 75-125	2% 20

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Accuracy & Precision Summary

Batch: B242474
Lab Matrix: Water
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B242474-BS1	**Blank Spike, (2432005)**						
	Cr(VI)		2.000	1.905	µg/L	95% 75-125	
B242474-DUP1	**Duplicate, (2409438-12)**						
	Cr(VI)	0.204		0.195	µg/L		5% 25
B242474-MS1	**Matrix Spike, (2409438-12)**						
	Cr(VI)	0.204	5.051	4.971	µg/L	94% 75-125	
B242474-MSD1	**Matrix Spike Duplicate, (2409438-12)**						
	Cr(VI)	0.204	5.051	4.356	µg/L	82% 75-125	13% 25

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Method Blanks & Reporting Limits

Batch: B242448
Matrix: Water
Method: EPA 1638 Mod
Analyte: Cr

Sample	Result	Units
B242448-BLK1	0.001	µg/L
B242448-BLK2	-0.005	µg/L
B242448-BLK3	-0.003	µg/L
B242448-BLK4	0.009	µg/L

Average: 0.001
Limit: 0.600

MDL: 0.170
MRL: 0.600

Analyte: Zn

Sample	Result	Units
B242448-BLK1	-0.002	µg/L
B242448-BLK2	-0.028	µg/L
B242448-BLK3	0.079	µg/L
B242448-BLK4	0.378	µg/L

Average: 0.107
Limit: 2.400

MDL: 1.20
MRL: 2.40

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Method Blanks & Reporting Limits

Batch: B242474
Matrix: Water
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B242474-BLK1	0.00	µg/L
B242474-BLK2	0.00	µg/L
B242474-BLK3	0.00	µg/L
B242474-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.010

MDL: 0.005
MRL: 0.010

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Sample Containers

Lab ID: 2409438-01 **Report Matrix:** Water **Collected:** 09/23/2024
Sample: SEEP-MW2-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

Lab ID: 2409438-02 **Report Matrix:** Water **Collected:** 09/23/2024
Sample: SEEP-MW2-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W-D	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438
B	Bottle HDPE Cr-Sp	60mL	24-0045	0.6mL NH4OH/ (NH4)SO4	2343039	9-9.5	Cooler - 2409438

Lab ID: 2409438-03 **Report Matrix:** Water **Collected:** 09/23/2024
Sample: MW2-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

Lab ID: 2409438-04 **Report Matrix:** Water **Collected:** 09/23/2024
Sample: MW2-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W-D	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438
B	Bottle HDPE Cr-Sp	60mL	24-0045	0.6mL NH4OH/ (NH4)SO4	2343039	9-9.5	Cooler - 2409438

Lab ID: 2409438-05 **Report Matrix:** Water **Collected:** 09/23/2024
Sample: MW11-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

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Sample Containers

Lab ID: 2409438-06 **Report Matrix:** Water **Collected:** 09/23/2024
Sample: MW11-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W-D	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

Lab ID: 2409438-07 **Report Matrix:** Water **Collected:** 09/24/2024
Sample: PD1-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

Lab ID: 2409438-08 **Report Matrix:** Water **Collected:** 09/24/2024
Sample: PD1-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W-D	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438
B	Bottle HDPE Cr-Sp	60mL	24-0045	0.6mL NH4OH/ (NH4)SO4	2343039	9-9.5	Cooler - 2409438

Lab ID: 2409438-09 **Report Matrix:** Water **Collected:** 09/24/2024
Sample: SEEP-MW1-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

Lab ID: 2409438-10 **Report Matrix:** Water **Collected:** 09/24/2024
Sample: SEEP-MW1-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W-D	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438
B	Bottle HDPE Cr-Sp	60mL	24-0045	0.6mL NH4OH/ (NH4)SO4	2343039	9-9.5	Cooler - 2409438

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Sample Containers

Lab ID: 2409438-11 **Report Matrix:** Water **Collected:** 09/24/2024
Sample: MW1-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

Lab ID: 2409438-12 **Report Matrix:** Water **Collected:** 09/24/2024
Sample: MW1-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W-D	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438
B	Bottle HDPE Cr-Sp	60mL	24-0045	0.6mL NH4OH/ (NH4)SO4	2343039	9-9.5	Cooler - 2409438

Lab ID: 2409438-13 **Report Matrix:** Water **Collected:** 09/25/2024
Sample: MW4-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

Lab ID: 2409438-14 **Report Matrix:** Water **Collected:** 09/25/2024
Sample: MW4-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W-D	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

Lab ID: 2409438-15 **Report Matrix:** Water **Collected:** 09/25/2024
Sample: MW5-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

Lab ID: 2409438-16 **Report Matrix:** Water **Collected:** 09/25/2024
Sample: MW5-0924 **Sample Type:** Sample **Received:** 09/25/2024

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W-D	125mL	24-0049	1% HNO3 (BAL)	2424018	<2	Cooler - 2409438

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Shipping Containers

Cooler - 2409438

Received: September 25, 2024 11:50
Tracking No: n/a via Courier
Coolant Type: Ice
Temperature: 2.9 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: R-IR-3

Custody seals present? No
Custody seals intact? No
COC present? Yes

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BAL Report 2409438

Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only
Received by: EC Date: 9/25/24
Work Order ID: Time: 1150
Project ID:

Client: CRETE Consulting Inc. PO Number: DAWN Mailing Address:
Contact: Rusty Jones Phone: 832.330.1359
Client Project ID: Bridge Point Seattle 130 Email: rusty.jones@creteconsulting.com Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones R-Jones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl / HNO_3 / Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	TOTAL ZINC Filtration RP and DISSOLVED ZINC	Other (specify) Total Cr	Other (specify) Hex. Cr (pre-filtered)	Comments
1	SEEP-MW2-0924	9.23.2024	0315	WATER	3	Y+N	~~NONE~~							X	X	Hold dissolved Cr
2	MW2-0924	↓	0507		3	Y+N								X	X	Hold dissolved Cr
3	MW11-0924	9.23.2024	0650		2	Y+N	NONE						X			T/D Zinc
4	PD1-0924	9.24.2024	0427		3	Y+N								X	X	
5	SEEP-MW1-0924		0355		3	Y+N								X	X	
6	MW1-0924	↓	0505		3	Y+N							X	X	X	
7	MW4-0924	9.25.2024	0535		2	Y+N	NONE						X			T/D Zinc
8	MW5-0924	↓	0627	↓	2	Y+N	NONE						X			T/D Zinc
9																
10																
	Trip Blank															

Conductivities: uS/cm
SEEP-MW2 28087
MW2 27573
MW11 318.8
PD1 437.6
SEEP-MW1 16195
MW1 8906
MW4 251.0
MW5 937
Specify Here

Relinquished By: R. Jones	Date: 9/25/2024	Time: 1143	Relinquished By:
Received By: [signature]	Date: 9/25/2024	Time: 1146	Total Number of Packages:

Page 1 of 1 List Hazardous Contaminants:

samples@brooksapplied.com | brooksapplied.com

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

March 7, 2025

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on February 26, 2025 from the Bridge Point Seattle 130 DAWN, F&BI 502328 project. There are 11 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: Grant Hainsworth, Jamie Stevens
CTC0307R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 26, 2025 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 502328 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
502328 -01	MW8-0225
502328 -02	MW10-0225
502328 -03	MW11-0225
502328 -04	MW4-0225
502328 -05	MW3-0225

Samples MW8-0225, MW10-0225, MW11-0225, and MW4-0225 were sent to Alliance Technical Group for chloride, RSK dissolved gases, ammonia, nitrate, nitrite, sulfate, phosphate, and total organic carbon testing. The report is enclosed.

The 8260D calibration standard exceeded the acceptance criteria for methylene chloride. The compound was not detected, therefore this did not represent an out of control condition, and were qualified with a "k" qualifier. The results are not considered estimates.

Benzoic acid in the 8270E laboratory control sample did not meet the acceptance criteria. The data were flagged accordingly.

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate exceeded the acceptance criteria. The compounds were not detected, therefore the results were acceptable.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW8-0225	Client:	Crete Consulting
Date Received:	02/26/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	02/28/25	Lab ID:	502328-01
Date Analyzed:	02/28/25	Data File:	022830.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	71	132
Toluene-d8	109	68	139
4-Bromofluorobenzene	107	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	4.0
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5 k
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	3.4
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	1.8

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW10-0225	Client:	Crete Consulting
Date Received:	02/26/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	02/28/25	Lab ID:	502328-02
Date Analyzed:	02/28/25	Data File:	022831.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	71	132
Toluene-d8	94	68	139
4-Bromofluorobenzene	109	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	4.6
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5 k
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	11
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	1.6
Tetrachloroethene	7.6

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW11-0225	Client:	Crete Consulting
Date Received:	02/26/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	02/28/25	Lab ID:	502328-03
Date Analyzed:	02/28/25	Data File:	022829.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	71	132
Toluene-d8	103	68	139
4-Bromofluorobenzene	115	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.18
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5 k
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.12
Tetrachloroethene	0.83

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0225	Client:	Crete Consulting
Date Received:	02/26/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	02/28/25	Lab ID:	502328-04
Date Analyzed:	02/28/25	Data File:	022828.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	113	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.57
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5 k
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.0
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.16
Tetrachloroethene	0.94

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	02/28/25	Lab ID:	05-0502 mb
Date Analyzed:	02/28/25	Data File:	022809.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	111	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW3-0225	Client:	Crete Consulting
Date Received:	02/26/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	03/03/25	Lab ID:	502328-05
Date Analyzed:	03/04/25	Data File:	030339.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	DBA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	48	10	60
Phenol-d6	43	10	49
Nitrobenzene-d5	101	15	144
2-Fluorobiphenyl	103	25	128
2,4,6-Tribromophenol	82	10	142
Terphenyl-d14	115	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Pyridine	<4	Acenaphthylene	<0.02
Phenol	<4	2,6-Dinitrotoluene	<2
Bis(2-chloroethyl) ether	<0.4	3-Nitroaniline	<40
2-Chlorophenol	<4	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.4	2,4-Dinitrophenol	<40
1,4-Dichlorobenzene	<0.4	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.4	2,4-Dinitrotoluene	<2
Benzyl alcohol	<4	4-Nitrophenol	<12
2,2'-Oxybis(1-chloropropane)	<0.4	Diethyl phthalate	<4
2-Methylphenol	<4	Fluorene	<0.02
Hexachloroethane	<0.4	4-Chlorophenyl phenyl ether	<0.4
N-Nitroso-di-n-propylamine	<0.4	N-Nitrosodiphenylamine	<0.4
3-Methylphenol + 4-Methylphenol	<8	4-Nitroaniline	<40
Nitrobenzene	<0.4	4,6-Dinitro-2-methylphenol	<12
Isophorone	<0.4	Hexachlorobenzene	<0.4
2-Nitrophenol	<4	Pentachlorophenol	<0.4
2,4-Dimethylphenol	<4	Phenanthrene	<0.05
Benzoic acid	<40 jl	Anthracene	<0.02
Bis(2-chloroethoxy)methane	<0.4	Carbazole	<0.02
2,4-Dichlorophenol	<4	Di-n-butyl phthalate	<4
1,2,4-Trichlorobenzene	<0.4	Fluoranthene	<0.02
Naphthalene	<0.2	Pyrene	<0.02
Hexachlorobutadiene	<0.4	Benzyl butyl phthalate	<4
4-Chloroaniline	<40	Benz(a)anthracene	<0.02
4-Chloro-3-methylphenol	<4	Chrysene	<0.02
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<4
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<4
Hexachlorocyclopentadiene	<1.2	Benzo(a)pyrene	<0.02
2,4,6-Trichlorophenol	<4	Benzo(b)fluoranthene	<0.02
2,4,5-Trichlorophenol	<4	Benzo(k)fluoranthene	<0.02
2-Chloronaphthalene	<0.4	Indeno(1,2,3-cd)pyrene	<0.02
2-Nitroaniline	<2	Dibenz(a,h)anthracene	<0.02
Dimethyl phthalate	<4	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	03/03/25	Lab ID:	05-0581 mb
Date Analyzed:	03/04/25	Data File:	030337.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	DBA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	50	10	60
Phenol-d6	32	10	49
Nitrobenzene-d5	98	15	144
2-Fluorobiphenyl	97	25	128
2,4,6-Tribromophenol	96	10	142
Terphenyl-d14	109	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Pyridine	<4	Acenaphthylene	<0.02
Phenol	<4	2,6-Dinitrotoluene	<2
Bis(2-chloroethyl) ether	<0.4	3-Nitroaniline	<40
2-Chlorophenol	<4	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.4	2,4-Dinitrophenol	<40
1,4-Dichlorobenzene	<0.4	Dibenzofuran	<0.02
1,2-Dichlorobenzene	<0.4	2,4-Dinitrotoluene	<2
Benzyl alcohol	<4	4-Nitrophenol	<12
2,2'-Oxybis(1-chloropropane)	<0.4	Diethyl phthalate	<4
2-Methylphenol	<4	Fluorene	<0.02
Hexachloroethane	<0.4	4-Chlorophenyl phenyl ether	<0.4
N-Nitroso-di-n-propylamine	<0.4	N-Nitrosodiphenylamine	<0.4
3-Methylphenol + 4-Methylphenol	<8	4-Nitroaniline	<40
Nitrobenzene	<0.4	4,6-Dinitro-2-methylphenol	<12
Isophorone	<0.4	Hexachlorobenzene	<0.4
2-Nitrophenol	<4	Pentachlorophenol	<0.4
2,4-Dimethylphenol	<4	Phenanthrene	<0.05
Benzoic acid	<40 jl	Anthracene	<0.02
Bis(2-chloroethoxy)methane	<0.4	Carbazole	<0.02
2,4-Dichlorophenol	<4	Di-n-butyl phthalate	<4
1,2,4-Trichlorobenzene	<0.4	Fluoranthene	<0.02
Naphthalene	<0.2	Pyrene	<0.02
Hexachlorobutadiene	<0.4	Benzyl butyl phthalate	<4
4-Chloroaniline	<40	Benz(a)anthracene	<0.02
4-Chloro-3-methylphenol	<4	Chrysene	<0.02
2-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<4
1-Methylnaphthalene	<0.2	Di-n-octyl phthalate	<4
Hexachlorocyclopentadiene	<1.2	Benzo(a)pyrene	<0.02
2,4,6-Trichlorophenol	<4	Benzo(b)fluoranthene	<0.02
2,4,5-Trichlorophenol	<4	Benzo(k)fluoranthene	<0.02
2-Chloronaphthalene	<0.4	Indeno(1,2,3-cd)pyrene	<0.02
2-Nitroaniline	<2	Dibenz(a,h)anthracene	<0.02
Dimethyl phthalate	<4	Benzo(g,h,i)perylene	<0.02

Date of Report: 03/07/25
Date Received: 02/26/25
Project: Bridge Point Seattle 130 DAWN, F&BI 502328

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 502328-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	0.18	106	16-176
Chloroethane	ug/L (ppb)	10	<1	113	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
Methylene chloride	ug/L (ppb)	10	<5	103	40-143
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	105	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	104	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	105	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	102	50-150
Trichloroethene	ug/L (ppb)	10	0.12	102	43-133
Tetrachloroethene	ug/L (ppb)	10	0.83	102	50-150

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)	10	101	102	43-149	1
Chloroethane	ug/L (ppb)	10	112	108	59-157	4
1,1-Dichloroethene	ug/L (ppb)	10	97	96	67-138	1
Methylene chloride	ug/L (ppb)	10	107	102	29-192	5
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	99	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	99	102	70-130	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	101	102	70-130	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	100	100	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	100	100	70-130	0
Trichloroethene	ug/L (ppb)	10	100	101	70-130	1
Tetrachloroethene	ug/L (ppb)	10	101	99	70-130	2

Date of Report: 03/07/25
Date Received: 02/26/25
Project: Bridge Point Seattle 130 DAWN, F&BI 502328

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Pyridine	ug/L (ppb)	10	34	29	10-54	16
Phenol	ug/L (ppb)	10	33	33	10-43	0
Bis(2-chloroethyl) ether	ug/L (ppb)	10	88	93	40-114	6
2-Chlorophenol	ug/L (ppb)	10	83	96	21-97	15
1,3-Dichlorobenzene	ug/L (ppb)	10	58	63	39-102	8
1,4-Dichlorobenzene	ug/L (ppb)	10	59	66	41-103	11
1,2-Dichlorobenzene	ug/L (ppb)	10	63	68	43-105	8
Benzyl alcohol	ug/L (ppb)	50	79	84 vo	14-82	6
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	10	86	92	51-110	7
2-Methylphenol	ug/L (ppb)	10	78 vo	86 vo	19-77	10
Hexachloroethane	ug/L (ppb)	10	52	57	39-104	9
N-Nitroso-di-n-propylamine	ug/L (ppb)	10	96	105	58-117	9
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	10	72	78	12-89	8
Nitrobenzene	ug/L (ppb)	10	94	101	52-111	7
Isophorone	ug/L (ppb)	10	96	106	62-117	10
2-Nitrophenol	ug/L (ppb)	10	96	107	41-117	11
2,4-Dimethylphenol	ug/L (ppb)	10	81	89	10-117	9
Benzoic acid	ug/L (ppb)	80	6 vo	14	10-39	80 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	10	92	98	56-111	6
2,4-Dichlorophenol	ug/L (ppb)	10	91	106	34-113	15
1,2,4-Trichlorobenzene	ug/L (ppb)	10	68	68	48-104	0
Naphthalene	ug/L (ppb)	10	79	82	50-104	4
Hexachlorobutadiene	ug/L (ppb)	10	56	56	40-107	0
4-Chloroaniline	ug/L (ppb)	50	91	103	34-125	12
4-Chloro-3-methylphenol	ug/L (ppb)	10	94	101	34-111	7
2-Methylnaphthalene	ug/L (ppb)	10	85	87	52-113	2
1-Methylnaphthalene	ug/L (ppb)	10	86	89	51-115	3
Hexachlorocyclopentadiene	ug/L (ppb)	10	74	72	34-126	3
2,4,6-Trichlorophenol	ug/L (ppb)	10	86	108	28-125	23 vo
2,4,5-Trichlorophenol	ug/L (ppb)	10	89	107	39-120	18
2-Chloronaphthalene	ug/L (ppb)	10	82	90	57-130	9
2-Nitroaniline	ug/L (ppb)	50	82	100	51-146	20
Dimethyl phthalate	ug/L (ppb)	10	104	119 vo	64-118	13
Acenaphthylene	ug/L (ppb)	10	93	102	60-114	9
2,6-Dinitrotoluene	ug/L (ppb)	10	99	108	66-121	9
3-Nitroaniline	ug/L (ppb)	50	86	94	42-134	9
Acenaphthene	ug/L (ppb)	10	88	98	57-110	11
2,4-Dinitrophenol	ug/L (ppb)	20	61	90	20-151	38 vo
Dibenzofuran	ug/L (ppb)	10	90	110	52-116	20
2,4-Dinitrotoluene	ug/L (ppb)	10	98	109	55-127	11
4-Nitrophenol	ug/L (ppb)	20	30	40	10-58	29 vo
Diethyl phthalate	ug/L (ppb)	10	110	118	63-118	7
Fluorene	ug/L (ppb)	10	97	106	61-115	9
4-Chlorophenyl phenyl ether	ug/L (ppb)	10	94	102	61-112	8
N-Nitrosodiphenylamine	ug/L (ppb)	10	101	106	60-123	5
4-Nitroaniline	ug/L (ppb)	50	88	87	42-150	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	10	88	109	13-152	21 vo
Hexachlorobenzene	ug/L (ppb)	10	95	103	60-113	8
Pentachlorophenol	ug/L (ppb)	10	103	125	14-137	19
Phenanthrene	ug/L (ppb)	10	99	102	63-113	3
Anthracene	ug/L (ppb)	10	100	106	65-117	6
Carbazole	ug/L (ppb)	10	115	119	62-137	3
Di-n-butyl phthalate	ug/L (ppb)	10	114	117	36-137	3
Fluoranthene	ug/L (ppb)	10	109	114	68-121	4
Pyrene	ug/L (ppb)	10	93	96	62-133	3
Benzyl butyl phthalate	ug/L (ppb)	10	106	114	56-145	7
Benz(a)anthracene	ug/L (ppb)	10	97	102	66-131	5
Chrysene	ug/L (ppb)	10	92	97	66-129	5
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	10	104	112	52-142	7
Di-n-octyl phthalate	ug/L (ppb)	10	100	105	36-151	5
Benzo(a)pyrene	ug/L (ppb)	10	99	105	66-129	6
Benzo(b)fluoranthene	ug/L (ppb)	10	97	100	55-144	3
Benzo(k)fluoranthene	ug/L (ppb)	10	100	105	58-139	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	10	102	109	62-136	7
Dibenz(a,h)anthracene	ug/L (ppb)	10	105	113	55-146	7
Benzo(g,h,i)perylene	ug/L (ppb)	10	99	107	58-137	8

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

502328

SAMPLE CHAIN OF CUSTODY

02/26/25 F3/UW1/K2

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP Tukwila, WA

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	SVOCs 8270SIM	cVOCs	Chloride	Methane/Ethane/Ethene	Ammonia, nitrate/nitrite, sulfate, phosphate	TOC Total Org. Carbon
MW8-0225	01 A-J	2/25/2025	1748	WATER	10									X	X	X	X	X
MW10-0225	02		1831		10									X	X	X	X	X
MW11-0225	03		1950		10									X	X	X	X	X
MW4-0225	04		2142		10									X	X	X	X	X
MW3-0225	05 A-B		2242		2								X					

Notes

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	2/26/2025	1024
Received by:	Anh Pham	FBI	02/26/25	10:24
Relinquished by:		Samples received at 0 °C		
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 502328 CLIENT Crete INITIALS/ DATE: AP 02/26/25

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature Ø °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ AP Date: 02/26/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☐ YES ☑ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☐ Yes ☑ No Time on label 19:40 (-03 A-5)	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ Number of unused TO17 tubes _____

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 502328,
Work Order Number: 2502535

March 05, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 4 sample(s) on 2/26/2025 for the analyses presented in the following report.

Ammonia by SM 4500 NH3G
Dissolved Gases by RSK-175
Ion Chromatography by EPA 300.0
Total Organic Carbon by SM 5310C

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *03/05/2025*

CLIENT: Friedman & Bruya
Project: 502328
Work Order: 2502535

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2502535-001	MW8-0225	02/25/2025 5:48 PM	02/26/2025 3:05 PM
2502535-002	MW10-0225	02/25/2025 6:31 PM	02/26/2025 3:05 PM
2502535-003	MW11-0225	02/25/2025 7:50 PM	02/26/2025 3:05 PM
2502535-004	MW4-0225	02/25/2025 9:42 PM	02/26/2025 3:05 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2502535**

Date: **3/5/2025**

CLIENT: Friedman & Bruya
Project: 502328

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2502535**
Date Reported: **3/5/2025**

CLIENT: Friedman & Bruya
Project: 502328

Lab ID: 2502535-001 **Collection Date:** 2/25/2025 5:48:00 PM
Client Sample ID: **MW8-0225** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R98016		Analyst: CO
Methane	6.35	0.250	D	mg/L	50	3/4/2025 2:08:00 PM
Ethene	ND	0.0100		mg/L	1	3/4/2025 1:52:00 PM
Ethane	ND	0.0100		mg/L	1	3/4/2025 1:52:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 46890		Analyst: OP
Chloride	35.9	2.00	D	mg/L	10	3/3/2025 2:59:00 PM
Nitrite (as N)	ND	0.400	D	mg/L	2	2/27/2025 12:09:00 PM
Nitrate (as N)	ND	0.400	D	mg/L	2	2/27/2025 12:09:00 PM
Ortho-Phosphate (as P)	ND	0.800	D	mg/L	2	2/27/2025 12:09:00 PM
Sulfate	ND	2.00	D	mg/L	2	2/27/2025 12:09:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R97918		Analyst: OP
Total Organic Carbon	12.3	0.700		mg/L	1	2/27/2025 3:17:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 46947		Analyst: OP
Nitrogen, Ammonia	ND	0.150		mg/L	1	3/5/2025 2:04:00 PM

Analytical Report

Work Order: **2502535**
Date Reported: **3/5/2025**

CLIENT: Friedman & Bruya
Project: 502328

Lab ID: 2502535-002 **Collection Date:** 2/25/2025 6:31:00 PM
Client Sample ID: **MW10-0225** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R98016		Analyst: CO
Methane	0.0206	0.00500		mg/L	1	3/4/2025 1:57:00 PM
Ethene	ND	0.0100		mg/L	1	3/4/2025 1:57:00 PM
Ethane	ND	0.0100		mg/L	1	3/4/2025 1:57:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 46890		Analyst: OP
Chloride	4.13	0.200		mg/L	1	2/27/2025 12:32:00 PM
Nitrite (as N)	ND	0.200		mg/L	1	2/27/2025 12:32:00 PM
Nitrate (as N)	ND	0.200		mg/L	1	2/27/2025 12:32:00 PM
Ortho-Phosphate (as P)	ND	0.400		mg/L	1	2/27/2025 12:32:00 PM
Sulfate	25.6	1.00		mg/L	1	2/27/2025 12:32:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R97918		Analyst: OP
Total Organic Carbon	1.55	0.700		mg/L	1	2/27/2025 3:38:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 46947		Analyst: OP
Nitrogen, Ammonia	ND	0.150		mg/L	1	3/5/2025 2:09:00 PM

Analytical Report

Work Order: **2502535**
Date Reported: **3/5/2025**

CLIENT: Friedman & Bruya
Project: 502328

Lab ID: 2502535-003 **Collection Date:** 2/25/2025 7:50:00 PM
Client Sample ID: **MW11-0225** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R98016		Analyst: CO
Methane	0.680	0.0250	D	mg/L	5	3/4/2025 2:10:00 PM
Ethene	ND	0.0100		mg/L	1	3/4/2025 1:59:00 PM
Ethane	ND	0.0100		mg/L	1	3/4/2025 1:59:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 46890		Analyst: OP
Chloride	844	40.0	D	mg/L	200	3/3/2025 3:22:00 PM
Nitrite (as N)	ND	2.00	D	mg/L	10	2/27/2025 12:55:00 PM
Nitrate (as N)	ND	2.00	D	mg/L	10	2/27/2025 12:55:00 PM
Ortho-Phosphate (as P)	ND	4.00	D	mg/L	10	2/27/2025 12:55:00 PM
Sulfate	122	10.0	D	mg/L	10	2/27/2025 12:55:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R97918		Analyst: OP
Total Organic Carbon	2.89	0.700		mg/L	1	2/27/2025 4:00:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 46947		Analyst: OP
Nitrogen, Ammonia	ND	0.150		mg/L	1	3/5/2025 2:32:00 PM

Analytical Report

Work Order: **2502535**
Date Reported: **3/5/2025**

CLIENT: Friedman & Bruya
Project: 502328

Lab ID: 2502535-004 **Collection Date:** 2/25/2025 9:42:00 PM
Client Sample ID: **MW4-0225** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R98016		Analyst: CO
Methane	2.91	0.100	D	mg/L	20	3/4/2025 2:13:00 PM
Ethene	ND	0.0100		mg/L	1	3/4/2025 2:01:00 PM
Ethane	ND	0.0100		mg/L	1	3/4/2025 2:01:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 46890		Analyst: OP
Chloride	400	20.0	D	mg/L	100	3/3/2025 3:46:00 PM
Nitrite (as N)	ND	2.00	D	mg/L	10	2/27/2025 1:18:00 PM
Nitrate (as N)	ND	2.00	D	mg/L	10	2/27/2025 1:18:00 PM
Ortho-Phosphate (as P)	ND	4.00	D	mg/L	10	2/27/2025 1:18:00 PM
Sulfate	ND	10.0	D	mg/L	10	2/27/2025 1:18:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R97918		Analyst: OP
Total Organic Carbon	88.2	0.700		mg/L	1	2/27/2025 4:21:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 46947		Analyst: OP
Nitrogen, Ammonia	ND	0.150		mg/L	1	3/5/2025 2:37:00 PM

Work Order: 2502535
CLIENT: Friedman & Bruya
Project: 502328

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **LCS-46947**	SampType: **LCS**	Units: **mg/L**	Prep Date: **3/5/2025**	RunNo: **98041**
Client ID: **LCSW**	Batch ID: **46947**		Analysis Date: **3/5/2025**	SeqNo: **2043163**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.547	0.150	0.5000	0	109	81.7	122				

Sample ID: **MB-46947**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **3/5/2025**	RunNo: **98041**
Client ID: **MBLKW**	Batch ID: **46947**		Analysis Date: **3/5/2025**	SeqNo: **2043165**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **2502528-003EDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **3/5/2025**	RunNo: **98041**
Client ID: **BATCH**	Batch ID: **46947**		Analysis Date: **3/5/2025**	SeqNo: **2043167**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0		30	

Sample ID: **2502528-003EMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **3/5/2025**	RunNo: **98041**
Client ID: **BATCH**	Batch ID: **46947**		Analysis Date: **3/5/2025**	SeqNo: **2043168**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138				S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2502528-003EMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **3/5/2025**	RunNo: **98041**
Client ID: **BATCH**	Batch ID: **46947**		Analysis Date: **3/5/2025**	SeqNo: **2043169**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138	0		30	S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 2502535
CLIENT: Friedman & Bruya
Project: 502328

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2502535-002ADUP** SampType: **DUP** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **MW10-0225** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042424**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.16	0.200						4.131	0.627	20	
Nitrite (as N)	ND	0.200						0		20	
Nitrate (as N)	ND	0.200						0		20	
Ortho-Phosphate (as P)	ND	0.400						0		20	
Sulfate	25.6	1.00						25.63	0.0663	20	

Sample ID: **2502535-002AMS** SampType: **MS** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **MW10-0225** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042425**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.94	0.200	0.7500	4.131	107	80	120				
Nitrite (as N)	0.814	0.200	0.7500	0	109	80	120				
Nitrate (as N)	0.833	0.200	0.7500	0	111	80	120				
Ortho-Phosphate (as P)	1.24	0.400	1.250	0	99.5	80	120				
Sulfate	29.4	1.00	3.750	25.63	101	80	120				

Sample ID: **2502535-002AMSD** SampType: **MSD** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **MW10-0225** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042426**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.96	0.200	0.7500	4.131	111	80	120	4.937	0.505	20	
Nitrite (as N)	0.833	0.200	0.7500	0	111	80	120	0.8140	2.31	20	
Nitrate (as N)	0.852	0.200	0.7500	0	114	80	120	0.8330	2.26	20	
Ortho-Phosphate (as P)	1.50	0.400	1.250	0	120	80	120	1.244	18.6	20	
Sulfate	29.5	1.00	3.750	25.63	104	80	120	29.43	0.339	20	

Work Order: 2502535
CLIENT: Friedman & Bruya
Project: 502328

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **LCS-46890** SampType: **LCS** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **LCSW** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042427**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.800	0.200	0.7500	0	107	90	110				
Nitrite (as N)	0.804	0.200	0.7500	0	107	90	110				
Nitrate (as N)	0.803	0.200	0.7500	0	107	90	110				
Ortho-Phosphate (as P)	1.68	0.400	1.250	0	134	90	110				S
Sulfate	4.00	1.00	3.750	0	107	90	110				

NOTES:
S - Outlying spike recovery observed (high bias). Detections will be qualified with a *.

Sample ID: **MB-46890** SampType: **MBLK** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **MBLKW** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042525**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									
Nitrite (as N)	ND	0.200									
Nitrate (as N)	ND	0.200									
Ortho-Phosphate (as P)	ND	0.400									
Sulfate	ND	1.00									

Work Order: 2502535
CLIENT: Friedman & Bruya
Project: 502328

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **LCS-R97918**	SampType: **LCS**			Units: **mg/L**		Prep Date: **2/26/2025**		RunNo: **97918**		
Client ID: **LCSW**	Batch ID: **R97918**					Analysis Date: **2/26/2025**		SeqNo: **2040086**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.4	0.700	25.00	0	102	79.6	120				

Sample ID: **MB-R97918**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **2/26/2025**		RunNo: **97918**		
Client ID: **MBLKW**	Batch ID: **R97918**					Analysis Date: **2/26/2025**		SeqNo: **2040088**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **2502503-003CDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **2/27/2025**		RunNo: **97918**		
Client ID: **BATCH**	Batch ID: **R97918**					Analysis Date: **2/27/2025**		SeqNo: **2040095**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	15.0	0.700						15.08	0.879	20	

Sample ID: **2502503-003CMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **2/27/2025**		RunNo: **97918**		
Client ID: **BATCH**	Batch ID: **R97918**					Analysis Date: **2/27/2025**		SeqNo: **2040096**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	37.3	0.700	25.00	15.08	88.7	73.7	118				

Sample ID: **2502503-003CMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **2/27/2025**		RunNo: **97918**		
Client ID: **BATCH**	Batch ID: **R97918**					Analysis Date: **2/27/2025**		SeqNo: **2040097**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	36.2	0.700	25.00	15.08	84.4	73.7	118	37.25	2.91	30	

Work Order: 2502535
CLIENT: Friedman & Bruya
Project: 502328

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R98016**	SampType: **LCS**	Units: **ppmv**	Prep Date: **3/4/2025**	RunNo: **98016**
Client ID: **LCSW**	Batch ID: **R98016**		Analysis Date: **3/4/2025**	SeqNo: **2042526**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	931	0.00500	1,000	0	93.1	73.6	124				
Ethene	909	0.0100	1,000	0	90.9	76.3	122				
Ethane	892	0.0100	1,000	0	89.2	76.1	123				

Sample ID: **MB-R98016**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **3/4/2025**	RunNo: **98016**
Client ID: **MBLKW**	Batch ID: **R98016**		Analysis Date: **3/4/2025**	SeqNo: **2042524**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2502535-001CREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **3/4/2025**	RunNo: **98016**
Client ID: **MW8-0225**	Batch ID: **R98016**		Analysis Date: **3/4/2025**	SeqNo: **2042489**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	7.32	0.00500						7.597	3.68	30	E
Ethene	ND	0.0100						0		30	
Ethane	ND	0.0100						0		30	

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2502535
Logged by:	Morgan Wilson	Date Received:	2/26/2025 3:05:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	3.2

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2502535

Michael Erdahl

Friedman and Bruya, Inc.

5500 4th Ave S

Seattle, WA 98108

merdahl@friedmanandbruya.com

SUBCONTRACTER	
ATG	
PROJECT NAME/NO.	PO #
502328	F-92
REMARKS	
EIM	

TURNAROUND TIME

☒ Standard TAT

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	chloride	RSK MEE	ammonia	nitrate	nitrite	sulfate	phosphate	TOC			Notes
MW8-0225		2/25/2025	1748	water		x	x	x	x	x	x	x	x			
MW10-0225		2/25/2025	1831	water		x	x	x	x	x	x	x	x			
MW11-0225		2/25/2025	1950	water		x	x	x	x	x	x	x	x			
MW4-0225		2/25/2025	2142	water		x	x	x	x	x	x	x	x			
~~MW3-0225~~		~~2/25/2025~~	~~2242~~	water		x	x	x	x	x	x	x	x			MS 2/26/25

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	2/26/25	1140
Received by:		Nathan Keller	ATG	2/26/25	1505
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

March 11, 2025

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on February 27, 2025 from the Bridge Point Seattle 130 DAWN, F&BI 502359 project. There are 7 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: Grant Hainsworth, Jamie Stevens
CTC0311R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 27, 2025 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 502359 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
502359 -01	DUP01-0225
502359 -02	MW1-0225
502359 -03	MW5-0225

Samples MW1-0225 and MW5-0225 were sent to Alliance Technical Group for RSK MEE, total organic carbon, chloride, ammonia, sulfate, nitrate, nitrite, and phosphate testing. The report is enclosed.

The 8260D calibration standard exceeded the acceptance criteria for methylene chloride. The compound was not detected, therefore this did not represent an out of control condition, and were qualified with a "k" qualifier. The results are not considered estimates.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP01-0225	Client:	Crete Consulting
Date Received:	02/27/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	02/28/25	Lab ID:	502359-01
Date Analyzed:	02/28/25	Data File:	022823.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	110	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.9
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5 k
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	13
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.97
Tetrachloroethene	3.7

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW1-0225	Client:	Crete Consulting
Date Received:	02/27/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	02/28/25	Lab ID:	502359-02
Date Analyzed:	02/28/25	Data File:	022822.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	106	68	139
4-Bromofluorobenzene	109	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5 k
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0225	Client:	Crete Consulting
Date Received:	02/27/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	02/28/25	Lab ID:	502359-03
Date Analyzed:	02/28/25	Data File:	022824.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	110	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.8
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5 k
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	12
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.98
Tetrachloroethene	3.8

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	02/28/25	Lab ID:	05-0502 mb
Date Analyzed:	02/28/25	Data File:	022809.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	111	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Date of Report: 03/11/25
Date Received: 02/27/25
Project: Bridge Point Seattle 130 DAWN, F&BI 502359

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 502328-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	0.18	106	16-176
Chloroethane	ug/L (ppb)	10	<1	113	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
Methylene chloride	ug/L (ppb)	10	<5	103	40-143
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	105	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	104	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	105	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	102	50-150
Trichloroethene	ug/L (ppb)	10	0.12	102	43-133
Tetrachloroethene	ug/L (ppb)	10	0.83	102	50-150

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)	10	101	102	43-149	1
Chloroethane	ug/L (ppb)	10	112	108	59-157	4
1,1-Dichloroethene	ug/L (ppb)	10	97	96	67-138	1
Methylene chloride	ug/L (ppb)	10	107	102	29-192	5
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	99	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	99	102	70-130	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	101	102	70-130	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	100	100	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	100	100	70-130	0
Trichloroethene	ug/L (ppb)	10	100	101	70-130	1
Tetrachloroethene	ug/L (ppb)	10	101	99	70-130	2

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

502359

SAMPLE CHAIN OF CUSTODY 02/27/25 F2/K2/VW1

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*): Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
- X Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	cVOCs	Methane/Ethane/Ethene	TOC	Chloride	Ammonia, Sulfate, Nitrate/Nitrite, Phosphate	Notes
DUP01-0225	01 A-C	2/26/2025	1200	WATER	3								X					
MW1-0225	02 A-J	↓	2217	↓	10								X	X	X	X	X	
MW5-0225	03 ↓	↓	2306	↓	10								X	X	X	X	X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	2/27/25	1112
Received by:	Anh Phan	FBT	02/27/25	11:12
Relinquished by:		Samples received at 0 °C		
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 502359 CLIENT Crete INITIALS/ DATE: AP 02/27/25

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature Ø °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: AP 02/27/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ Number of unused TO17 tubes _____

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 502359, F-93
Work Order Number: 2502573

March 10, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 2 sample(s) on 2/27/2025 for the analyses presented in the following report.

Ammonia by SM 4500 NH3G
Dissolved Gases by RSK-175
Ion Chromatography by EPA 300.0
Total Organic Carbon by SM 5310C

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Kelley Lovejoy
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *03/10/2025*

CLIENT: Friedman & Bruya
Project: 502359
Work Order: 2502573

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2502573-001	MW1-0225	02/26/2025 10:17 PM	02/27/2025 2:30 PM
2502573-002	MW5-0225	02/26/2025 11:06 PM	02/27/2025 2:30 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original

Case Narrative

WO#: **2502573**

Date: **3/10/2025**

CLIENT: Friedman & Bruya
Project: 502359

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2502573**
Date Reported: **3/10/2025**

CLIENT: Friedman & Bruya
Project: 502359

Lab ID: 2502573-001 **Collection Date:** 2/26/2025 10:17:00 PM
Client Sample ID: **MW1-0225** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R98016		Analyst: CO
Methane	ND	0.00500		mg/L	1	3/4/2025 3:23:00 PM
Ethene	ND	0.0100		mg/L	1	3/4/2025 3:23:00 PM
Ethane	ND	0.0100		mg/L	1	3/4/2025 3:23:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 46890		Analyst: OP
Chloride	3,700	200	D	mg/L	1000	3/3/2025 4:09:00 PM
Nitrite (as N)	ND	20.0	D	mg/L	100	2/28/2025 10:53:00 AM
Nitrate (as N)	ND	20.0	D	mg/L	100	2/28/2025 10:53:00 AM
Ortho-Phosphate (as P)	ND	40.0	D	mg/L	100	2/28/2025 10:53:00 AM
Sulfate	518	100	D	mg/L	100	2/28/2025 10:53:00 AM
Total Organic Carbon by SM 5310C				Batch ID: R98099		Analyst: OP
Total Organic Carbon	0.974	0.700		mg/L	1	3/7/2025 3:01:00 PM
Ammonia by SM 4500 NH3G				Batch ID: 46947		Analyst: OP
Nitrogen, Ammonia	ND	0.150		mg/L	1	3/5/2025 2:57:00 PM

Analytical Report

Work Order: **2502573**
Date Reported: **3/10/2025**

CLIENT: Friedman & Bruya
Project: 502359

Lab ID: 2502573-002 **Collection Date:** 2/26/2025 11:06:00 PM
Client Sample ID: **MW5-0225** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R98016		Analyst: CO
Methane	10.5	0.250	D	mg/L	50	3/4/2025 3:43:00 PM
Ethene	ND	0.0100		mg/L	1	3/4/2025 3:25:00 PM
Ethane	ND	0.0100		mg/L	1	3/4/2025 3:25:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 46890		Analyst: OP
Chloride	17.4	1.00	D	mg/L	5	2/28/2025 11:16:00 AM
Nitrite (as N)	ND	1.00	D	mg/L	5	2/28/2025 11:16:00 AM
Nitrate (as N)	ND	1.00	D	mg/L	5	2/28/2025 11:16:00 AM
Ortho-Phosphate (as P)	ND	2.00	D	mg/L	5	2/28/2025 11:16:00 AM
Sulfate	ND	5.00	D	mg/L	5	2/28/2025 11:16:00 AM
Total Organic Carbon by SM 5310C				Batch ID: R98099		Analyst: OP
Total Organic Carbon	144	7.00	D	mg/L	10	3/7/2025 4:13:00 PM
Ammonia by SM 4500 NH3G				Batch ID: 46947		Analyst: OP
Nitrogen, Ammonia	ND	0.150		mg/L	1	3/5/2025 3:02:00 PM

Work Order: 2502573
CLIENT: Friedman & Bruya
Project: 502359

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **LCS-46947**	SampType: **LCS**			Units: **mg/L**		Prep Date: **3/5/2025**			RunNo: **98041**		
Client ID: **LCSW**	Batch ID: **46947**					Analysis Date: **3/5/2025**			SeqNo: **2043163**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.547	0.150	0.5000	0	109	81.7	122				

Sample ID: **MB-46947**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **3/5/2025**			RunNo: **98041**		
Client ID: **MBLKW**	Batch ID: **46947**					Analysis Date: **3/5/2025**			SeqNo: **2043165**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **2502528-003EDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **3/5/2025**			RunNo: **98041**		
Client ID: **BATCH**	Batch ID: **46947**					Analysis Date: **3/5/2025**			SeqNo: **2043167**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0		30	

Sample ID: **2502528-003EMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **3/5/2025**			RunNo: **98041**		
Client ID: **BATCH**	Batch ID: **46947**					Analysis Date: **3/5/2025**			SeqNo: **2043168**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138				S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2502528-003EMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **3/5/2025**			RunNo: **98041**		
Client ID: **BATCH**	Batch ID: **46947**					Analysis Date: **3/5/2025**			SeqNo: **2043169**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138	0		30	S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 2502573
CLIENT: Friedman & Bruya
Project: 502359

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **2502577-015CDUP** SampType: **DUP** Units: **mg/L** Prep Date: **3/5/2025** RunNo: **98041**
Client ID: **BATCH** Batch ID: **46947** Analysis Date: **3/5/2025** SeqNo: **2043571**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0		30	

Sample ID: **2502577-015CMS** SampType: **MS** Units: **mg/L** Prep Date: **3/5/2025** RunNo: **98041**
Client ID: **BATCH** Batch ID: **46947** Analysis Date: **3/5/2025** SeqNo: **2043572**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	15.8	138				S

NOTES:
S - Spike recovery indicates a possible matrix effect.

Work Order: 2502573
CLIENT: Friedman & Bruya
Project: 502359

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2502535-002ADUP** SampType: **DUP** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **BATCH** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042424**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.16	0.200						4.131	0.627	20	
Nitrite (as N)	ND	0.200						0		20	
Nitrate (as N)	ND	0.200						0		20	
Ortho-Phosphate (as P)	ND	0.400						0		20	
Sulfate	25.6	1.00						25.63	0.0663	20	

Sample ID: **2502535-002AMS** SampType: **MS** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **BATCH** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042425**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.94	0.200	0.7500	4.131	107	80	120				
Nitrite (as N)	0.814	0.200	0.7500	0	109	80	120				
Nitrate (as N)	0.833	0.200	0.7500	0	111	80	120				
Ortho-Phosphate (as P)	1.24	0.400	1.250	0	99.5	80	120				
Sulfate	29.4	1.00	3.750	25.63	101	80	120				

Sample ID: **2502535-002AMSD** SampType: **MSD** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **BATCH** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042426**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.96	0.200	0.7500	4.131	111	80	120	4.937	0.505	20	
Nitrite (as N)	0.833	0.200	0.7500	0	111	80	120	0.8140	2.31	20	
Nitrate (as N)	0.852	0.200	0.7500	0	114	80	120	0.8330	2.26	20	
Ortho-Phosphate (as P)	1.50	0.400	1.250	0	120	80	120	1.244	18.6	20	
Sulfate	29.5	1.00	3.750	25.63	104	80	120	29.43	0.339	20	

Work Order: 2502573
CLIENT: Friedman & Bruya
Project: 502359

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **LCS-46890** SampType: **LCS** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **LCSW** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042427**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.800	0.200	0.7500	0	107	90	110				
Nitrite (as N)	0.804	0.200	0.7500	0	107	90	110				
Nitrate (as N)	0.803	0.200	0.7500	0	107	90	110				
Ortho-Phosphate (as P)	1.68	0.400	1.250	0	134	90	110				S
Sulfate	4.00	1.00	3.750	0	107	90	110				

NOTES:
S - Outlying spike recovery observed (high bias). Detections will be qualified with a *.

Sample ID: **MB-46890** SampType: **MBLK** Units: **mg/L** Prep Date: **2/27/2025** RunNo: **98012**
Client ID: **MBLKW** Batch ID: **46890** Analysis Date: **2/27/2025** SeqNo: **2042525**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									
Nitrite (as N)	ND	0.200									
Nitrate (as N)	ND	0.200									
Ortho-Phosphate (as P)	ND	0.400									
Sulfate	ND	1.00									

Work Order: 2502573
CLIENT: Friedman & Bruya
Project: 502359

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **3/7/2025**	RunNo: **98099**
Client ID: **MBLKW**	Batch ID: **R98099**		Analysis Date: **3/7/2025**	SeqNo: **2044416**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **LCS**	SampType: **LCS**	Units: **mg/L**	Prep Date: **3/7/2025**	RunNo: **98099**
Client ID: **LCSW**	Batch ID: **R98099**		Analysis Date: **3/7/2025**	SeqNo: **2044417**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	24.6	0.700	25.00	0	98.3	79.6	120				

Sample ID: **2503070-001ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **3/7/2025**	RunNo: **98099**
Client ID: **BATCH**	Batch ID: **R98099**		Analysis Date: **3/7/2025**	SeqNo: **2044419**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.17	0.700						1.215	3.43	15	

Sample ID: **2503070-001AMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **3/7/2025**	RunNo: **98099**
Client ID: **BATCH**	Batch ID: **R98099**		Analysis Date: **3/7/2025**	SeqNo: **2044420**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	27.2	0.700	25.00	1.215	104	85	115				

Sample ID: **2503070-001AMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **3/7/2025**	RunNo: **98099**
Client ID: **BATCH**	Batch ID: **R98099**		Analysis Date: **3/7/2025**	SeqNo: **2044421**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.8	0.700	25.00	1.215	98.5	85	115	27.17	5.03	15	

Work Order: 2502573
CLIENT: Friedman & Bruya
Project: 502359

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **2502579-006DUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **3/7/2025**		RunNo: **98099**		
Client ID: **BATCH**	Batch ID: **R98099**					Analysis Date: **3/7/2025**		SeqNo: **2044944**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700						0		15	

Sample ID: **2502579-006MS**	SampType: **MS**			Units: **mg/L**		Prep Date: **3/7/2025**		RunNo: **98099**		
Client ID: **BATCH**	Batch ID: **R98099**					Analysis Date: **3/7/2025**		SeqNo: **2044945**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.8	0.700	25.00	0	103	85	115				

Work Order: 2502573
CLIENT: Friedman & Bruya
Project: 502359

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R98016**	SampType: **LCS**	Units: **ppmv**	Prep Date: **3/4/2025**	RunNo: **98016**
Client ID: **LCSW**	Batch ID: **R98016**		Analysis Date: **3/4/2025**	SeqNo: **2042526**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	931	0.00500	1,000	0	93.1	73.6	124				
Ethene	909	0.0100	1,000	0	90.9	76.3	122				
Ethane	892	0.0100	1,000	0	89.2	76.1	123				

Sample ID: **MB-R98016**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **3/4/2025**	RunNo: **98016**
Client ID: **MBLKW**	Batch ID: **R98016**		Analysis Date: **3/4/2025**	SeqNo: **2042524**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2502535-001CREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **3/4/2025**	RunNo: **98016**
Client ID: **BATCH**	Batch ID: **R98016**		Analysis Date: **3/4/2025**	SeqNo: **2042489**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	7.32	0.00500						7.597	3.68	30	E
Ethene	ND	0.0100						0		30	
Ethane	ND	0.0100						0		30	

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2502573
Logged by:	Clare Griggs	Date Received:	2/27/2025 2:30:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	6.0

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2502573

Page # 1 of 1

Michael Erdahl

Friedman and Bruya, Inc.

5500 4th Ave S

Seattle, WA 98108

merdahl@friedmanandbruya.com

SUBCONTRACTER	
ATG	
PROJECT NAME/NO.	PO #
502359	F-93
REMARKS	
EIM	

TURNAROUND TIME

☒ Standard TAT

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: RSK MEE	TOC	Chloride	Ammonia	Sulfate	Nitrate	Nitrite	Phosphate			Notes
MW1-0225		2/26/2025	2217	water		x	x	x	x	x	x	x	x			
MW5-0225		2/26/2025	2306	water		x	x	x	x	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:		Michael Erdahl	Friedman & Bruya	2/27/25	1125
Received by:		Briana Ballard	ATG	2/27	2:30 PM
Relinquished by:					
Received by:					

BROOKS APPLIED LABS
13751 Lake City Way NE, Ste 108, Seattle, WA 98125 • USA • T:206-632-6206 • info@brooksapplied.com

March 17, 2025

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Dear Rusty Jones,

On February 28, 2025, Brooks Applied Labs (BAL) received twelve (12) aqueous samples in a sealed cooler at an acceptable temperature of 3.7°C. The samples were logged-in for total recoverable and dissolved *chromium [Cr], iron [Fe], manganese [Mn], zinc [Zn], and hexavalent chromium [Cr(VI)]* analyses, according to the issued quotation. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*Cr, Fe, Mn, Zn*) were preserved to a pH <2 upon receipt at BAL.

Total Recoverable and Dissolved (Cr, Fe, Mn, Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed for (*Cr and Zn*) content via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

All samples were digested in batch B250485 and originally analyzed in sequence S250213. The Mn result for sample 2503002-01, and the Zn results for samples 2503002-09 through 2503002-12 were all above the calibration curve and could not be reported. These samples were analyzed at a greater dilution in sequence S250219. The reported results were from this reanalysis.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (N/C).

In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision. When the spiking levels were ≤ 25% of the native sample concentrations, the recoveries were not reported (NR). No sample results were qualified on the basis of the MS or MSD recoveries.

Hexavalent Chromium Analysis
Hexavalent chromium [Cr(VI)] analysis was performed by ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Chromium species are first chromatographically separated on an ion exchange column and then quantified using inductively coupled plasma collision reaction cell mass spectrometry (ICP-CRC-MS). For more information on this determinative technique, please visit the *Interference Reduction Technology* section on our website.

The results were not method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification and all associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

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Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
MW8-0225	2503002-01	Water	Sample	02/25/2025	02/28/2025
MW10-0225	2503002-02	Water	Sample	02/25/2025	02/28/2025
MW11-0225	2503002-03	Water	Sample	02/25/2025	02/28/2025
MW11-0225	2503002-04	Water	Sample	02/25/2025	02/28/2025
MW4-0225	2503002-05	Water	Sample	02/25/2025	02/28/2025
MW4-0225	2503002-06	Water	Sample	02/25/2025	02/28/2025
MW1-0225	2503002-07	Water	Sample	02/26/2025	02/28/2025
MW1-0225	2503002-08	Water	Sample	02/26/2025	02/28/2025
MW5-0225	2503002-09	Water	Sample	02/26/2025	02/28/2025
MW5-0225	2503002-10	Water	Sample	02/26/2025	02/28/2025
DUP01-0225	2503002-11	Water	Sample	02/26/2025	02/28/2025
DUP01-0225	2503002-12	Water	Sample	02/26/2025	02/28/2025

Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
Cr	Water	EPA 1638 Mod	ISO,TNI	03/05/25	03/05/25	B250485	S250213
Cr(VI)	Water	SOP BAL-4300	ISO,TNI	03/10/25	03/10/25	B250472	S250230
Fe	Water	EPA 1638 Mod	ISO,TNI	03/05/25	03/05/25	B250485	S250213
Mn	Water	EPA 1638 Mod	ISO,TNI	03/05/25	03/05/25	B250485	S250213
Mn	Water	EPA 1638 Mod	ISO,TNI	03/05/25	03/07/25	B250485	S250219
Zn	Water	EPA 1638 Mod	ISO,TNI	03/05/25	03/05/25	B250485	S250213
Zn	Water	EPA 1638 Mod	ISO,TNI	03/05/25	03/07/25	B250485	S250219

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW8-0225										
2503002-01	Fe	Water	D	43100		18.2	54.5	µg/L	B250485	S250213
2503002-01	Mn	Water	D	4520		9.09	18.2	µg/L	B250485	S250219
MW10-0225										
2503002-02	Fe	Water	D	≤ 18.2	U	18.2	54.5	µg/L	B250485	S250213
2503002-02	Mn	Water	D	61.4		0.909	1.82	µg/L	B250485	S250213
MW11-0225										
2503002-03	Fe	Water	D	54000		18.2	54.5	µg/L	B250485	S250213
2503002-03	Mn	Water	D	2040		0.909	1.82	µg/L	B250485	S250213
2503002-03	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B250485	S250213
MW11-0225										
2503002-04	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B250485	S250213
MW4-0225										
2503002-05	Fe	Water	D	63800		18.2	54.5	µg/L	B250485	S250213
2503002-05	Mn	Water	D	575		0.909	1.82	µg/L	B250485	S250213
2503002-05	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B250485	S250213
MW4-0225										
2503002-06	Zn	Water	TR	256		12.1	24.2	µg/L	B250485	S250213
MW1-0225										
2503002-07	Cr(VI)	Water	D	0.250		0.025	0.051	µg/L	B250472	S250230
2503002-07	Fe	Water	D	≤ 18.2	U	18.2	54.5	µg/L	B250485	S250213
2503002-07	Mn	Water	D	≤ 0.909	U	0.909	1.82	µg/L	B250485	S250213
2503002-07	Zn	Water	D	289		12.1	24.2	µg/L	B250485	S250213
MW1-0225										
2503002-08	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B250485	S250213
2503002-08	Zn	Water	TR	319		12.1	24.2	µg/L	B250485	S250213
MW5-0225										
2503002-09	Cr(VI)	Water	D	≤ 0.025	U	0.025	0.051	µg/L	B250472	S250230
2503002-09	Fe	Water	D	16300		18.2	54.5	µg/L	B250485	S250213
2503002-09	Mn	Water	D	1260		0.909	1.82	µg/L	B250485	S250213
2503002-09	Zn	Water	D	2660		121	242	µg/L	B250485	S250219

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW5-0225										
2503002-10	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B250485	S250213
2503002-10	Zn	Water	TR	3010		121	242	µg/L	B250485	S250219
DUP01-0225										
2503002-11	Cr(VI)	Water	D	≤ 0.025	U	0.025	0.051	µg/L	B250472	S250230
2503002-11	Fe	Water	D	16900		18.2	54.5	µg/L	B250485	S250213
2503002-11	Mn	Water	D	1300		0.909	1.82	µg/L	B250485	S250213
2503002-11	Zn	Water	D	2310		121	242	µg/L	B250485	S250219
DUP01-0225										
2503002-12	Cr	Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B250485	S250213
2503002-12	Zn	Water	TR	2950		121	242	µg/L	B250485	S250219

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Accuracy & Precision Summary

Batch: B250472
Lab Matrix: Water
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B250472-BS1	**Blank Spike, (2432005)**						
	Cr(VI)		2.000	2.171	µg/L	109% 75-125	
B250472-DUP1	**Duplicate, (2503007-22)**						
	Cr(VI)	0.038		0.037	µg/L		3% 25
B250472-MS1	**Matrix Spike, (2503007-22)**						
	Cr(VI)	0.038	5.051	5.417	µg/L	107% 75-125	
B250472-MSD1	**Matrix Spike Duplicate, (2503007-22)**						
	Cr(VI)	0.038	5.051	5.471	µg/L	108% 75-125	1% 25

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Accuracy & Precision Summary

Batch: B250485
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B250485-BS1	**Blank Spike, (2401035)**						
	Cr		56.12	53.98	µg/L	96% 75-125	
	Fe		561.2	553.4	µg/L	99% 75-125	
	Mn		56.12	54.89	µg/L	98% 75-125	
	Zn		56.12	54.15	µg/L	96% 75-125	
B250485-SRM1	**Reference Material (2440037, NIST 1643f)**						
	Cr		18.50	18.30	µg/L	99% 75-125	
	Fe		93.44	94.00	µg/L	101% 75-125	
	Mn		37.14	37.09	µg/L	100% 75-125	
	Zn		74.40	74.05	µg/L	100% 75-125	
B250485-DUP1	**Duplicate, (2503002-04)**						
	Cr	ND		ND	µg/L		N/C 20
	Fe	56050		54870	µg/L		2% 20
	Mn	2118		2040	µg/L		4% 20
	Zn	ND		ND	µg/L		N/C 20
B250485-MS1	**Matrix Spike, (2503002-04)**						
	Cr	ND	56.12	54.04	µg/L	96% 75-125	
	Fe	56050	561.2	56620	µg/L	NR 75-125	
	Mn	2118	56.12	2162	µg/L	NR 75-125	
	Zn	ND	56.12	56.52	µg/L	101% 75-125	
B250485-MSD1	**Matrix Spike Duplicate, (2503002-04)**						
	Cr	ND	56.12	53.29	µg/L	95% 75-125	1% 20
	Fe	56050	561.2	54470	µg/L	NR 75-125	N/C 20
	Mn	2118	56.12	2086	µg/L	NR 75-125	N/C 20
	Zn	ND	56.12	55.41	µg/L	99% 75-125	2% 20
B250485-DUP2	**Duplicate, (2503012-06)**						
	Cr	0.175		ND	µg/L		N/C 20
	Fe	14.18		13.92	µg/L		2% 20
	Mn	0.574		0.552	µg/L		4% 20
	Zn	1.861		1.716	µg/L		8% 20

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Accuracy & Precision Summary

Batch: B250485
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B250485-MS2	**Matrix Spike, (2503012-06)**						
	Cr	0.175	56.12	58.30	µg/L	104% 75-125	
	Fe	14.18	561.2	588.2	µg/L	102% 75-125	
	Mn	0.574	56.12	59.00	µg/L	104% 75-125	
	Zn	1.861	56.12	59.12	µg/L	102% 75-125	
B250485-MSD2	**Matrix Spike Duplicate, (2503012-06)**						
	Cr	0.175	56.12	56.39	µg/L	100% 75-125	3% 20
	Fe	14.18	561.2	570.3	µg/L	99% 75-125	3% 20
	Mn	0.574	56.12	57.19	µg/L	101% 75-125	3% 20
	Zn	1.861	56.12	56.99	µg/L	98% 75-125	4% 20

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Method Blanks & Reporting Limits

Batch: B250472
Matrix: Water
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B250472-BLK1	0.00	µg/L
B250472-BLK2	0.001	µg/L
B250472-BLK3	0.00	µg/L
B250472-BLK4	0.002	µg/L

Average: 0.001
Limit: 0.010

MDL: 0.005
MRL: 0.010

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Method Blanks & Reporting Limits

Batch: B250485
Matrix: Water
Method: EPA 1638 Mod
Analyte: Cr

Sample	Result	Units
B250485-BLK1	-0.008	µg/L
B250485-BLK2	-0.001	µg/L
B250485-BLK3	-0.002	µg/L
B250485-BLK4	0.001	µg/L

Average: -0.003
Limit: 0.600

MDL: 0.170
MRL: 0.600

Analyte: Fe

Sample	Result	Units
B250485-BLK1	0.077	µg/L
B250485-BLK2	0.108	µg/L
B250485-BLK3	-0.013	µg/L
B250485-BLK4	0.042	µg/L

Average: 0.053
Limit: 5.400

MDL: 1.80
MRL: 5.40

Analyte: Mn

Sample	Result	Units
B250485-BLK1	0.006	µg/L
B250485-BLK2	0.005	µg/L
B250485-BLK3	0.002	µg/L
B250485-BLK4	0.004	µg/L

Average: 0.004
Limit: 0.180

MDL: 0.090
MRL: 0.180

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Method Blanks & Reporting Limits

Analyte: Zn

Sample	Result	Units
B250485-BLK1	0.050	µg/L
B250485-BLK2	0.095	µg/L
B250485-BLK3	0.050	µg/L
B250485-BLK4	0.027	µg/L

Average: 0.055
Limit: 2.400

MDL: 1.20
MRL: 2.40

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2503002-01 **Report Matrix:** Water **Collected:** 02/25/2025
Sample: MW8-0225 **Sample Type:** Sample **Received:** 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Comments: Preserved by LPG 3/3/25 @ 1100

Lab ID: 2503002-02 **Report Matrix:** Water **Collected:** 02/25/2025
Sample: MW10-0225 **Sample Type:** Sample **Received:** 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Comments: Preserved by LPG 3/3/25 @ 1100

Lab ID: 2503002-03 **Report Matrix:** Water **Collected:** 02/25/2025
Sample: MW11-0225 **Sample Type:** Sample **Received:** 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Comments: Preserved by LPG 3/3/25 @ 1100

Lab ID: 2503002-04 **Report Matrix:** Water **Collected:** 02/25/2025
Sample: MW11-0225 **Sample Type:** Sample **Received:** 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Comments: Preserved by LPG 3/3/25 @ 1100

Lab ID: 2503002-05 **Report Matrix:** Water **Collected:** 02/25/2025
Sample: MW4-0225 **Sample Type:** Sample **Received:** 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Comments: Preserved by LPG 3/3/25 @ 1100

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2503002-06
Sample: MW4-0225
Report Matrix: Water
Sample Type: Sample
Collected: 02/25/2025
Received: 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Comments: Preserved by LPG 3/3/25 @ 1100

Lab ID: 2503002-07
Sample: MW1-0225
Report Matrix: Water
Sample Type: Sample
Collected: 02/26/2025
Received: 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Lab ID: 2503002-08
Sample: MW1-0225
Report Matrix: Water
Sample Type: Sample
Collected: 02/26/2025
Received: 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Comments: Preserved by LPG 3/3/25 @ 1100

Lab ID: 2503002-09
Sample: MW5-0225
Report Matrix: Water
Sample Type: Sample
Collected: 02/26/2025
Received: 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Lab ID: 2503002-10
Sample: MW5-0225
Report Matrix: Water
Sample Type: Sample
Collected: 02/26/2025
Received: 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Comments: Preserved by LPG 3/3/25 @ 1100

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2503002-11
Sample: DUP01-0225
Report Matrix: Water
Sample Type: Sample
Collected: 02/26/2025
Received: 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002
B	Bottle HDPE ICP-W	125 mL	24-0111	1.25 mL NH4OH/ (NH4)2SO4 (Pre-preserved)	2448021	8-9	Cooler - 2503002

Comments: Cr VI

Lab ID: 2503002-12
Sample: DUP01-0225
Report Matrix: Water
Sample Type: Sample
Collected: 02/26/2025
Received: 02/28/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	24-0111	1% HNO3 (BAL)	2444015	<2	Cooler - 2503002

Comments: Preserved by LPG 3/3/25 @ 1100

Shipping Containers

Cooler - 2503002

Received: February 28, 2025 12:54
Tracking No: NA via Customer Drop-Off
Coolant Type: ice
Temperature: 3.7 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: R-IR-6

Custody seals present? No
Custody seals intact? No
COC present? Yes

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only
Received by: _____ Date: _____
BAL Report 2503003
Work Order ID: _____ Time: 12:54
Project ID: _____

Client: CRETE Consulting
Contact: Rusty Jones
Client Project ID: Bridge Point Seattle 130
Samples Collected By: Rusty Jones RJones

PO Number: DAWN
Phone: 832.330.1359
Email: _____

Mailing Address: _____
Email Receipt Confirmation? (Yes/No)
BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl / HNO_3 / Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals Zinc (specify) Total / Dissolved	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Hexavalent Chromium Filtration Field Filtered	Other (specify) Reported only Dissolved Fe + Mn (FICP-MS)	Other (specify) Total Cr ICP-MS metals	Comments: Specify Here
1	MW8-0225	2/25/2025	1748		1	Y								X		553 µS/cm
2	MW10-0225	2/25/2025	1831		1									X		185.6 µS/cm
3	MW11-0225	↓	1950		2					X				X		3007 µS/cm
4	MW4-0225		2142		2					X				X		2070 µS/cm
5	~~MW3-0225~~		~~2242~~		2											30725 µS/cm RJ
6	MW1-0225	2/26/2025	2217		3					X			X	X	X	15272 µS/cm
7	MW5-0225		2306		3					X			X	X	X	1249 µS/cm
8	DUP01-0225	↓	1200		3					X			X	X	X	
9																
10																
	Trip Blank															

Relinquished By: RJones	Date: 2/28/25	Time: 1254	Relinquished By:	Date:	Time:
Received By:	Date:	Time:	Total Number of Packages:		

Page 1 of 1 List Hazardous Contaminants: _____

samples@brooksapplied.com | brooksapplied.com

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

June 9, 2025

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on May 28, 2025 from the Bridge Point Seattle 130 DAWN, F&BI 505459 project. There are 20 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: Grant Hainsworth, Ben Starr, Jamie Stevens
CTC0609R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 28, 2025 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 505459 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
505459 -01	MW1-0525
505459 -02	MW5-0525
505459 -03	MW8-0525
505459 -04	MW10-0525

Samples MW1-0525, MW5-0525, and MW8-0525 were sent to Alliance Technical Group for ammonia, nitrate, nitrite, TOC, dissolved gases, chloride, phosphorus, ammonia, and sulfate testing. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 06/09/25
Date Received: 05/28/25
Project: Bridge Point Seattle 130 DAWN, F&BI 505459
Date Extracted: 05/29/25
Date Analyzed: 06/02/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW8-0525 505459-03	1,100 x	<200	120
Method Blank 05-1310 MB	<50	<200	106

Date of Report: 06/09/25
Date Received: 05/28/25
Project: Bridge Point Seattle 130 DAWN, F&BI 505459
Date Extracted: 05/29/25
Date Analyzed: 05/29/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW8-0525 505459-03	1,200 x	<200	128
Method Blank 05-1310 MB	<50	<200	112

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW1-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	05/30/25	Lab ID:	505459-01
Date Analyzed:	05/30/25	Data File:	053018.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	99	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	05/30/25	Lab ID:	505459-02
Date Analyzed:	05/30/25	Data File:	053013.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	102	84	115
4-Bromofluorobenzene	103	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.66
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)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.10
Tetrachloroethene	1.6

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW8-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	05/30/25	Lab ID:	505459-03
Date Analyzed:	05/30/25	Data File:	053017.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	99	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	6.0
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.9
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.43
Tetrachloroethene	1.4

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW10-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	05/30/25	Lab ID:	505459-04
Date Analyzed:	05/30/25	Data File:	053016.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	78	126
Toluene-d8	101	84	115
4-Bromofluorobenzene	103	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.075
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.93
Tetrachloroethene	7.5

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	05/30/25	Lab ID:	05-1248 mb
Date Analyzed:	05/30/25	Data File:	053008.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	78	126
Toluene-d8	102	84	115
4-Bromofluorobenzene	97	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW1-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/05/25	Lab ID:	505459-01
Date Analyzed:	06/06/25	Data File:	505459-01.084
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW1-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/05/25	Lab ID:	505459-01 x20
Date Analyzed:	06/05/25	Data File:	505459-01 x20.188
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<1,000

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW5-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/05/25	Lab ID:	505459-02 x20
Date Analyzed:	06/05/25	Data File:	505459-02 x20.189
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	8,700

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW5-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/05/25	Lab ID:	505459-02 x100
Date Analyzed:	06/06/25	Data File:	505459-02 x100.085
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	660

Analysis For Dissolved Metals By EPA Method 200.8

Client Sample ID:	MW8-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/05/25	Lab ID:	505459-03 x20
Date Analyzed:	06/05/25	Data File:	505459-03 x20.190
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	23,000

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW8-0525	Client:	Crete Consulting
Date Received:	05/28/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/05/25	Lab ID:	505459-03 x250
Date Analyzed:	06/06/25	Data File:	505459-03 x250.086
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	4,900

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/05/25	Lab ID:	I5-480 mb2
Date Analyzed:	06/06/25	Data File:	I5-480 mb2.082
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<50 k
Manganese	<1

Date of Report: 06/09/25
Date Received: 05/28/25
Project: Bridge Point Seattle 130 DAWN, F&BI 505459

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	92	92	65-151	0

Date of Report: 06/09/25
Date Received: 05/28/25
Project: Bridge Point Seattle 130 DAWN, F&BI 505459

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	96	96	65-151	0

Date of Report: 06/09/25
Date Received: 05/28/25
Project: Bridge Point Seattle 130 DAWN, F&BI 505459

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 505459-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	0.075	100	50-150
Chloroethane	ug/L (ppb)	10	<1	99	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	94	50-150
Methylene chloride	ug/L (ppb)	10	<5	94	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	99	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	1.1	100	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	101	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	100	50-150
Trichloroethene	ug/L (ppb)	10	0.93	97	35-149
Tetrachloroethene	ug/L (ppb)	10	7.5	99 b	50-150

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)	10	108	110	64-142	2
Chloroethane	ug/L (ppb)	10	100	101	70-130	1
1,1-Dichloroethene	ug/L (ppb)	10	96	97	64-140	1
Methylene chloride	ug/L (ppb)	10	68	98	43-134	36 vo
trans-1,2-Dichloroethene	ug/L (ppb)	10	99	100	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	102	103	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	101	102	70-130	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	102	102	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	101	102	70-130	1
Trichloroethene	ug/L (ppb)	10	96	99	70-130	3
Tetrachloroethene	ug/L (ppb)	10	102	104	70-130	2

Date of Report: 06/09/25
Date Received: 05/28/25
Project: Bridge Point Seattle 130 DAWN, F&BI 505459

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 506042-01 x10 (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	16,700	992 b	851 b	75-125	15 b
Manganese	ug/L (ppb)	20	347	137 b	143 b	75-125	4 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	96	80-120
Manganese	ug/L (ppb)	20	95	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

505459

SAMPLE CHAIN OF CUSTODY

05/28/25 VW2/F2/K3

Page # 1 of 1

Report To Jones / Hainsworth / Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones RJones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
- ☒ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	Ammonia / NWTPH-Gx	Nitrate (NH3) / BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270 (TOC)	PCBs EPA 8082	cVOCs	Methane / ethane / ethene	Dissolved Iron + Manganese	Cl- / Phosphorus / Ammonia / Sulfate	Notes
MW1-0525	01 A-K	5/27/2025	1206	GRAB WATER	11		X	X				X	X	X	X	X	
MW5-0525	02 A-H	↓	1308		8		X	X				X	X	X	X	X	
MW8-0525	03 A-K	5/28/2025	1049		11	X	X	X				X	X	X	X	X	w/ + w/out SGC
MW10-0525	04 A-C		1142		3								X				
~~MW3-0525~~			1303														EJ
MW7-0525		↓	1349	↓													EJ

Samples received at 0 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	5/28/25	1434
Received by: mPham	Nhan Phan	FCBT	5/28/25	1434
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 505459 CLIENT Crete INITIALS (NP) DATE: 5/28/25

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 0 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ AP
*or other representative documents, letters, and/or shipping memos Date: 5/28/25

Number of days samples have been sitting prior to receipt at laboratory Ø - 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 505459,
Work Order Number: 2505590

June 04, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 3 sample(s) on 5/28/2025 for the analyses presented in the following report.

Ammonia by SM 4500 NH3G
Dissolved Gases by RSK-175
Ion Chromatography by EPA 300.0
Total Organic Carbon by SM 5310C

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *06/04/2025*

CLIENT: Friedman & Bruya
Project: 505459
Work Order: 2505590

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2505590-001	MW1-0525	05/27/2025 12:06 PM	05/28/2025 4:05 PM
2505590-002	MW5-0525	05/27/2025 1:08 PM	05/28/2025 4:05 PM
2505590-003	MW8-0525	05/28/2025 10:49 AM	05/28/2025 4:05 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2505590**

Date: **6/4/2025**

CLIENT: Friedman & Bruya
Project: 505459

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2505590**
Date Reported: **6/4/2025**

CLIENT: Friedman & Bruya
Project: 505459

Lab ID: 2505590-001 **Collection Date:** 5/27/2025 12:06:00 PM
Client Sample ID: **MW1-0525** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10029		Analyst: GG
Methane	0.0102	0.00500		mg/L	1	6/3/2025 6:03:00 PM
Ethene	ND	0.0100		mg/L	1	6/3/2025 6:03:00 PM
Ethane	ND	0.0100		mg/L	1	6/3/2025 6:03:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 47912		Analyst: SS
Chloride	2,160	80.0	D	mg/L	400	5/30/2025 11:33:00 AM
Nitrite (as N)	ND	4.00	DH	mg/L	20	5/29/2025 10:37:00 PM
Nitrate (as N)	ND	4.00	DH	mg/L	20	5/29/2025 10:37:00 PM
Ortho-Phosphate (as P)	25.4	8.00	DHQ*	mg/L	20	5/29/2025 10:37:00 PM
Sulfate	325	20.0	D	mg/L	20	5/29/2025 10:37:00 PM

NOTES:
Q - Associated calibration verification is below acceptance criteria for phosphate (85%, nominal 90-110%). Result may be low-biased.
* - Associated LCS is below acceptance criteria for phosphate. Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R10020		Analyst: SS
Total Organic Carbon	1.51	0.700		mg/L	1	5/31/2024 4:52:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 47949		Analyst: SS
Nitrogen, Ammonia	ND	0.150		mg/L	1	6/2/2025 2:20:00 PM

Analytical Report

Work Order: **2505590**
Date Reported: **6/4/2025**

CLIENT: Friedman & Bruya
Project: 505459

Lab ID: 2505590-002 **Collection Date:** 5/27/2025 1:08:00 PM
Client Sample ID: **MW5-0525** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10029		Analyst: GG
Methane	6.73	0.500	D	mg/L	100	6/3/2025 6:10:00 PM
Ethene	ND	0.0100		mg/L	1	6/3/2025 6:06:00 PM
Ethane	ND	0.0100		mg/L	1	6/3/2025 6:06:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 47912		Analyst: SS
Chloride	24.0	4.00	DQ	mg/L	20	5/29/2025 11:01:00 PM
Nitrite (as N)	ND	0.200	H	mg/L	1	5/30/2025 11:56:00 AM
Nitrate (as N)	ND	0.200	H	mg/L	1	5/30/2025 11:56:00 AM
Ortho-Phosphate (as P)	ND	0.400	HQ*	mg/L	1	5/30/2025 11:56:00 AM
Sulfate	ND	1.00		mg/L	1	5/30/2025 11:56:00 AM

NOTES:

Q - Associated calibration verification is above acceptance criteria for chloride (115%, nominal 90-110%). Result may be high-biased.

Q - Associated calibration verification is below acceptance criteria for phosphate (65%, nominal 90-110%). Result may be low-biased.

* - Associated LCS is below acceptance criteria for phosphate. Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R10020		Analyst: SS
Total Organic Carbon	19.6	0.700		mg/L	1	5/31/2024 5:11:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 47949		Analyst: SS
Nitrogen, Ammonia	ND	0.150		mg/L	1	6/2/2025 2:26:00 PM

Analytical Report

Work Order: **2505590**
Date Reported: **6/4/2025**

CLIENT: Friedman & Bruya
Project: 505459

Lab ID: 2505590-003 **Collection Date:** 5/28/2025 10:49:00 AM
Client Sample ID: **MW8-0525** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10029		Analyst: GG
Methane	5.74	0.250	D	mg/L	50	6/3/2025 6:13:00 PM
Ethene	ND	0.0100		mg/L	1	6/3/2025 6:08:00 PM
Ethane	ND	0.0100		mg/L	1	6/3/2025 6:08:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 47912		Analyst: SS
Chloride	43.5	4.00	DQ	mg/L	20	5/29/2025 11:24:00 PM
Nitrite (as N)	ND	0.200	H	mg/L	1	5/30/2025 12:19:00 PM
Nitrate (as N)	ND	0.200	H	mg/L	1	5/30/2025 12:19:00 PM
Ortho-Phosphate (as P)	ND	0.400	HQ*	mg/L	1	5/30/2025 12:19:00 PM
Sulfate	3.27	1.00		mg/L	1	5/30/2025 12:19:00 PM

NOTES:

Q - Associated calibration verification is above acceptance criteria for chloride (115%, nominal 90-110%). Result may be high-biased.

Q - Associated calibration verification is below acceptance criteria for phosphate (65%, nominal 90-110%). Result may be low-biased.

* - Associated LCS is below acceptance criteria for phosphate. Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R10020		Analyst: SS
Total Organic Carbon	5.34	0.700		mg/L	1	5/31/2024 5:42:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 47949		Analyst: SS
Nitrogen, Ammonia	ND	0.150		mg/L	1	6/2/2025 2:31:00 PM

Work Order: 2505590
CLIENT: Friedman & Bruya
Project: 505459

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **MB-47949**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **6/2/2025**	RunNo: **100226**
Client ID: **MBLKW**	Batch ID: **47949**		Analysis Date: **6/2/2025**	SeqNo: **2088256**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **LCS-47949**	SampType: **LCS**	Units: **mg/L**	Prep Date: **6/2/2025**	RunNo: **100226**
Client ID: **LCSW**	Batch ID: **47949**		Analysis Date: **6/2/2025**	SeqNo: **2088257**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.484	0.150	0.5000	0	96.8	74	126				

Sample ID: **2505517-001ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **6/2/2025**	RunNo: **100226**
Client ID: **BATCH**	Batch ID: **47949**		Analysis Date: **6/2/2025**	SeqNo: **2088259**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0		30	

Sample ID: **2505517-001AMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **6/2/2025**	RunNo: **100226**
Client ID: **BATCH**	Batch ID: **47949**		Analysis Date: **6/2/2025**	SeqNo: **2088260**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	5.52	142				S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2505517-001AMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **6/2/2025**	RunNo: **100226**
Client ID: **BATCH**	Batch ID: **47949**		Analysis Date: **6/2/2025**	SeqNo: **2088261**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150	0.5000	0	0	5.52	142	0		30	S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 2505590
CLIENT: Friedman & Bruya
Project: 505459

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **LCS-47912**	SampType: **LCS**	Units: **mg/L**	Prep Date: **5/29/2025**	RunNo: **100180**
Client ID: **LCSW**	Batch ID: **47912**		Analysis Date: **5/29/2025**	SeqNo: **2087257**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.719	0.200	0.7500	0	95.9	90	110				
Nitrite (as N)	0.711	0.200	0.7500	0	94.8	90	110				
Nitrate (as N)	0.728	0.200	0.7500	0	97.1	90	110				
Ortho-Phosphate (as P)	1.07	0.400	1.250	0	85.9	90	110				BS
Sulfate	3.42	1.00	3.750	0	91.1	90	110				

NOTES:
S - Outlying spike recovery observed (low bias) for phosphate. Samples will be qualified with a *.

Sample ID: **MB-47912**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **5/29/2025**	RunNo: **100180**
Client ID: **MBLKW**	Batch ID: **47912**		Analysis Date: **5/29/2025**	SeqNo: **2087259**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									
Nitrite (as N)	ND	0.200									
Nitrate (as N)	ND	0.200									
Ortho-Phosphate (as P)	ND	0.400									
Sulfate	ND	1.00									

Sample ID: **2505605-001ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **5/29/2025**	RunNo: **100180**
Client ID: **BATCH**	Batch ID: **47912**		Analysis Date: **5/29/2025**	SeqNo: **2087261**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	22.3	0.200						22.23	0.440	20	EQ
Nitrite (as N)	ND	0.200						0		20	
Nitrate (as N)	4.03	0.200						4.014	0.447	20	
Ortho-Phosphate (as P)	ND	0.400						0		20	Q*
Sulfate	9.96	1.00						9.902	0.534	20	

NOTES:
Q - Associated calibration verification is above acceptance criteria for chloride. Result may be high-biased.
Q - Associated calibration verification is below acceptance criteria for phosphate. Result may be low-biased.
* - Associated LCS is below acceptance criteria. Result may be low-biased.

Work Order: 2505590
CLIENT: Friedman & Bruya
Project: 505459

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2505605-001AMS** SampType: **MS** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **BATCH** Batch ID: **47912** Analysis Date: **5/29/2025** SeqNo: **2087262**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	22.6	0.200	0.7500	22.23	55.7	80	120				ES
Nitrite (as N)	0.743	0.200	0.7500	0	99.1	80	120				
Nitrate (as N)	4.74	0.200	0.7500	4.014	96.1	80	120				
Ortho-Phosphate (as P)	0.616	0.400	1.250	0	49.3	80	120				BS
Sulfate	13.9	1.00	3.750	9.902	107	80	120				

NOTES:
S - Outlying spike recovery observed.

Sample ID: **2505605-001AMSD** SampType: **MSD** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **BATCH** Batch ID: **47912** Analysis Date: **5/29/2025** SeqNo: **2087263**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	22.7	0.200	0.7500	22.23	59.2	80	120	22.65	0.115	20	ES
Nitrite (as N)	0.749	0.200	0.7500	0	99.9	80	120	0.7430	0.804	20	
Nitrate (as N)	4.75	0.200	0.7500	4.014	97.9	80	120	4.735	0.274	20	
Ortho-Phosphate (as P)	0.990	0.400	1.250	0	79.2	80	120	0.6160	46.6	20	BS
Sulfate	14.0	1.00	3.750	9.902	108	80	120	13.91	0.387	20	

NOTES:
S - Outlying spike recovery observed.

Sample ID: **2505636-011EDUP** SampType: **DUP** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **BATCH** Batch ID: **47912** Analysis Date: **5/30/2025** SeqNo: **2087295**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	12.8	0.200						12.74	0.220	20	E
Nitrite (as N)	ND	0.200						0		20	
Nitrate (as N)	ND	0.200						0		20	
Ortho-Phosphate (as P)	0.406	0.400						0.2850	35.0	20	BQ*
Sulfate	ND	1.00						0		20	

NOTES:
Q - Associated calibration verification is below acceptance criteria for phosphate. Result may be low-biased.
* - Associated LCS is below acceptance criteria for phosphate. Result may be low-biased.

Work Order: 2505590
CLIENT: Friedman & Bruya
Project: 505459

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2505636-011EMS** SampType: **MS** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **BATCH** Batch ID: **47912** Analysis Date: **5/30/2025** SeqNo: **2087296**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	13.2	0.200	0.7500	12.74	61.2	80	120				ES
Nitrite (as N)	0.722	0.200	0.7500	0	96.3	80	120				
Nitrate (as N)	0.742	0.200	0.7500	0	98.9	80	120				
Ortho-Phosphate (as P)	1.33	0.400	1.250	0.2850	83.8	80	120				
Sulfate	3.94	1.00	3.750	0	105	80	120				

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Work Order: 2505590
CLIENT: Friedman & Bruya
Project: 505459

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **LCS**	SampType: **LCS**	Units: **mg/L**	Prep Date: **5/30/2024**	RunNo: **100208**
Client ID: **LCSW**	Batch ID: **R100208**		Analysis Date: **5/30/2024**	SeqNo: **2087852**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	23.0	0.700	25.00	0	92.2	79.6	120				

Sample ID: **MB**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **5/30/2024**	RunNo: **100208**
Client ID: **MBLKW**	Batch ID: **R100208**		Analysis Date: **5/30/2024**	SeqNo: **2087855**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **2505523-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **5/30/2024**	RunNo: **100208**
Client ID: **BATCH**	Batch ID: **R100208**		Analysis Date: **5/30/2024**	SeqNo: **2087857**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.6	0.700						25.16	1.61	15	

Sample ID: **2505523-001CMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **5/31/2024**	RunNo: **100208**
Client ID: **BATCH**	Batch ID: **R100208**		Analysis Date: **5/31/2024**	SeqNo: **2087858**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	48.2	0.700	25.00	25.16	92.4	85	115				

Sample ID: **2505523-001CMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **5/31/2024**	RunNo: **100208**
Client ID: **BATCH**	Batch ID: **R100208**		Analysis Date: **5/31/2024**	SeqNo: **2087859**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	47.8	0.700	25.00	25.16	90.7	85	115	48.25	0.874	15	

Work Order: 2505590
CLIENT: Friedman & Bruya
Project: 505459

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **2505590-003BDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **5/31/2024**		RunNo: **100208**			
Client ID: **MW8-0525**	Batch ID: **R100208**					Analysis Date: **5/31/2024**		SeqNo: **2087873**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	5.17	0.700						5.335	3.18	15	

Sample ID: **2505590-003BMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **5/31/2024**		RunNo: **100208**			
Client ID: **MW8-0525**	Batch ID: **R100208**					Analysis Date: **5/31/2024**		SeqNo: **2087874**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	28.9	0.700	25.00	5.335	94.4	85	115				

Work Order: 2505590
CLIENT: Friedman & Bruya
Project: 505459

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R100291** SampType: **LCS** Units: **ppmv** Prep Date: **6/3/2025** RunNo: **100291**
Client ID: **LCSW** Batch ID: **R100291** Analysis Date: **6/3/2025** SeqNo: **2089673**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,130	0.00500	1,000	0	113	73.6	124				
Ethene	1,110	0.0100	1,000	0	111	76.3	122				
Ethane	1,100	0.0100	1,000	0	110	76.1	123				

Sample ID: **MB-R100291** SampType: **MBLK** Units: **mg/L** Prep Date: **6/3/2025** RunNo: **100291**
Client ID: **MBLKW** Batch ID: **R100291** Analysis Date: **6/3/2025** SeqNo: **2089675**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2505590-001AREP** SampType: **REP** Units: **mg/L** Prep Date: **6/3/2025** RunNo: **100291**
Client ID: **MW1-0525** Batch ID: **R100291** Analysis Date: **6/3/2025** SeqNo: **2089668**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.0103	0.00500						0.01023	0.529	30	
Ethene	ND	0.0100						0		30	
Ethane	ND	0.0100						0		30	

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2505590
Logged by:	Clare Griggs	Date Received:	5/28/2025 4:05:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	6.0

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2505590

Page # _____ of _____

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER
Alliance TG

PROJECT NAME/NO.	PO #
505459	F-255

REMARKS

TURNAROUND TIME
☒ Standard
RUSH__
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	RSK MEE	TOC	Chloide	Ammonia	Sulfate	Nitrate	Nitrite	Phosphate			Notes
MW1-0525		5/27/2025	12:06	water		x	x	x	x	x	x	x	x			
MW5-0525		5/27/2025	13:08	water		x	x	x	x	x	x	x	x			
MW8-0525		5/28/2025	10:49	water		x	x	x	x	x	x	x	x			

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98115
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	5/28/25	15:00
Received by:	Edward Chien	ATG	5/28/25	4:05
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

June 9, 2025

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on May 29, 2025 from the Bridge Point Seattle 130 DAWN, F&BI 505483 project. There are 10 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: Grant Hainsworth, Jamie Stevens
CTC0609R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 29, 2025 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 505483 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
505483 -01	DUP01-0525
505483 -02	MW4-0525
505483 -03	MW11-0525

Sample MW11-0525 was sent to Alliance Technical Group for ammonia, nitrate, nitrite, TOC, dissolved gases, chloride, phosphorus, ammonia, and sulfate testing. The report is enclosed.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP01-0525	Client:	Crete Consulting
Date Received:	05/29/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/02/25	Lab ID:	505483-01
Date Analyzed:	06/02/25	Data File:	060210.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	103	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.2
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)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.38
Tetrachloroethene	1.9

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0525	Client:	Crete Consulting
Date Received:	05/29/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/02/25	Lab ID:	505483-02
Date Analyzed:	06/02/25	Data File:	060211.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.2
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)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.44
Tetrachloroethene	1.9

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW11-0525	Client:	Crete Consulting
Date Received:	05/29/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/02/25	Lab ID:	505483-03
Date Analyzed:	06/02/25	Data File:	060212.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.18
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.17
Tetrachloroethene	0.71

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	06/02/25	Lab ID:	05-1312 mb
Date Analyzed:	06/02/25	Data File:	060208.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	105	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW11-0525	Client:	Crete Consulting
Date Received:	05/29/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	05/30/25	Lab ID:	505483-03 x200
Date Analyzed:	06/04/25	Data File:	505483-03 x200.194
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	29,000
Manganese	920

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	05/30/25	Lab ID:	I5-467 mb
Date Analyzed:	05/30/25	Data File:	I5-467 mb.099
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<50
Manganese	<1

Date of Report: 06/09/25
Date Received: 05/29/25
Project: Bridge Point Seattle 130 DAWN, F&BI 505483

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 505477-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	98	50-150
Chloroethane	ug/L (ppb)	10	<1	96	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	96	50-150
Methylene chloride	ug/L (ppb)	10	<5	98	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	103	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	102	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	105	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	103	50-150
Trichloroethene	ug/L (ppb)	10	<0.05	98	35-149
Tetrachloroethene	ug/L (ppb)	10	<0.5	101	50-150

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)	10	98	99	64-142	1
Chloroethane	ug/L (ppb)	10	100	100	70-130	0
1,1-Dichloroethene	ug/L (ppb)	10	95	95	64-140	0
Methylene chloride	ug/L (ppb)	10	123	121	43-134	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	97	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	102	99	70-130	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	101	101	70-130	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	101	100	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	101	100	70-130	1
Trichloroethene	ug/L (ppb)	10	97	94	70-130	3
Tetrachloroethene	ug/L (ppb)	10	101	100	70-130	1

Date of Report: 06/09/25
Date Received: 05/29/25
Project: Bridge Point Seattle 130 DAWN, F&BI 505483

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 505475-01 x10 (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	1,200	63 b	173 b	75-125	93 b
Manganese	ug/L (ppb)	20	3,550	909 b	2620 b	75-125	97 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	92	80-120
Manganese	ug/L (ppb)	20	99	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

505483

SAMPLE CHAIN OF CUSTODY

05/29/25 F2|K1|VW2

Page # 1 of 1

Report To Jones | Hainsworth | Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (signature) Rusty Jones RJones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS: Project specific RLs? - Yes / No

INVOICE TO: CRETE

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	~~NWTPH-Gx~~	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	~~PCBs EPA 8082~~ Sulfate	Methane, Ethane, Ethene	Cl-, Phosphate	Dissolved Iron, Manganese	Nitrate/Nitrite	Notes
DUP01-0525	01 A-C	5/29/2025	0001	GRAB WATER	3					X							
MW4-0525	02 ↓		13:30 AP 5/29		3					X							
MW11-0525	03 A-K	↓	1229	↓	11		X			X		X	X	X	X	X	
								Samples received at 2 °C									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R Jones	Rusty Jones	CRETE	5/29/2025	1502
Received by:	Anh Phan	FBI	5/29/25	15:02
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 505483 CLIENT Crete INITIALS/ AP DATE: 5/29/25

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 2 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ AP Date: 5/29/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0 days

Are the samples clearly identified? (explain "no" answer below) ☐ YES ☑ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes	☐ No	☐ Not on COC/label
Date Sampled	☑ Yes	☐ No	☐ Not on COC/label
Time Sampled	☐ Yes	☑ No for MW4-0525. Added at lab.	☑ Not on COC/label
# of Containers	☑ Yes	☐ No	
Relinquished	☑ Yes	☐ No	
Requested analysis	☑ Yes	☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____

**Fill out Green manifolds billing sheet

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 505483,
Work Order Number: 2505662

June 06, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 1 sample(s) on 5/29/2025 for the analyses presented in the following report.

Dissolved Gases by RSK-175
Ion Chromatography by EPA 300.0
Total Organic Carbon by SM 5310C

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Kelley Lovejoy
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *06/06/2025*

CLIENT: Friedman & Bruya
Project: 505483
Work Order: 2505662

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2505662-001	MW11-0525	05/29/2025 12:29 PM	05/29/2025 4:12 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2505662**

Date: **6/6/2025**

CLIENT: Friedman & Bruya
Project: 505483

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2505662**
Date Reported: **6/6/2025**

CLIENT: Friedman & Bruya
Project: 505483

Lab ID: 2505662-001 **Collection Date:** 5/29/2025 12:29:00 PM
Client Sample ID: **MW11-0525** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10036		Analyst: GG
Methane	1.70	0.0500	D	mg/L	10	6/5/2025 4:52:00 PM
Ethene	ND	0.0100		mg/L	1	6/5/2025 4:33:00 PM
Ethane	ND	0.0100		mg/L	1	6/5/2025 4:33:00 PM
Ion Chromatography by EPA 300.0				Batch ID: 47912		Analyst: SS
Chloride	379	20.0	D	mg/L	100	5/30/2025 1:05:00 PM
Nitrite (as N)	ND	0.200		mg/L	1	5/29/2025 11:47:00 PM
Nitrate (as N)	ND	0.200		mg/L	1	5/29/2025 11:47:00 PM
Ortho-Phosphate (as P)	ND	0.400	Q*	mg/L	1	5/29/2025 11:47:00 PM
Sulfate	48.0	10.0	D	mg/L	10	5/30/2025 12:42:00 PM
Total Organic Carbon by SM 5310C				Batch ID: R10029		Analyst: SS
Total Organic Carbon	3.29	0.700		mg/L	1	6/4/2024 2:30:00 AM

NOTES:
Q - Initial calibration verification for this analyte exceeds acceptance criteria for phosphate (85.9%, nominal 90-110).
Q - Associated calibration verification is below acceptance criteria for phosphate (87.5%, nominal 90-110). Result may be low-biased.
* - Associated LCS is below acceptance criteria for phosphate. Result may be low-biased.

Work Order: 2505662
CLIENT: Friedman & Bruya
Project: 505483

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **LCS-47912** SampType: **LCS** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **LCSW** Batch ID: **47912** Analysis Date: **5/29/2025** SeqNo: **2087257**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.719	0.200	0.7500	0	95.9	90	110				
Nitrite (as N)	0.711	0.200	0.7500	0	94.8	90	110				
Nitrate (as N)	0.728	0.200	0.7500	0	97.1	90	110				
Ortho-Phosphate (as P)	1.07	0.400	1.250	0	85.9	90	110				BS
Sulfate	3.42	1.00	3.750	0	91.1	90	110				

NOTES:
S - Outlying spike recovery observed (low bias) for phosphate. Samples will be qualified with a *.

Sample ID: **MB-47912** SampType: **MBLK** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **MBLKW** Batch ID: **47912** Analysis Date: **5/29/2025** SeqNo: **2087259**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									
Nitrite (as N)	ND	0.200									
Nitrate (as N)	ND	0.200									
Ortho-Phosphate (as P)	ND	0.400									
Sulfate	ND	1.00									

Sample ID: **2505605-001ADUP** SampType: **DUP** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **BATCH** Batch ID: **47912** Analysis Date: **5/29/2025** SeqNo: **2087261**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	22.3	0.200						22.23	0.440	20	EQ
Nitrite (as N)	ND	0.200						0		20	
Nitrate (as N)	4.03	0.200						4.014	0.447	20	
Ortho-Phosphate (as P)	ND	0.400						0		20	Q*
Sulfate	9.96	1.00						9.902	0.534	20	

NOTES:
Q - Associated calibration verification is above acceptance criteria for chloride. Result may be high-biased.
Q - Associated calibration verification is below acceptance criteria for phosphate. Result may be low-biased.
* - Associated LCS is below acceptance criteria. Result may be low-biased.

Work Order: 2505662
CLIENT: Friedman & Bruya
Project: 505483

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2505605-001AMS** SampType: **MS** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **BATCH** Batch ID: **47912** Analysis Date: **5/29/2025** SeqNo: **2087262**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	22.6	0.200	0.7500	22.23	55.7	80	120				ES
Nitrite (as N)	0.743	0.200	0.7500	0	99.1	80	120				
Nitrate (as N)	4.74	0.200	0.7500	4.014	96.1	80	120				
Ortho-Phosphate (as P)	0.616	0.400	1.250	0	49.3	80	120				BS
Sulfate	13.9	1.00	3.750	9.902	107	80	120				

NOTES:
S - Outlying spike recovery observed.

Sample ID: **2505605-001AMSD** SampType: **MSD** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **BATCH** Batch ID: **47912** Analysis Date: **5/29/2025** SeqNo: **2087263**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	22.7	0.200	0.7500	22.23	59.2	80	120	22.65	0.115	20	ES
Nitrite (as N)	0.749	0.200	0.7500	0	99.9	80	120	0.7430	0.804	20	
Nitrate (as N)	4.75	0.200	0.7500	4.014	97.9	80	120	4.735	0.274	20	
Ortho-Phosphate (as P)	0.990	0.400	1.250	0	79.2	80	120	0.6160	46.6	20	BS
Sulfate	14.0	1.00	3.750	9.902	108	80	120	13.91	0.387	20	

NOTES:
S - Outlying spike recovery observed.

Sample ID: **2505636-011EDUP** SampType: **DUP** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **BATCH** Batch ID: **47912** Analysis Date: **5/30/2025** SeqNo: **2087295**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	12.8	0.200						12.74	0.220	20	E
Nitrite (as N)	ND	0.200						0		20	
Nitrate (as N)	ND	0.200						0		20	
Ortho-Phosphate (as P)	0.406	0.400						0.2850	35.0	20	BQ*
Sulfate	ND	1.00						0		20	

NOTES:
Q - Associated calibration verification is below acceptance criteria for phosphate. Result may be low-biased.
* - Associated LCS is below acceptance criteria for phosphate. Result may be low-biased.

Alliance TECHNICAL GROUP

Work Order: 2505662
CLIENT: Friedman & Bruya
Project: 505483

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2505636-011EMS** SampType: **MS** Units: **mg/L** Prep Date: **5/29/2025** RunNo: **100180**
Client ID: **BATCH** Batch ID: **47912** Analysis Date: **5/30/2025** SeqNo: **2087296**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	13.2	0.200	0.7500	12.74	61.2	80	120				ES
Nitrite (as N)	0.722	0.200	0.7500	0	96.3	80	120				
Nitrate (as N)	0.742	0.200	0.7500	0	98.9	80	120				
Ortho-Phosphate (as P)	1.33	0.400	1.250	0.2850	83.8	80	120				
Sulfate	3.94	1.00	3.750	0	105	80	120				

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Alliance TECHNICAL GROUP

Work Order: 2505662
CLIENT: Friedman & Bruya
Project: 505483

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **6/3/2024**	RunNo: **100298**
Client ID: **MBLKW**	Batch ID: **R100298**		Analysis Date: **6/3/2024**	SeqNo: **2089862**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **LCS**	SampType: **LCS**	Units: **mg/L**	Prep Date: **6/3/2024**	RunNo: **100298**
Client ID: **LCSW**	Batch ID: **R100298**		Analysis Date: **6/3/2024**	SeqNo: **2089863**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	22.1	0.700	25.00	0	88.5	79.6	120				

Sample ID: **2505644-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **6/3/2024**	RunNo: **100298**
Client ID: **BATCH**	Batch ID: **R100298**		Analysis Date: **6/3/2024**	SeqNo: **2089865**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	3.23	0.700						3.216	0.527	15	

Sample ID: **2505644-001CMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **6/3/2024**	RunNo: **100298**
Client ID: **BATCH**	Batch ID: **R100298**		Analysis Date: **6/3/2024**	SeqNo: **2089866**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.8	0.700	25.00	3.216	90.2	85	115				

Sample ID: **2505644-001CMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **6/3/2024**	RunNo: **100298**
Client ID: **BATCH**	Batch ID: **R100298**		Analysis Date: **6/3/2024**	SeqNo: **2089867**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.0	0.700	25.00	3.216	87.0	85	115	25.77	3.13	15	

Work Order: 2505662
CLIENT: Friedman & Bruya
Project: 505483

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **2505664-001ADUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/4/2024**		RunNo: **100298**		
Client ID: **BATCH**	Batch ID: **R100298**					Analysis Date: **6/4/2024**		SeqNo: **2089889**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700						0		15	

Sample ID: **2505664-001AMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **6/4/2024**		RunNo: **100298**		
Client ID: **BATCH**	Batch ID: **R100298**					Analysis Date: **6/4/2024**		SeqNo: **2089890**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	23.3	0.700	25.00	0	93.3	85	115				

Work Order: 2505662
CLIENT: Friedman & Bruya
Project: 505483

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-R100361** SampType: **LCS** Units: **ppmv** Prep Date: **6/5/2025** RunNo: **100361**
Client ID: **LCSW** Batch ID: **R100361** Analysis Date: **6/5/2025** SeqNo: **2091582**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,140	0.00500	1,000	0	114	73.6	124				
Ethene	1,110	0.0100	1,000	0	111	76.3	122				
Ethane	1,100	0.0100	1,000	0	110	76.1	123				

Sample ID: **MB-R100361** SampType: **MBLK** Units: **mg/L** Prep Date: **6/5/2025** RunNo: **100361**
Client ID: **MBLKW** Batch ID: **R100361** Analysis Date: **6/5/2025** SeqNo: **2091588**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2505662-001CREP** SampType: **REP** Units: **mg/L** Prep Date: **6/5/2025** RunNo: **100361**
Client ID: **MW11-0525** Batch ID: **R100361** Analysis Date: **6/5/2025** SeqNo: **2091581**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1.71	0.00500						1.704	0.395	30	E
Ethene	ND	0.0100						0		30	
Ethane	ND	0.0100						0		30	

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**2505662**
Logged by:	**Lyann Rivera**	Date Received:	**5/29/2025 4:12:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	5.9

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2505162

Page # 1 of 1

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER ATG	
PROJECT NAME/NO. 505483	PO # F-258
REMARKS	

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	TOC	Anions	RSK MEE								Notes
MW11-0525		5/29/2025	1229	water	1	x	x	x								Anions= sulfate,
																nitrate, nitrite,
																chloride, phosphate

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	5/29/25	1532
Received by:		anna geweard	ATG	5/29/25	4:12 PM
Relinquished by:					
Received by:					

BROOKS APPLIED LABS
13751 Lake City Way NE, Ste 108, Seattle, WA 98125 • USA • T:206-632-6206 • info@brooksapplied.com

June 18, 2025

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Dear Rusty Jones,

On May 30, 2025, Brooks Applied Labs (BAL) received fourteen (14) aqueous samples in a sealed cooler at an acceptable temperature of 5.0°C. The samples were logged in for total recoverable and dissolved *chromium [Cr], zinc [Zn], and hexavalent chromium [Cr(VI)]* analyses, according to the issued quotation. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*Cr, Zn*) were preserved to a pH <2 upon receipt at BAL.

Total Recoverable and Dissolved (Cr, Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed for (*Cr and Zn*) content via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (N/C).

In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision. When the spiking levels were ≤ 25% of the native sample concentrations, the recoveries were not reported (NR). No sample results were qualified on the basis of the MS or MSD recoveries.

Hexavalent Chromium Analysis
Hexavalent chromium [Cr(VI)] analysis was performed by ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Chromium species are first chromatographically separated on an ion exchange column and then quantified using inductively coupled plasma collision reaction cell mass spectrometry (ICP-CRC-MS). For more information on this determinative technique, please visit the *Interference Reduction Technology* section on our website.

The results were not method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification and all associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

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Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
MW1-0525	2505505-01	Grab Water	Sample	05/27/2025	05/30/2025
MW1-0525	2505505-02	Grab Water	Sample	05/27/2025	05/30/2025
MW5-0525	2505505-03	Grab Water	Sample	05/27/2025	05/30/2025
MW5-0525	2505505-04	Grab Water	Sample	05/27/2025	05/30/2025
MW3-0525	2505505-05	Grab Water	Sample	05/28/2025	05/30/2025
MW3-0525	2505505-06	Grab Water	Sample	05/28/2025	05/30/2025
MW2-0525	2505505-07	Grab Water	Sample	05/28/2025	05/30/2025
MW2-0525	2505505-08	Grab Water	Sample	05/28/2025	05/30/2025
MW11-0525	2505505-09	Grab Water	Sample	05/29/2025	05/30/2025
MW11-0525	2505505-10	Grab Water	Sample	05/29/2025	05/30/2025
MW4-0525	2505505-11	Grab Water	Sample	05/29/2025	05/30/2025
MW4-0525	2505505-12	Grab Water	Sample	05/29/2025	05/30/2025
MW6-0525	2505505-13	Grab Water	Sample	05/29/2025	05/30/2025
MW6-0525	2505505-14	Grab Water	Sample	05/29/2025	05/30/2025

Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
Cr	Water	EPA 1638 Mod	ISO,TNI	06/02/25	06/02/25	B251198	S250513
Cr(VI)	Water	SOP BAL-4300	ISO,TNI	06/02/25	06/02/25	B251199	S250522
Zn	Water	EPA 1638 Mod	ISO,TNI	06/02/25	06/02/25	B251198	S250513

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW1-0525										
2505505-01	Cr	Grab Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B251198	S250513
2505505-01	Zn	Grab Water	TR	227		12.1	24.2	µg/L	B251198	S250513
MW1-0525										
2505505-02	Cr	Grab Water	D	≤ 1.72	U	1.72	6.06	µg/L	B251198	S250513
2505505-02	Cr(VI)	Grab Water	D	0.194		0.025	0.051	µg/L	B251199	S250522
2505505-02	Zn	Grab Water	D	219		12.1	24.2	µg/L	B251198	S250513
MW5-0525										
2505505-03	Cr	Grab Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B251198	S250513
2505505-03	Zn	Grab Water	TR	3110		30.3	60.6	µg/L	B251198	S250513
MW5-0525										
2505505-04	Cr	Grab Water	D	≤ 1.72	U	1.72	6.06	µg/L	B251198	S250513
2505505-04	Cr(VI)	Grab Water	D	≤ 0.025	U	0.025	0.051	µg/L	B251199	S250522
2505505-04	Zn	Grab Water	D	2050		12.1	24.2	µg/L	B251198	S250513
MW3-0525										
2505505-05	Cr	Grab Water	TR	5.24	J	4.29	15.2	µg/L	B251198	S250513
MW3-0525										
2505505-06	Cr	Grab Water	D	≤ 4.29	U	4.29	15.2	µg/L	B251198	S250513
2505505-06	Cr(VI)	Grab Water	D	0.398		0.025	0.051	µg/L	B251199	S250522
MW2-0525										
2505505-07	Cr	Grab Water	TR	≤ 4.29	U	4.29	15.2	µg/L	B251198	S250513
MW2-0525										
2505505-08	Cr	Grab Water	D	≤ 4.29	U	4.29	15.2	µg/L	B251198	S250513
2505505-08	Cr(VI)	Grab Water	D	0.490		0.025	0.051	µg/L	B251199	S250522
MW11-0525										
2505505-09	Zn	Grab Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B251198	S250513
MW11-0525										
2505505-10	Zn	Grab Water	D	≤ 12.1	U	12.1	24.2	µg/L	B251198	S250513

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW4-0525										
2505505-11	Zn	Grab Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B251198	S250513
MW4-0525										
2505505-12	Zn	Grab Water	D	≤ 12.1	U	12.1	24.2	µg/L	B251198	S250513
MW6-0525										
2505505-13	Cr	Grab Water	TR	≤ 1.72	U	1.72	6.06	µg/L	B251198	S250513
MW6-0525										
2505505-14	Cr	Grab Water	D	≤ 1.72	U	1.72	6.06	µg/L	B251198	S250513
2505505-14	Cr(VI)	Grab Water	D	≤ 0.025	U	0.025	0.051	µg/L	B251199	S250522

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Accuracy & Precision Summary

Batch: B251198
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B251198-BS1	**Blank Spike, (2401035)**						
	Cr		55.56	57.25	µg/L	103% 75-125	
	Zn		55.56	57.09	µg/L	103% 75-125	
B251198-BS2	**Blank Spike, (2401035)**						
	Cr		55.56	56.71	µg/L	102% 75-125	
	Zn		55.56	57.54	µg/L	104% 75-125	
B251198-SRM1	**Reference Material (2452045, NIST 1643f)**						
	Cr		18.50	19.91	µg/L	108% 75-125	
	Zn		74.40	78.00	µg/L	105% 75-125	
B251198-SRM2	**Reference Material (2452045, NIST 1643f)**						
	Cr		18.50	19.67	µg/L	106% 75-125	
	Zn		74.40	79.01	µg/L	106% 75-125	
B251198-DUP3	**Duplicate, (2505505-01)**						
	Cr	ND		ND	µg/L		N/C 20
	Zn	227.3		225.3	µg/L		0.9% 20
B251198-MS3	**Matrix Spike, (2505505-01)**						
	Cr	ND	56.12	62.03	µg/L	111% 75-125	
	Zn	227.3	56.12	284.8	µg/L	NR 75-125	
B251198-MSD3	**Matrix Spike Duplicate, (2505505-01)**						
	Cr	ND	56.12	58.72	µg/L	105% 75-125	5% 20
	Zn	227.3	56.12	276.1	µg/L	NR 75-125	N/C 20

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Accuracy & Precision Summary

Batch: B251199
Lab Matrix: Water
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B251199-BS1	**Blank Spike, 1ppm ICV Cr(VI) (2432005)**						
	Cr(VI)		2.000	1.893	µg/L	95% 75-125	
B251199-DUP2	**Duplicate, (2505505-02)**						
	Cr(VI)	0.194		0.200	µg/L		3% 25
B251199-MS2	**Matrix Spike, 10 ppb Cr(VI) (2505505-02)**						
	Cr(VI)	0.194	5.051	5.623	µg/L	107% 75-125	
B251199-MSD2	**Matrix Spike Duplicate, 10 ppb Cr(VI) (2505505-02)**						
	Cr(VI)	0.194	5.051	5.581	µg/L	107% 75-125	0.8% 25

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Method Blanks & Reporting Limits

Batch: B251198
Matrix: Water
Method: EPA 1638 Mod
Analyte: Cr

Sample	Result	Units
B251198-BLK1	-0.0006	µg/L
B251198-BLK2	0.014	µg/L
B251198-BLK3	0.022	µg/L
B251198-BLK4	0.301	µg/L

Average: 0.084
Limit: 0.600

MDL: 0.170
MRL: 0.600

Analyte: Zn

Sample	Result	Units
B251198-BLK1	0.142	µg/L
B251198-BLK2	0.031	µg/L
B251198-BLK3	0.442	µg/L
B251198-BLK4	0.046	µg/L

Average: 0.165
Limit: 2.400

MDL: 1.20
MRL: 2.40

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Method Blanks & Reporting Limits

Batch: B251199
Matrix: Water
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B251199-BLK1	0.00	µg/L
B251199-BLK2	0.00	µg/L
B251199-BLK3	0.00	µg/L
B251199-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.010

MDL: 0.005
MRL: 0.010

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2505505-01 **Report Matrix:** Grab Water **Collected:** 05/27/2025
Sample: MW1-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505

Comments: JNT preserved 5/30/25 13:30

Lab ID: 2505505-02 **Report Matrix:** Grab Water **Collected:** 05/27/2025
Sample: MW1-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505
B	Bottle HDPE SP	60 mL	23-0129	0.6 mL NH4/ (NH4)2SO4	2448021	8-9	Cooler - 2505505

Comments: Cr (VI)

Lab ID: 2505505-03 **Report Matrix:** Grab Water **Collected:** 05/27/2025
Sample: MW5-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505

Comments: JNT preserved 5/30/25 13:30

Lab ID: 2505505-04 **Report Matrix:** Grab Water **Collected:** 05/27/2025
Sample: MW5-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505
B	Bottle HDPE SP	60 mL	23-0129	0.6 mL NH4/ (NH4)2SO4	2448021	8-9	Cooler - 2505505

Comments: Cr (VI)

Lab ID: 2505505-05 **Report Matrix:** Grab Water **Collected:** 05/28/2025
Sample: MW3-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505

Comments: JNT preserved 5/30/25 13:30

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Sample Containers

Lab ID: 2505505-06 **Report Matrix:** Grab Water **Collected:** 05/28/2025
Sample: MW3-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505
B	Bottle HDPE SP	60 mL	23-0129	0.6 mL NH4/ (NH4)2SO4	2448021	8-9	Cooler - 2505505

Comments: Cr (VI)

Lab ID: 2505505-07 **Report Matrix:** Grab Water **Collected:** 05/28/2025
Sample: MW2-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505

Comments: JNT preserved 5/30/25 13:30

Lab ID: 2505505-08 **Report Matrix:** Grab Water **Collected:** 05/28/2025
Sample: MW2-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505
B	Bottle HDPE SP	60 mL	23-0129	0.6 mL NH4/ (NH4)2SO4	2448021	8-9	Cooler - 2505505

Comments: Cr (VI)

Lab ID: 2505505-09 **Report Matrix:** Grab Water **Collected:** 05/29/2025
Sample: MW11-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505

Comments: JNT preserved 5/30/25 13:30

Lab ID: 2505505-10 **Report Matrix:** Grab Water **Collected:** 05/29/2025
Sample: MW11-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505

Comments: JNT preserved 5/30/25 13:30

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Sample Containers

Lab ID: 2505505-11 **Report Matrix:** Grab Water **Collected:** 05/29/2025
Sample: MW4-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505

Comments: JNT preserved 5/30/25 13:30

Lab ID: 2505505-12 **Report Matrix:** Grab Water **Collected:** 05/29/2025
Sample: MW4-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505

Comments: JNT preserved 5/30/25 13:30

Lab ID: 2505505-13 **Report Matrix:** Grab Water **Collected:** 05/29/2025
Sample: MW6-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505

Comments: JNT preserved 5/30/25 13:30

Lab ID: 2505505-14 **Report Matrix:** Grab Water **Collected:** 05/29/2025
Sample: MW6-0525 **Sample Type:** Sample **Received:** 05/30/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1% HNO3 (BAL)	2507066	<2	Cooler - 2505505
B	Bottle HDPE SP	60 mL	23-0129	0.6 mL NH4/ (NH4)2SO4	2448021	8-9	Cooler - 2505505

Comments: Cr (VI)

13751 Lake City Way NE, Suite 108, Seattle, WA 98125 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Shipping Containers

Cooler - 2505505

Received: May 30, 2025 11:23 **Tracking No:** N/A via Customer Drop-Off **Coolant Type:** Ice
Temperature: 5.0 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: SCTH-1

Custody seals present? No
Custody seals intact? No
COC present? Yes

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only — BAL Report 2505505
Received by: JNT Date: 5/30/25
Work Order ID: Time: 1123
Project ID:

Client: CRETE Consulting PO Number: DAWN Mailing Address:
Contact: Rusty Jones Phone: 832.330.1359
Client Project ID: Bridge Point Seattle 130 Email: rusty.jones@creteconsulting.com Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones R. Jones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO_3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals T/D Zinc (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration T/D Chromium	Other (specify) T/D Zinc, Chromium	Other (specify) Hexavalent Chromium	Comments: Specify Here
1	MW1-0525	5/27/2025	1206	GRAB WATER	3	Y+N	~~HNO3~~							X	X	Total + Dissolved on all 1638 Mod. Cr6 is field-filtered. Specific Conductivities below 7654 microS/cm
2	MW5-0525	↓	1308	↓	3	↓	↓							X	X	723
3	MW3-0525	5/28/2025	1303		3								X		X	30663
4	MW2-0525	↓	1349		3								X		X	24556
5	MW11-0525	5/29/2025	1229		2					X						1463
6	MW4-0525	↓	1330		2					X						514
7	MW6-0525	↓	1429	↓	3	↓	↓						X		X	11520 ↓
8																
9																
10																
	Trip Blank															

Relinquished By:	Date:	Time:	Relinquished By:	Date:	Time:
R. Jones	5/30/25	1123			
Received By:	**Date:**	**Time:**	**Total Number of Packages:**		

Page 1 of 1 List Hazardous Contaminants:

samples@brooksapplied.com | brooksapplied.com

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

September 29, 2025

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on September 15, 2025 from the Bridge Point Seattle 130 DAWN IAWP, F&BI 509237 project. There are 19 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: Grant Hainsworth, Jamie Stevens
CTC0929R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 15, 2025 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN IAWP, F&BI 509237 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
509237 -01	DUP-0925
509237 -02	MW1-0925
509237 -03	MW5-0925
509237 -04	MW11-0925
509237 -05	MW10-0925
509237 -06	MW8-0925

The samples selected for ammonia, anions, RSK dissolved gases, and TOC were sent to Alliance Technical Group for testing. The report is enclosed.

The 6020B iron calibration standard exceeded the acceptance criteria in the method blank. The metal was not detected, therefore this did not represent an out of control condition, and were qualified with a "k" qualifier.

The 8260D laboratory control sample exceeded the acceptance criteria for chloroethane. The compound was not detected, therefore the data were acceptable.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/15/25	Lab ID:	509237-01
Date Analyzed:	09/15/25	Data File:	091529.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	106	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	4.6
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4.5
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.76
Tetrachloroethene	2.6

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW1-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/15/25	Lab ID:	509237-02
Date Analyzed:	09/15/25	Data File:	091525.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/15/25	Lab ID:	509237-03
Date Analyzed:	09/15/25	Data File:	091527.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	108	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.30
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.0
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.26
Tetrachloroethene	4.3

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW11-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/15/25	Lab ID:	509237-04
Date Analyzed:	09/15/25	Data File:	091528.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	107	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.23
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.18
Tetrachloroethene	0.91

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW10-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/15/25	Lab ID:	509237-05
Date Analyzed:	09/15/25	Data File:	091526.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	71	132
Toluene-d8	102	68	139
4-Bromofluorobenzene	105	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.81
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	13
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	1.2
Tetrachloroethene	6.1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW8-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/15/25	Lab ID:	509237-06
Date Analyzed:	09/15/25	Data File:	091530.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	71	132
Toluene-d8	104	68	139
4-Bromofluorobenzene	106	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	4.5
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4.5
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.78
Tetrachloroethene	2.7

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	09/15/25	Lab ID:	05-2274 mb
Date Analyzed:	09/15/25	Data File:	091508.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW1-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/16/25	Lab ID:	509237-02 x2
Date Analyzed:	09/19/25	Data File:	509237-02 x2.146
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	<2

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW1-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/16/25	Lab ID:	509237-02 x10
Date Analyzed:	09/22/25	Data File:	509237-02 x10.061
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	670

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW5-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/16/25	Lab ID:	509237-03 x100
Date Analyzed:	09/19/25	Data File:	509237-03 x100.147
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	20,000
Manganese	680

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW11-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/16/25	Lab ID:	509237-04 x200
Date Analyzed:	09/19/25	Data File:	509237-04 x200.148
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	34,000
Manganese	870

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW10-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/16/25	Lab ID:	509237-05 x2
Date Analyzed:	09/19/25	Data File:	509237-05 x2.149
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	230

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW10-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/16/25	Lab ID:	509237-05 x20
Date Analyzed:	09/18/25	Data File:	509237-05 x20.094
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	110

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW8-0925	Client:	Crete Consulting
Date Received:	09/15/25	Project:	Bridge Point Seattle 130
Date Extracted:	09/16/25	Lab ID:	509237-06 x400
Date Analyzed:	09/18/25	Data File:	509237-06 x400.180
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	33,000
Manganese	7,000

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130
Date Extracted:	09/16/25	Lab ID:	I5-802 mb
Date Analyzed:	09/17/25	Data File:	I5-802 mb.046
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<50 k
Manganese	<1

Date of Report: 09/29/25
Date Received: 09/15/25
Project: Bridge Point Seattle 130 DAWN IAWP, F&BI 509237

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 509237-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	113	50-150
Chloroethane	ug/L (ppb)	10	<1	116	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	105	50-150
Methylene chloride	ug/L (ppb)	10	<5	95	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	102	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	107	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	105	10-211
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	111	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	106	50-150
Trichloroethene	ug/L (ppb)	10	<0.05	98	35-149
Tetrachloroethene	ug/L (ppb)	10	<0.5	102	50-150

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)	10	105	118	64-142	12
Chloroethane	ug/L (ppb)	10	112	131 vo	70-130	16
1,1-Dichloroethene	ug/L (ppb)	10	100	105	64-140	5
Methylene chloride	ug/L (ppb)	10	92	98	43-134	6
trans-1,2-Dichloroethene	ug/L (ppb)	10	96	100	70-130	4
1,1-Dichloroethane	ug/L (ppb)	10	101	105	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	100	105	70-130	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	105	110	70-130	5
1,1,1-Trichloroethane	ug/L (ppb)	10	103	108	70-130	5
Trichloroethene	ug/L (ppb)	10	93	97	70-130	4
Tetrachloroethene	ug/L (ppb)	10	96	101	70-130	5

Date of Report: 09/29/25
Date Received: 09/15/25
Project: Bridge Point Seattle 130 DAWN IAWP, F&BI 509237

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 509237-02 x10 (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	742	320 b	433 b	75-125	30 b
Manganese	ug/L (ppb)	20	<10	89	90	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	98	80-120
Manganese	ug/L (ppb)	20	102	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

509237

SAMPLE CHAIN OF CUSTODY

09/15/25

I3/L3/VW2

Page # 1 of 1

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones RJones

PROJECT NAME Bridge Point Seattle 130 DAWN IAWP

PO # DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
- Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	Dissolved Fe, Mn PCBs EPA 8082	cVOCs	Ammonia, Sulfate, nitrate/nitrite, phosphate	Ethane, Ethene Methane	TOC	Notes
DUP-0925	01 A-C	9/15/2025	0001	WATER	3							X	X		X	X	cVOCs only
MW1-0925	02 A-J		0614		10							X	X	X	X	X	MNA parameters
MW5-0925	03		0703		10							X	X	X	X	X	
MW11-0925	04		0806		10							X	X	X	X	X	
MW10-0925	05		0901		10							X	X	X	X	X	
MW8-0925	06 A-J	9/15/25	09:51	water	10							X	X	X	X	X	Added at lab AP 9/15
																	analyse per RS/ME 9/15/25
									Samples received at 0 °C								

MNA parameters; Ammonia, sulfate, phosphate, nitrate/nitrite, chloride, Ethane/Ethene/Methane, TOC, Dissolved Mn + Fe

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: RJones	Rusty Jones	CRETE	9/15/2025	1048
Received by: AP	Anh Phan	FBI	9/15/25	10:48
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 509237 CLIENT Crete INITIALS/ DATE: AP 9/15/25

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature Ø °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: AP 9/15/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory Ø days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☐ Yes ☑ No	Added MW8-0925 (-06A-J) at 1a6
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 509237,
Work Order Number: 2509299

September 26, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 5 sample(s) on 9/15/2025 for the analyses presented in the following report.

Ammonia by SM 4500 NH3G
Dissolved Gases by RSK-175
Ion Chromatography by EPA 300.0
Total Organic Carbon by SM 5310C

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *09/26/2025*

CLIENT: Friedman & Bruya
Project: 509237
Work Order: 2509299

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2509299-001	MW1-0925	09/15/2025 6:14 AM	09/15/2025 5:32 PM
2509299-002	MW5-0925	09/15/2025 7:03 AM	09/15/2025 5:32 PM
2509299-003	MW11-0925	09/15/2025 8:06 AM	09/15/2025 5:32 PM
2509299-004	MW10-0925	09/15/2025 9:01 AM	09/15/2025 5:32 PM
2509299-005	MW8-0925	09/15/2025 9:51 AM	09/15/2025 5:32 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2509299**

Date: **9/26/2025**

CLIENT: Friedman & Bruya

Project: 509237

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:

* - Associated LCS is outside of control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Method Detection Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2509299**
Date Reported: **9/26/2025**

Client: Friedman & Bruya
Project: 509237
Lab ID: 2509299-001
Client Sample ID: **MW1-0925**

Collection Date: 9/15/2025 6:14:00 AM
Matrix: Water

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10311			Analyst: GG
Methane	0.00944	0.00500	0.00451		mg/L	1	09/19/25 12:24:00
Ethene	ND	0.0100	0.00610		mg/L	1	09/19/25 12:24:00
Ethane	ND	0.0100	0.00754		mg/L	1	09/19/25 12:24:00
Ion Chromatography by EPA 300.0				Batch ID: 49323			Analyst: BB
Chloride	4,450	200	63.1	D	mg/L	1000	09/23/25 3:13:00
Nitrite (as N)	ND	20.0	4.30	DH	mg/L	100	09/23/25 3:59:00
Nitrate (as N)	10.8	4.00	1.06	DH	mg/L	20	09/24/25 12:09:00
Nitrate (as N)+Nitrite (as N)	10.8	8.00	1.92	D	mg/L	20	09/24/25 12:09:00
Ortho-Phosphate (as P)	ND	4.00	1.28	DQ	mg/L	10	09/16/25 23:59:00
Sulfate	515	100	36.2	D	mg/L	100	09/23/25 3:59:00

NOTES:
Q - Associated calibration verification is below acceptance criteria (86.3%, nominal 90-110%) Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R10327			Analyst: BB
Total Organic Carbon	1.25	0.700	0.319		mg/L	1	09/24/25 19:38:00
Ammonia by SM 4500 NH3G				Batch ID: 49298			Analyst: BB
Nitrogen, Ammonia	ND	0.150	0.0534		mg/L	1	09/22/25 19:47:00

Analytical Report

Work Order: **2509299**
Date Reported: **9/26/2025**

Client: Friedman & Bruya
Project: 509237
Lab ID: 2509299-002
Client Sample ID: **MW5-0925**

Collection Date: 9/15/2025 7:03:00 AM
Matrix: Water

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10311			Analyst: GG
Methane	7.68	0.250	0.225	D	mg/L	50	09/19/25 13:18:00
Ethene	ND	0.0100	0.00610		mg/L	1	09/19/25 12:30:00
Ethane	0.00832	0.0100	0.00754	J	mg/L	1	09/19/25 12:30:00
Ion Chromatography by EPA 300.0				Batch ID: 49323			Analyst: BB
Chloride	56.4	4.00	1.26	D	mg/L	20	09/23/25 4:46:00
Nitrite (as N)	1.57	2.00	0.430	DJ	mg/L	10	09/17/25 0:22:00
Nitrate (as N)	ND	2.00	0.529	D	mg/L	10	09/17/25 0:22:00
Nitrate (as N)+Nitrite (as N)	1.57	4.00	0.959	DJ	mg/L	10	09/17/25 0:22:00
Ortho-Phosphate (as P)	ND	4.00	1.28	DQ	mg/L	10	09/17/25 0:22:00
Sulfate	ND	10.0	3.62	D	mg/L	10	09/17/25 0:22:00

NOTES:
Q - Associated calibration verification is below acceptance criteria (86.3%, nominal 90-110%) Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R10327			Analyst: BB
Total Organic Carbon	6.68	0.700	0.319		mg/L	1	09/24/25 21:10:00
Ammonia by SM 4500 NH3G				Batch ID: 49298			Analyst: BB
Nitrogen, Ammonia	ND	0.150	0.0534		mg/L	1	09/22/25 19:52:00

Analytical Report

Work Order: **2509299**
Date Reported: **9/26/2025**

Client: Friedman & Bruya
Project: 509237
Lab ID: 2509299-003
Client Sample ID: **MW11-0925**

Collection Date: 9/15/2025 8:06:00 AM
Matrix: Water

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10311			Analyst: GG
Methane	2.37	0.0500	0.0451	D	mg/L	10	09/19/25 13:22:00
Ethene	ND	0.0100	0.00610		mg/L	1	09/19/25 12:32:00
Ethane	ND	0.0100	0.00754		mg/L	1	09/19/25 12:32:00
Ion Chromatography by EPA 300.0				Batch ID: 49323			Analyst: BB
Chloride	359	40.0	12.6	D	mg/L	200	09/23/25 3:36:00
Nitrite (as N)	5.75	2.00	0.430	D	mg/L	10	09/17/25 0:45:00
Nitrate (as N)	ND	2.00	0.529	D	mg/L	10	09/17/25 0:45:00
Nitrate (as N)+Nitrite (as N)	5.75	4.00	0.959	D	mg/L	10	09/17/25 0:45:00
Ortho-Phosphate (as P)	ND	4.00	1.28	DQ	mg/L	10	09/17/25 0:45:00
Sulfate	29.0	10.0	3.62	D	mg/L	10	09/17/25 0:45:00

NOTES:
Q - Associated calibration verification is below acceptance criteria (86.3%, nominal 90-110%) Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R10327			Analyst: BB
Total Organic Carbon	4.69	0.700	0.319		mg/L	1	09/24/25 21:28:00
Ammonia by SM 4500 NH3G				Batch ID: 49298			Analyst: BB
Nitrogen, Ammonia	ND	0.150	0.0534		mg/L	1	09/23/25 8:34:00

Analytical Report

Work Order: **2509299**
Date Reported: **9/26/2025**

Client: Friedman & Bruya
Project: 509237
Lab ID: 2509299-004
Client Sample ID: **MW10-0925**

Collection Date: 9/15/2025 9:01:00 AM
Matrix: Water

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10311			Analyst: GG
Methane	ND	0.00500	0.00451		mg/L	1	09/19/25 12:35:00
Ethene	ND	0.0100	0.00610		mg/L	1	09/19/25 12:35:00
Ethane	ND	0.0100	0.00754		mg/L	1	09/19/25 12:35:00
Ion Chromatography by EPA 300.0				Batch ID: 49258			Analyst: SS
Chloride	6.56	2.00	0.631	D	mg/L	10	09/17/25 1:08:00
Nitrite (as N)	ND	2.00	0.430	D	mg/L	10	09/17/25 1:08:00
Nitrate (as N)	ND	2.00	0.529	D	mg/L	10	09/17/25 1:08:00
Nitrate (as N)+Nitrite (as N)	ND	4.00	0.959	D	mg/L	10	09/17/25 1:08:00
Ortho-Phosphate (as P)	ND	4.00	1.28	DQ	mg/L	10	09/17/25 1:08:00
Sulfate	12.6	10.0	3.62	D	mg/L	10	09/17/25 1:08:00

NOTES:
Q - Associated calibration verification is below acceptance criteria (86.3%, nominal 90-110%) Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R10327			Analyst: BB
Total Organic Carbon	1.84	0.700	0.319		mg/L	1	09/24/25 21:49:00
Ammonia by SM 4500 NH3G				Batch ID: 49298			Analyst: BB
Nitrogen, Ammonia	ND	0.150	0.0534		mg/L	1	09/23/25 8:39:00

Analytical Report

Work Order: **2509299**
Date Reported: **9/26/2025**

Client: Friedman & Bruya
Project: 509237
Lab ID: 2509299-005
Client Sample ID: **MW8-0925**

Collection Date: 9/15/2025 9:51:00 AM
Matrix: Water

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10311			Analyst: GG
Methane	3.23	0.100	0.0901	D	mg/L	20	09/19/25 13:24:00
Ethene	ND	0.0100	0.00610		mg/L	1	09/19/25 12:38:00
Ethane	0.0103	0.0100	0.00754		mg/L	1	09/19/25 12:38:00
Ion Chromatography by EPA 300.0				Batch ID: 49258			Analyst: SS
Chloride	37.8	2.00	0.631	D	mg/L	10	09/17/25 1:31:00
Nitrite (as N)	1.27	2.00	0.430	DJ	mg/L	10	09/17/25 1:31:00
Nitrate (as N)	ND	2.00	0.529	D	mg/L	10	09/17/25 1:31:00
Nitrate (as N)+Nitrite (as N)	1.27	4.00	0.959	DJ	mg/L	10	09/17/25 1:31:00
Ortho-Phosphate (as P)	ND	4.00	1.28	DQ	mg/L	10	09/17/25 1:31:00
Sulfate	ND	10.0	3.62	D	mg/L	10	09/17/25 1:31:00

NOTES:
Q - Associated calibration verification is below acceptance criteria (86.3%, nominal 90-110%) Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R10327			Analyst: BB
Total Organic Carbon	7.34	0.700	0.319		mg/L	1	09/24/25 22:10:00
Ammonia by SM 4500 NH3G				Batch ID: 49298			Analyst: BB
Nitrogen, Ammonia	ND	0.150	0.0534		mg/L	1	09/23/25 8:44:00

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **MB-49298**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **MBLKW**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152612**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.0930	0.150									J

Sample ID: **LCS-49298**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **LCSW**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152613**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.550	0.150	0.5000	0	110	73.6	121				

Sample ID: **2509197-001CDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **BATCH**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152582**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0	0	30	

Sample ID: **2509197-001CMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **BATCH**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152583**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.587	0.150	0.5000	0	117	5.52	142				

Sample ID: **2509197-001CMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **BATCH**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152584**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.586	0.150	0.5000	0	117	5.52	142	0.5870	0.171	30	

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **2509197-011CDUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/19/2025** RunNo: **103186**
Client ID: **BATCH** Batch ID: **49298** Analysis Date: **9/22/2025** SeqNo: **2152596**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0	0	30	

Sample ID: **2509197-011CMS** SampType: **MS** Units: **mg/L** Prep Date: **9/19/2025** RunNo: **103186**
Client ID: **BATCH** Batch ID: **49298** Analysis Date: **9/22/2025** SeqNo: **2152597**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.574	0.150	0.5000	0	115	5.52	142				

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **LCS-49258**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/16/2025**	RunNo: **103052**
Client ID: **LCSW**	Batch ID: **49258**		Analysis Date: **9/16/2025**	SeqNo: **2149969**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.698	0.200	0.7500	0	93.1	90	110				
Nitrite (as N)	0.760	0.200	0.7500	0	101	90	110				
Nitrate (as N)	0.755	0.200	0.7500	0	101	90	110				
Nitrate (as N)+Nitrite (as N)	1.52	0.400	1.500	0	101	90	110				
Ortho-Phosphate (as P)	1.26	0.400	1.250	0	101	90	110				
Sulfate	3.95	1.00	3.750	0	105	90	110				

Sample ID: **MB-49258**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/16/2025**	RunNo: **103052**
Client ID: **MBLKW**	Batch ID: **49258**		Analysis Date: **9/16/2025**	SeqNo: **2149971**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									
Nitrite (as N)	ND	0.200									
Nitrate (as N)	ND	0.200									
Nitrate (as N)+Nitrite (as N)	ND	0.400									
Ortho-Phosphate (as P)	ND	0.400									
Sulfate	ND	1.00									

Sample ID: **2509317-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/16/2025**	RunNo: **103052**
Client ID: **BATCH**	Batch ID: **49258**		Analysis Date: **9/17/2025**	SeqNo: **2150006**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.16	0.200						4.159	0.0240	20	
Nitrite (as N)	0.138	0.200						0.1370	0.727	20	J
Nitrate (as N)	0.0640	0.200						0.06500	1.55	20	J
Nitrate (as N)+Nitrite (as N)	0.202	0.400						0.2020	0	20	J
Ortho-Phosphate (as P)	ND	0.400						0	0	20	Q
Sulfate	16.8	1.00						16.59	1.29	20	

NOTES:
Q - Associated calibration verification is below acceptance criteria. Result may be low-biased.

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2509317-001CMS** SampType: **MS** Units: **mg/L** Prep Date: **9/16/2025** RunNo: **103052**
Client ID: **BATCH** Batch ID: **49258** Analysis Date: **9/17/2025** SeqNo: **2150009**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.86	0.200	0.7500	4.159	94.0	80	120				
Nitrite (as N)	0.759	0.200	0.7500	0.1370	82.9	80	120				
Nitrate (as N)	0.696	0.200	0.7500	0.06500	84.1	80	120				
Nitrate (as N)+Nitrite (as N)	1.46	0.400	1.500	0.2020	83.5	80	120				
Ortho-Phosphate (as P)	0.553	0.400	1.250	0	44.2	80	120				S
Sulfate	19.4	1.00	3.750	16.59	74.8	80	120				S

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample ID: **2509317-001CMSD** SampType: **MSD** Units: **mg/L** Prep Date: **9/16/2025** RunNo: **103052**
Client ID: **BATCH** Batch ID: **49258** Analysis Date: **9/17/2025** SeqNo: **2150010**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.85	0.200	0.7500	4.159	92.0	80	120	4.864	0.309	20	
Nitrite (as N)	0.736	0.200	0.7500	0.1370	79.9	80	120	0.7590	3.08	20	S
Nitrate (as N)	0.664	0.200	0.7500	0.06500	79.9	80	120	0.6960	4.71	20	S
Nitrate (as N)+Nitrite (as N)	1.40	0.400	1.500	0.2020	79.9	80	120	1.455	3.85	20	S
Ortho-Phosphate (as P)	0.653	0.400	1.250	0	52.2	80	120	0.5530	16.6	20	S
Sulfate	19.5	1.00	3.750	16.59	77.0	80	120	19.40	0.417	20	S

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample ID: **2509318-001CDUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/16/2025** RunNo: **103052**
Client ID: **BATCH** Batch ID: **49258** Analysis Date: **9/17/2025** SeqNo: **2150012**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	32.4	0.200						32.50	0.139	20	E
Nitrite (as N)	0.606	0.200						0.6040	0.331	20	
Nitrate (as N)	ND	0.200						0	0	20	
Nitrate (as N)+Nitrite (as N)	0.606	0.400						0.6040	0.331	20	
Ortho-Phosphate (as P)	ND	0.400						0	0	20	Q
Sulfate	9.16	1.00						8.825	3.76	20	

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2509318-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/16/2025**	RunNo: **103052**
Client ID: **BATCH**	Batch ID: **49258**		Analysis Date: **9/17/2025**	SeqNo: **2150012**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
Q - Associated calibration verification is below acceptance criteria. Result may be low-biased.

Sample ID: **2509318-001CMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/16/2025**	RunNo: **103052**
Client ID: **BATCH**	Batch ID: **49258**		Analysis Date: **9/17/2025**	SeqNo: **2150013**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	32.9	0.200	0.7500	32.50	60.1	80	120				ES
Nitrite (as N)	1.27	0.200	0.7500	0.6040	88.3	80	120				
Nitrate (as N)	0.641	0.200	0.7500	0	85.5	80	120				
Nitrate (as N)+Nitrite (as N)	1.91	0.400	1.500	0.6040	86.9	80	120				
Ortho-Phosphate (as P)	0.688	0.400	1.250	0	55.0	80	120				S
Sulfate	11.9	1.00	3.750	8.825	81.8	80	120				

NOTES:
S - Outlying spike recoveries were associated with this sample for phosphate.

Sample ID: **LCS-49323**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/22/2025**	RunNo: **103176**
Client ID: **LCSW**	Batch ID: **49323**		Analysis Date: **9/22/2025**	SeqNo: **2152358**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.802	0.200	0.7500	0	107	90	110				
Nitrite (as N)	0.725	0.200	0.7500	0	96.7	90	110				
Sulfate	3.58	1.00	3.750	0	95.5	90	110				

Sample ID: **MB-49323**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/22/2025**	RunNo: **103176**
Client ID: **MBLKW**	Batch ID: **49323**		Analysis Date: **9/22/2025**	SeqNo: **2152334**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									
Nitrite (as N)	ND	0.200									
Sulfate	ND	1.00									

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2509417-001DDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/22/2025**	RunNo: **103176**
Client ID: **BATCH**	Batch ID: **49323**		Analysis Date: **9/23/2025**	SeqNo: **2152342**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	6.62	0.200						6.816	2.93	20	E
Nitrite (as N)	0.120	0.200						0	200	20	J
Sulfate	9.05	1.00						13.33	38.3	20	R

NOTES:
R - High RPD indicates matrix interference.

Sample ID: **2509417-001DMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/22/2025**	RunNo: **103176**
Client ID: **BATCH**	Batch ID: **49323**		Analysis Date: **9/23/2025**	SeqNo: **2152345**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	6.99	0.200	0.7500	6.816	23.2	80	120				ES
Nitrite (as N)	0.896	0.200	0.7500	0	119	80	120				
Sulfate	11.5	1.00	3.750	13.33	-49.4	80	120				S

NOTES:
S - Spike recovery indicates a possible matrix effect.

Sample ID: **2509417-001DMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/22/2025**	RunNo: **103176**
Client ID: **BATCH**	Batch ID: **49323**		Analysis Date: **9/23/2025**	SeqNo: **2152346**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	7.02	0.200	0.7500	6.816	27.5	80	120	6.990	0.457	20	ES
Nitrite (as N)	1.02	0.200	0.7500	0	136	80	120	0.8960	12.7	20	S
Sulfate	12.5	1.00	3.750	13.33	-22.1	80	120	11.48	8.54	20	S

NOTES:
S - Spike recovery indicates a possible matrix effect.

Sample ID: **2509424-001DDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/22/2025**	RunNo: **103176**
Client ID: **BATCH**	Batch ID: **49323**		Analysis Date: **9/23/2025**	SeqNo: **2152353**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.435	0.200						0.4350	0	20	
Nitrite (as N)	ND	0.200						0	0	20	
Sulfate	ND	1.00						0	0	20	

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2509424-001DDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/22/2025**		RunNo: **103176**		
Client ID: **BATCH**	Batch ID: **49323**					Analysis Date: **9/23/2025**		SeqNo: **2152353**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **2509424-001DMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/22/2025**		RunNo: **103176**		
Client ID: **BATCH**	Batch ID: **49323**					Analysis Date: **9/23/2025**		SeqNo: **2152354**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.14	0.200	0.7500	0.4350	94.7	80	120				
Nitrite (as N)	0.733	0.200	0.7500	0	97.7	80	120				
Sulfate	3.37	1.00	3.750	0	89.8	80	120				

Sample ID: **MB-49349**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **9/23/2025**		RunNo: **103223**		
Client ID: **MBLKW**	Batch ID: **49349**					Analysis Date: **9/23/2025**		SeqNo: **2153238**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.200									

Sample ID: **LCS-49349**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/23/2025**		RunNo: **103223**		
Client ID: **LCSW**	Batch ID: **49349**					Analysis Date: **9/23/2025**		SeqNo: **2153240**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.813	0.200	0.7500	0	108	90	110				

Sample ID: **2509417-001DDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/23/2025**		RunNo: **103223**		
Client ID: **BATCH**	Batch ID: **49349**					Analysis Date: **9/23/2025**		SeqNo: **2153247**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.990	0.200						1.046	5.50	20	QH

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2509417-001DMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/23/2025**		RunNo: **103223**			
Client ID: **BATCH**	Batch ID: **49349**					Analysis Date: **9/23/2025**		SeqNo: **2153248**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	1.75	0.200	0.7500	1.046	93.6	80	120				

Sample ID: **2509417-001DMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **9/23/2025**		RunNo: **103223**			
Client ID: **BATCH**	Batch ID: **49349**					Analysis Date: **9/24/2025**		SeqNo: **2153251**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	1.71	0.200	0.7500	1.046	88.7	80	120	1.713	0.117	20	

Sample ID: **2509500-001CDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/23/2025**		RunNo: **103223**			
Client ID: **BATCH**	Batch ID: **49349**					Analysis Date: **9/24/2025**		SeqNo: **2153268**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.105	0.200						0.1050	0	20	J

Sample ID: **2509500-001CMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/23/2025**		RunNo: **103223**			
Client ID: **BATCH**	Batch ID: **49349**					Analysis Date: **9/24/2025**		SeqNo: **2153269**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.779	0.200	0.7500	0.1050	89.9	80	120				

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **LCS-103275**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/24/2025**		RunNo: **103275**		
Client ID: **LCSW**	Batch ID: **R103275**					Analysis Date: **9/24/2025**		SeqNo: **2154477**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	23.5	0.700	25.00	0	94.1	79.6	120				

Sample ID: **MB-103275**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **9/24/2025**		RunNo: **103275**		
Client ID: **MBLKW**	Batch ID: **R103275**					Analysis Date: **9/24/2025**		SeqNo: **2154478**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **2509299-001BDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/24/2025**		RunNo: **103275**		
Client ID: **MW1-0925**	Batch ID: **R103275**					Analysis Date: **9/24/2025**		SeqNo: **2154332**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.25	0.700						1.245	0.481	15	

Sample ID: **2509299-001BMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/24/2025**		RunNo: **103275**		
Client ID: **MW1-0925**	Batch ID: **R103275**					Analysis Date: **9/24/2025**		SeqNo: **2154333**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	17.0	0.700	25.00	1.245	63.0	85	115				S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2509299-001BMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **9/24/2025**		RunNo: **103275**		
Client ID: **MW1-0925**	Batch ID: **R103275**					Analysis Date: **9/24/2025**		SeqNo: **2154334**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	17.0	0.700	25.00	1.245	62.8	85	115	17.00	0.253	15	S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **2509267-001ADUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/24/2025**		RunNo: **103275**		
Client ID: **BATCH**	Batch ID: **R103275**					Analysis Date: **9/24/2025**		SeqNo: **2154342**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	0.801	0.700						0.7230	10.2	15	

Sample ID: **2509267-001AMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/25/2025**		RunNo: **103275**		
Client ID: **BATCH**	Batch ID: **R103275**					Analysis Date: **9/25/2025**		SeqNo: **2154343**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	23.8	0.700	25.00	0.7230	92.1	85	115				

Alliance TECHNICAL GROUP

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-103111**	SampType: **LCS**	Units: **ppmv**	Prep Date: **9/19/2025**	RunNo: **103111**
Client ID: **LCSW**	Batch ID: **R103111**		Analysis Date: **9/19/2025**	SeqNo: **2151233**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,010	0.00500	1,000	0	101	73.6	124				
Ethene	1,070	0.0100	1,000	0	107	76.3	122				
Ethane	1,080	0.0100	1,000	0	108	76.1	123				

Sample ID: **MB-103111**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/19/2025**	RunNo: **103111**
Client ID: **MBLKW**	Batch ID: **R103111**		Analysis Date: **9/19/2025**	SeqNo: **2151238**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2509299-001CREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **9/19/2025**	RunNo: **103111**
Client ID: **MW1-0925**	Batch ID: **R103111**		Analysis Date: **9/19/2025**	SeqNo: **2151208**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.00849	0.00500						0.009438	10.6	30	
Ethene	ND	0.0100						0	0	30	
Ethane	ND	0.0100						0	0	30	

Sample ID: **2509377-004DREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **9/19/2025**	RunNo: **103111**
Client ID: **BATCH**	Batch ID: **R103111**		Analysis Date: **9/19/2025**	SeqNo: **2151229**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethene	ND	0.0100						0	0	30	
Ethane	ND	0.0100						0	0	30	

Work Order: 2509299
CLIENT: Friedman & Bruya
Project: 509237

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **2509377-003DREP** SampType: **REP** Units: **mg/L** Prep Date: **9/19/2025** RunNo: **103111**
Client ID: **BATCH** Batch ID: **R103111** Analysis Date: **9/19/2025** SeqNo: **2151226**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.798	0.0250						0.8057	0.998	30	D
Ethene	ND	0.0500						0	0	30	D
Ethane	ND	0.0500						0	0	30	D

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**2509299**
Logged by:	**Clare Griggs**	Date Received:	**9/15/2025 5:32:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Courier		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	5.1

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER ATG	
PROJECT NAME/NO. 509237	PO # F-450
REMARKS EIM 2509299	

Page # 1 of 1

TURNAROUND TIME
☒Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Ammonia	TOC	Anions	RSK MEE							Notes
MW1-0925		9/15/2025	614	water	5	x	x	x	x							Anions=Sulfate
MW5-0925		9/15/2025	703	water	5	x	x	x	x							nitrate, nitrite,
MW11-0925		9/15/2025	806	water	5	x	x	x	x							chloride, phosphate
MW10-0925		9/15/2025	901	water	5	x	x	x	x							
MW8-0925		9/15/2025	951	water	5	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:		Michael Erdahl	Friedman & Bruya	9/15/25	1117
Received by:		gina gerrard	ATG	9/15/25	5:32PM
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

September 29, 2025

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on September 16, 2025 from the Bridge Point Seattle 130 DAWN, F&BI 509251 project. There are 8 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: Grant Hainsworth, Jamie Stevens
CTC0929R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 16, 2025 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 509251 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
509251 -01	MW4-0925

The sample was sent to Alliance Technical Group for testing for ammonia, anions, RSK dissolved gases, and TOC testing. The report is enclosed.

The 6020B iron calibration standard exceeded the acceptance criteria in the method blank. The metal was not detected, therefore this did not represent an out of control condition, and were qualified with a "k" qualifier.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0925	Client:	Crete Consulting
Date Received:	09/16/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/17/25	Lab ID:	509251-01
Date Analyzed:	09/17/25	Data File:	091719.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	109	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.9
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	5.1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	1.3
Tetrachloroethene	1.6

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/17/25	Lab ID:	05-2346 mb
Date Analyzed:	09/17/25	Data File:	091709.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	71	132
Toluene-d8	103	68	139
4-Bromofluorobenzene	104	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW4-0925	Client:	Crete Consulting
Date Received:	09/16/25	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/17/25	Lab ID:	509251-01 x200
Date Analyzed:	09/18/25	Data File:	509251-01 x200.103
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	25,000
Manganese	650

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	09/17/25	Lab ID:	I5-802 mb2
Date Analyzed:	09/18/25	Data File:	I5-802 mb2.078
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<50 k
Manganese	<1

Date of Report: 09/29/25
Date Received: 09/16/25
Project: Bridge Point Seattle 130 DAWN, F&BI 509251

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 509286-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	108	16-176
Chloroethane	ug/L (ppb)	10	<1	108	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	102	50-150
Methylene chloride	ug/L (ppb)	10	<5	83	40-143
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	107	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	106	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	3.3	106 b	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	110	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	113	50-150
Trichloroethene	ug/L (ppb)	10	2.1	103 b	43-133
Tetrachloroethene	ug/L (ppb)	10	<0.5	106	50-150

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)	10	105	102	43-149	3
Chloroethane	ug/L (ppb)	10	105	103	59-157	2
1,1-Dichloroethene	ug/L (ppb)	10	102	100	67-138	2
Methylene chloride	ug/L (ppb)	10	90	89	29-192	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	104	102	70-130	2
1,1-Dichloroethane	ug/L (ppb)	10	105	104	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	105	103	70-130	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	106	105	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	109	107	70-130	2
Trichloroethene	ug/L (ppb)	10	103	100	70-130	3
Tetrachloroethene	ug/L (ppb)	10	105	105	70-130	0

Date of Report: 09/29/25
Date Received: 09/16/25
Project: Bridge Point Seattle 130 DAWN, F&BI 509251

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 509237-02 x10 (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	742	320 b	433 b	75-125	30 b
Manganese	ug/L (ppb)	20	<10	89	90	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	98	80-120
Manganese	ug/L (ppb)	20	102	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

509251

SAMPLE CHAIN OF CUSTODY

09/16/25 I2/L2/VW1

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME Bridge Point Seattle 130

PO # DAWN

REMARKS See Crete emails for RLs

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME
- X Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	cVOCs 8260 VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Ammonia Nitrate/Nitrite TOC	Sulfate Phosphate Chloride	Dissolved Iron and Manganese	Methanol/Ethanol Ethene TOC	Notes
MW4-0925	01A-J	9/16/2025	0724	WATER	10					X			X	X	X	X	
								Samples received at Ø °C									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	9/16/2025	0909
Received by:	Andy Phan	FBI	9/16/25	09:09
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 509251 CLIENT Crete INITIALS/ DATE: AP 9/16/25

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature Ø °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ AP Date: 9/16/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory Ø days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 509251,
Work Order Number: 2509321

September 26, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 1 sample(s) on 9/16/2025 for the analyses presented in the following report.

Ammonia by SM 4500 NH3G
Dissolved Gases by RSK-175
Ion Chromatography by EPA 300.0
Total Organic Carbon by SM 5310C

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *09/26/2025*

CLIENT: Friedman & Bruya
Project: 509251
Work Order: 2509321

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2509321-001	MW4-0925	09/16/2025 7:24 AM	09/16/2025 1:45 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2509321**

Date: **9/26/2025**

CLIENT: Friedman & Bruya

Project: 509251

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:

* - Associated LCS is outside of control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Method Detection Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2509321**
Date Reported: **9/26/2025**

Client: Friedman & Bruya
Project: 509251
Lab ID: 2509321-001
Client Sample ID: **MW4-0925**

Collection Date: 9/16/2025 7:24:00 AM
Matrix: Water

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10311			Analyst: GG
Methane	1.20	0.0500	0.0451	D	mg/L	10	09/19/25 13:29:00
Ethene	ND	0.0100	0.00610		mg/L	1	09/19/25 12:43:00
Ethane	ND	0.0100	0.00754		mg/L	1	09/19/25 12:43:00
Ion Chromatography by EPA 300.0				Batch ID: 49323			Analyst: BB
Chloride	244	20.0	6.31	D	mg/L	100	09/23/25 4:22:00
Nitrite (as N)	4.34	2.00	0.430	D	mg/L	10	09/17/25 2:40:00
Nitrate (as N)	ND	2.00	0.529	D	mg/L	10	09/17/25 2:40:00
Ortho-Phosphate (as P)	ND	4.00	1.28	DQ	mg/L	10	09/17/25 2:40:00
Sulfate	17.6	10.0	3.62	D	mg/L	10	09/17/25 2:40:00

NOTES:
Q - Associated calibration verification is below acceptance criteria (86.3%, nominal 90-110%) Result may be low-biased.

Total Organic Carbon by SM 5310C				Batch ID: R10328			Analyst: BB
Total Organic Carbon	4.29	0.700	0.319	Q	mg/L	1	09/25/25 9:05:00

NOTES:
Q - Associated calibration verification is below acceptance criteria (75%, nominal 85-115). Result may be low-biased.

Ammonia by SM 4500 NH3G				Batch ID: 49298			Analyst: BB
Nitrogen, Ammonia	ND	0.150	0.0534		mg/L	1	09/23/25 8:49:00

Work Order: 2509321
CLIENT: Friedman & Bruya
Project: 509251

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **MB-49298**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **MBLKW**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152612**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.0930	0.150									J

Sample ID: **LCS-49298**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **LCSW**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152613**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.550	0.150	0.5000	0	110	73.6	121				

Sample ID: **2509197-001CDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **BATCH**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152582**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0	0	30	

Sample ID: **2509197-001CMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **BATCH**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152583**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.587	0.150	0.5000	0	117	5.52	142				

Sample ID: **2509197-001CMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **9/19/2025**		RunNo: **103186**		
Client ID: **BATCH**	Batch ID: **49298**					Analysis Date: **9/22/2025**		SeqNo: **2152584**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.586	0.150	0.5000	0	117	5.52	142	0.5870	0.171	30	

Work Order: 2509321
CLIENT: Friedman & Bruya
Project: 509251

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **2509197-011CDUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/19/2025** RunNo: **103186**
Client ID: **BATCH** Batch ID: **49298** Analysis Date: **9/22/2025** SeqNo: **2152596**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150						0	0	30	

Sample ID: **2509197-011CMS** SampType: **MS** Units: **mg/L** Prep Date: **9/19/2025** RunNo: **103186**
Client ID: **BATCH** Batch ID: **49298** Analysis Date: **9/22/2025** SeqNo: **2152597**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.574	0.150	0.5000	0	115	5.52	142				

Work Order: 2509321
CLIENT: Friedman & Bruya
Project: 509251

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **LCS-49258**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/16/2025**	RunNo: **103052**
Client ID: **LCSW**	Batch ID: **49258**		Analysis Date: **9/16/2025**	SeqNo: **2149969**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.760	0.200	0.7500	0	101	90	110				
Nitrate (as N)	0.755	0.200	0.7500	0	101	90	110				
Ortho-Phosphate (as P)	1.26	0.400	1.250	0	101	90	110				
Sulfate	3.95	1.00	3.750	0	105	90	110				

Sample ID: **MB-49258**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/16/2025**	RunNo: **103052**
Client ID: **MBLKW**	Batch ID: **49258**		Analysis Date: **9/16/2025**	SeqNo: **2149971**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.200									
Nitrate (as N)	ND	0.200									
Ortho-Phosphate (as P)	ND	0.400									
Sulfate	ND	1.00									

Sample ID: **2509317-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/16/2025**	RunNo: **103052**
Client ID: **BATCH**	Batch ID: **49258**		Analysis Date: **9/17/2025**	SeqNo: **2150006**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.138	0.200						0.1370	0.727	20	J
Nitrate (as N)	0.0640	0.200						0.06500	1.55	20	J
Ortho-Phosphate (as P)	ND	0.400						0	0	20	Q
Sulfate	16.8	1.00						16.59	1.29	20	

NOTES:
Q - Associated calibration verification is below acceptance criteria. Result may be low-biased.

Sample ID: **2509317-001CMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/16/2025**	RunNo: **103052**
Client ID: **BATCH**	Batch ID: **49258**		Analysis Date: **9/17/2025**	SeqNo: **2150009**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.759	0.200	0.7500	0.1370	82.9	80	120				
Nitrate (as N)	0.696	0.200	0.7500	0.06500	84.1	80	120				

Work Order: 2509321
CLIENT: Friedman & Bruya
Project: 509251

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2509317-001CMS** SampType: **MS** Units: **mg/L** Prep Date: **9/16/2025** RunNo: **103052**
Client ID: **BATCH** Batch ID: **49258** Analysis Date: **9/17/2025** SeqNo: **2150009**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ortho-Phosphate (as P)	0.553	0.400	1.250	0	44.2	80	120				S
Sulfate	19.4	1.00	3.750	16.59	74.8	80	120				S

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample ID: **2509317-001CMSD** SampType: **MSD** Units: **mg/L** Prep Date: **9/16/2025** RunNo: **103052**
Client ID: **BATCH** Batch ID: **49258** Analysis Date: **9/17/2025** SeqNo: **2150010**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.736	0.200	0.7500	0.1370	79.9	80	120	0.7590	3.08	20	S
Nitrate (as N)	0.664	0.200	0.7500	0.06500	79.9	80	120	0.6960	4.71	20	S
Ortho-Phosphate (as P)	0.653	0.400	1.250	0	52.2	80	120	0.5530	16.6	20	S
Sulfate	19.5	1.00	3.750	16.59	77.0	80	120	19.40	0.417	20	S

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample ID: **2509318-001CDUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/16/2025** RunNo: **103052**
Client ID: **BATCH** Batch ID: **49258** Analysis Date: **9/17/2025** SeqNo: **2150012**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.606	0.200						0.6040	0.331	20	
Nitrate (as N)	ND	0.200						0	0	20	
Ortho-Phosphate (as P)	ND	0.400						0	0	20	Q
Sulfate	9.16	1.00						8.825	3.76	20	

NOTES:
Q - Associated calibration verification is below acceptance criteria. Result may be low-biased.

Sample ID: **2509318-001CMS** SampType: **MS** Units: **mg/L** Prep Date: **9/16/2025** RunNo: **103052**
Client ID: **BATCH** Batch ID: **49258** Analysis Date: **9/17/2025** SeqNo: **2150013**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	1.27	0.200	0.7500	0.6040	88.3	80	120				
Nitrate (as N)	0.641	0.200	0.7500	0	85.5	80	120				

Work Order: 2509321
CLIENT: Friedman & Bruya
Project: 509251

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2509318-001CMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/16/2025**			RunNo: **103052**		
Client ID: **BATCH**	Batch ID: **49258**					Analysis Date: **9/17/2025**			SeqNo: **2150013**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ortho-Phosphate (as P)	0.688	0.400	1.250	0	55.0	80	120				S
Sulfate	11.9	1.00	3.750	8.825	81.8	80	120				

NOTES:
S - Outlying spike recoveries were associated with this sample for phosphate.

Sample ID: **LCS-49323**	SampType: **LCS**			Units: **mg/L**		Prep Date: **9/22/2025**			RunNo: **103176**		
Client ID: **LCSW**	Batch ID: **49323**					Analysis Date: **9/22/2025**			SeqNo: **2152358**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.802	0.200	0.7500	0	107	90	110				

Sample ID: **MB-49323**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **9/22/2025**			RunNo: **103176**		
Client ID: **MBLKW**	Batch ID: **49323**					Analysis Date: **9/22/2025**			SeqNo: **2152334**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.200									

Sample ID: **2509417-001DDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **9/22/2025**			RunNo: **103176**		
Client ID: **BATCH**	Batch ID: **49323**					Analysis Date: **9/23/2025**			SeqNo: **2152342**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	6.62	0.200						6.816	2.93	20	E

Sample ID: **2509417-001DMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **9/22/2025**			RunNo: **103176**		
Client ID: **BATCH**	Batch ID: **49323**					Analysis Date: **9/23/2025**			SeqNo: **2152345**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	6.99	0.200	0.7500	6.816	23.2	80	120				ES

NOTES:
S - Spike recovery indicates a possible matrix effect.

Work Order: 2509321
CLIENT: Friedman & Bruya
Project: 509251

QC SUMMARY REPORT

Ion Chromatography by EPA 300.0

Sample ID: **2509417-001DMSD** SampType: **MSD** Units: **mg/L** Prep Date: **9/22/2025** RunNo: **103176**
Client ID: **BATCH** Batch ID: **49323** Analysis Date: **9/23/2025** SeqNo: **2152346**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	7.02	0.200	0.7500	6.816	27.5	80	120	6.990	0.457	20	ES

NOTES:
S - Spike recovery indicates a possible matrix effect.

Sample ID: **2509424-001DDUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/22/2025** RunNo: **103176**
Client ID: **BATCH** Batch ID: **49323** Analysis Date: **9/23/2025** SeqNo: **2152353**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.435	0.200						0.4350	0	20	

Sample ID: **2509424-001DMS** SampType: **MS** Units: **mg/L** Prep Date: **9/22/2025** RunNo: **103176**
Client ID: **BATCH** Batch ID: **49323** Analysis Date: **9/23/2025** SeqNo: **2152354**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.14	0.200	0.7500	0.4350	94.7	80	120				

Work Order: 2509321
CLIENT: Friedman & Bruya
Project: 509251

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB-103280**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/25/2025**	RunNo: **103280**
Client ID: **MBLKW**	Batch ID: **R103280**		Analysis Date: **9/25/2025**	SeqNo: **2154525**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.700									

Sample ID: **LCS-103280**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/25/2025**	RunNo: **103280**
Client ID: **LCSW**	Batch ID: **R103280**		Analysis Date: **9/25/2025**	SeqNo: **2154526**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	21.0	0.700	25.00	0	84.1	79.6	120				

Sample ID: **2509316-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/25/2025**	RunNo: **103280**
Client ID: **BATCH**	Batch ID: **R103280**		Analysis Date: **9/25/2025**	SeqNo: **2154528**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	0.428	0.700						0.4000	6.76	15	JQ

NOTES:
Q - Associated calibration verification is below acceptance criteria. Result may be low-biased.

Sample ID: **2509316-001CMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **9/25/2025**	RunNo: **103280**
Client ID: **BATCH**	Batch ID: **R103280**		Analysis Date: **9/25/2025**	SeqNo: **2154529**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	20.0	0.700	25.00	0.4000	78.5	85	115				S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed and recovered within range.

Sample ID: **2509316-001CMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **9/25/2025**	RunNo: **103280**
Client ID: **BATCH**	Batch ID: **R103280**		Analysis Date: **9/25/2025**	SeqNo: **2154530**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	22.4	0.700	25.00	0.4000	88.1	85	115	20.04	11.2	15	

Work Order: 2509321
CLIENT: Friedman & Bruya
Project: 509251

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-103111**	SampType: **LCS**	Units: **ppmv**	Prep Date: **9/19/2025**	RunNo: **103111**
Client ID: **LCSW**	Batch ID: **R103111**		Analysis Date: **9/19/2025**	SeqNo: **2151233**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,010	0.00500	1,000	0	101	73.6	124				
Ethene	1,070	0.0100	1,000	0	107	76.3	122				
Ethane	1,080	0.0100	1,000	0	108	76.1	123				

Sample ID: **MB-103111**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/19/2025**	RunNo: **103111**
Client ID: **MBLKW**	Batch ID: **R103111**		Analysis Date: **9/19/2025**	SeqNo: **2151238**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2509299-001CREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **9/19/2025**	RunNo: **103111**
Client ID: **BATCH**	Batch ID: **R103111**		Analysis Date: **9/19/2025**	SeqNo: **2151208**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.00849	0.00500						0.009438	10.6	30	
Ethene	ND	0.0100						0	0	30	
Ethane	ND	0.0100						0	0	30	

Sample ID: **2509377-004DREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **9/19/2025**	RunNo: **103111**
Client ID: **BATCH**	Batch ID: **R103111**		Analysis Date: **9/19/2025**	SeqNo: **2151229**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethene	ND	0.0100						0	0	30	
Ethane	ND	0.0100						0	0	30	

Work Order: 2509321
CLIENT: Friedman & Bruya
Project: 509251

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **2509377-003DREP** SampType: **REP** Units: **mg/L** Prep Date: **9/19/2025** RunNo: **103111**
Client ID: **BATCH** Batch ID: **R103111** Analysis Date: **9/19/2025** SeqNo: **2151226**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.798	0.0250						0.8057	0.998	30	D
Ethene	ND	0.0500						0	0	30	D
Ethane	ND	0.0500						0	0	30	D

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**2509321**
Logged by:	**Clare Griggs**	Date Received:	**9/16/2025 1:45:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	3.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2509321

Send Report To Michael Erdahl
Company Friedman and Bruya, Inc.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
email: merdahl@friedmanandbruya.com

SUBCONTRACTER ATG	
PROJECT NAME/NO. 509251	PO # F-454
REMARKS EIM Report all to MDL	

TURNAROUND TIME
☒Standard
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	Ammonia	Anions	RSK MEE	TOC							Notes
						ANALYSES REQUESTED										
MW4-0925		9/16/2025	724	water	5	x	x	x	x							anions=nitrate,
																nitrite, sulfate,
																chloride, phosphate

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	9/16/25	0934
Received by:		gina gerard	ATG	9/16/25	1:45PM
Relinquished by:					
Received by:					

BROOKS APPLIED LABS
13751 Lake City Way NE, Ste 108, Seattle, WA 98125 • USA • T:206-632-6206 • info@brooksapplied.com

October 13, 2025

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Dear Rusty Jones,

On September 17, 2025, Brooks Applied Labs (BAL) received fourteen (14) aqueous samples in a sealed cooler at an acceptable temperature of 2.3°C. The samples were logged in for total recoverable and dissolved *chromium [Cr], zinc [Zn], and hexavalent chromium [Cr(VI)]* analyses, according to the issued quotation. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions for (*Cr, Zn*) were preserved to a pH <2 upon receipt at BAL.

Total Recoverable and Dissolved (Cr, Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed for (*Cr and Zn*) content via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (N/C).

The dissolved zinc result (2509294-01) was greater than the corresponding total recoverable zinc result (2509294-02) in sample ***MW1-0925***. The RPD between the two results is within method limits, and no further action was required.

Hexavalent Chromium Analysis
Hexavalent chromium [Cr(VI)] analysis was performed by ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Chromium species are first chromatographically separated on an ion exchange column and then quantified using inductively coupled plasma collision reaction cell mass spectrometry (ICP-CRC-MS). For more information on this determinative technique, please visit the *Interference Reduction Technology* section on our website.

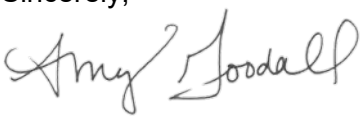
The results were not method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification and all associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,



Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02.

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

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Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
MW1-0925	2509294-01	water	Sample	09/15/2025	09/17/2025
MW1-0925	2509294-02	water	Sample	09/15/2025	09/17/2025
MW5-0925	2509294-03	water	Sample	09/15/2025	09/17/2025
MW5-0925	2509294-04	water	Sample	09/15/2025	09/17/2025
MW11-0925	2509294-05	water	Sample	09/15/2025	09/17/2025
MW11-0925	2509294-06	water	Sample	09/15/2025	09/17/2025
MW4-0925	2509294-07	water	Sample	09/16/2025	09/17/2025
MW4-0925	2509294-08	water	Sample	09/16/2025	09/17/2025
MW2-0925	2509294-09	water	Sample	09/16/2025	09/17/2025
MW2-0925	2509294-10	water	Sample	09/16/2025	09/17/2025
DW-0925	2509294-11	water	Sample	09/17/2025	09/17/2025
DW-0925	2509294-12	water	Sample	09/17/2025	09/17/2025
MW3-0925	2509294-13	water	Sample	09/17/2025	09/17/2025
MW3-0925	2509294-14	water	Sample	09/17/2025	09/17/2025

Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
Cr	Water	EPA 1638 Mod	ISO,TNI	09/22/25	09/22/25	B252121	S250918
Cr(VI)	Water	SOP BAL-4300	ISO,TNI	09/25/25	09/26/25	B252141	S250938
Zn	Water	EPA 1638 Mod	ISO,TNI	09/22/25	09/22/25	B252121	S250918

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW1-0925										
2509294-01	Cr	water	D	≤ 1.72	U	1.72	6.06	µg/L	B252121	S250918
2509294-01	Cr(VI)	water	D	0.283		0.051	0.101	µg/L	B252141	S250938
2509294-01	Zn	water	D	212		12.1	24.2	µg/L	B252121	S250918
MW1-0925										
2509294-02	Cr	water	TR	≤ 1.72	U	1.72	6.06	µg/L	B252121	S250918
2509294-02	Zn	water	TR	198		12.1	24.2	µg/L	B252121	S250918
MW5-0925										
2509294-03	Zn	water	D	987		12.1	24.2	µg/L	B252121	S250918
MW5-0925										
2509294-04	Zn	water	TR	1070		12.1	24.2	µg/L	B252121	S250918
MW11-0925										
2509294-05	Zn	water	D	≤ 12.1	U	12.1	24.2	µg/L	B252121	S250918
MW11-0925										
2509294-06	Zn	water	TR	≤ 12.1	U	12.1	24.2	µg/L	B252121	S250918
MW4-0925										
2509294-07	Zn	water	D	≤ 12.1	U	12.1	24.2	µg/L	B252121	S250918
MW4-0925										
2509294-08	Zn	water	TR	≤ 12.1	U	12.1	24.2	µg/L	B252121	S250918
MW2-0925										
2509294-09	Cr	water	D	≤ 4.29	U	4.29	15.2	µg/L	B252121	S250918
2509294-09	Cr(VI)	water	D	0.586		0.051	0.101	µg/L	B252141	S250938
MW2-0925										
2509294-10	Cr	water	TR	≤ 4.29	U	4.29	15.2	µg/L	B252121	S250918
DW-0925										
2509294-11	Cr	water	D	≤ 1.72	U	1.72	6.06	µg/L	B252121	S250918
2509294-11	Cr(VI)	water	D	0.074	J	0.051	0.101	µg/L	B252141	S250938

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DW-0925										
2509294-12	Cr	water	TR	≤ 1.72	U	1.72	6.06	µg/L	B252121	S250918
MW3-0925										
2509294-13	Cr	water	D	≤ 4.29	U	4.29	15.2	µg/L	B252121	S250918
2509294-13	Cr(VI)	water	D	0.145		0.051	0.101	µg/L	B252141	S250938
MW3-0925										
2509294-14	Cr	water	TR	≤ 4.29	U	4.29	15.2	µg/L	B252121	S250918

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Accuracy & Precision Summary

Batch: B252121
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B252121-BS1	**Blank Spike, (2443002)**						
	Cr		277.8	291.9	µg/L	105% 75-125	
	Zn		277.8	277.8	µg/L	100% 75-125	
B252121-SRM1	**Reference Material (2452047, NIST 1643f)**						
	Cr		18.50	19.87	µg/L	107% 75-125	
	Zn		74.40	74.69	µg/L	100% 75-125	
B252121-DUP1	**Duplicate, (2509290-02)**						
	Cr	914.2		885.0	µg/L		3% 20
	Zn	ND		ND	µg/L		N/C 20
B252121-MS1	**Matrix Spike, (2509290-02)**						
	Cr	914.2	280.6	1192	µg/L	99% 75-125	
	Zn	ND	280.6	273.7	µg/L	98% 75-125	
B252121-MSD1	**Matrix Spike Duplicate, (2509290-02)**						
	Cr	914.2	280.6	1245	µg/L	118% 75-125	4% 20
	Zn	ND	280.6	295.1	µg/L	105% 75-125	8% 20
B252121-DUP2	**Duplicate, (2509294-02)**						
	Cr	ND		ND	µg/L		N/C 20
	Zn	197.9		207.2	µg/L		5% 20
B252121-MS2	**Matrix Spike, (2509294-02)**						
	Cr	ND	280.6	327.4	µg/L	117% 75-125	
	Zn	197.9	280.6	501.4	µg/L	108% 75-125	
B252121-MSD2	**Matrix Spike Duplicate, (2509294-02)**						
	Cr	ND	280.6	323.7	µg/L	115% 75-125	1% 20
	Zn	197.9	280.6	501.9	µg/L	108% 75-125	0.09% 20

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Accuracy & Precision Summary

Batch: B252141
Lab Matrix: Water
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B252141-BS1	**Blank Spike, (2527034)**						
	Cr(VI)		1.996	2.086	µg/L	104% 75-125	
B252141-DUP2	**Duplicate, (2509294-13)**						
	Cr(VI)	0.145		0.136	µg/L		7% 25
B252141-MS2	**Matrix Spike, (2509294-13)**						
	Cr(VI)	0.145	10.10	8.737	µg/L	85% 75-125	
B252141-MSD2	**Matrix Spike Duplicate, (2509294-13)**						
	Cr(VI)	0.145	10.10	8.570	µg/L	83% 75-125	2% 25

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Method Blanks & Reporting Limits

Batch: B252121
Matrix: Water
Method: EPA 1638 Mod
Analyte: Cr

Sample	Result	Units
B252121-BLK1	0.022	µg/L
B252121-BLK2	0.017	µg/L
B252121-BLK3	0.120	µg/L
B252121-BLK4	0.029	µg/L

Average: 0.047
Limit: 0.600

MDL: 0.170
MRL: 0.600

Analyte: Zn

Sample	Result	Units
B252121-BLK1	-0.385	µg/L
B252121-BLK2	-0.372	µg/L
B252121-BLK3	-0.356	µg/L
B252121-BLK4	-0.190	µg/L

Average: -0.326
Limit: 2.400

MDL: 1.20
MRL: 2.40

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Method Blanks & Reporting Limits

Batch: B252141
Matrix: Water
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B252141-BLK1	0.00	µg/L
B252141-BLK2	0.00	µg/L
B252141-BLK3	0.00	µg/L
B252141-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.010

MDL: 0.005
MRL: 0.010

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Sample Containers

Lab ID: 2509294-01 **Report Matrix:** water **Collected:** 09/15/2025
Sample: MW1-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE Cr-Sp	60 ml	23-0129	0.6mLNH4OH(NH4) 2SO4	2448021		Cooler - 2509294
B	Bottle HDPE ICP-W	125 ml	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Lab ID: 2509294-02 **Report Matrix:** water **Collected:** 09/15/2025
Sample: MW1-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

Lab ID: 2509294-03 **Report Matrix:** water **Collected:** 09/15/2025
Sample: MW5-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

Lab ID: 2509294-04 **Report Matrix:** water **Collected:** 09/15/2025
Sample: MW5-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

Lab ID: 2509294-05 **Report Matrix:** water **Collected:** 09/15/2025
Sample: MW11-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

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Sample Containers

Lab ID: 2509294-06 **Report Matrix:** water **Collected:** 09/15/2025
Sample: MW11-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

Lab ID: 2509294-07 **Report Matrix:** water **Collected:** 09/16/2025
Sample: MW4-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

Lab ID: 2509294-08 **Report Matrix:** water **Collected:** 09/16/2025
Sample: MW4-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

Lab ID: 2509294-09 **Report Matrix:** water **Collected:** 09/16/2025
Sample: MW2-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE Cr-Sp	60 ml	23-0129	0.6mLNH4OH(NH4) 2SO4	2448021		Cooler - 2509294
B	Bottle HDPE ICP-W	125 ml	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Lab ID: 2509294-10 **Report Matrix:** water **Collected:** 09/16/2025
Sample: MW2-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2509294-11 **Report Matrix:** water **Collected:** 09/17/2025
Sample: DW-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE Cr-Sp	60 ml	23-0129	0.6mLNH4OH(NH4) 2SO4	2448021		Cooler - 2509294
B	Bottle HDPE ICP-W	125 ml	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Lab ID: 2509294-12 **Report Matrix:** water **Collected:** 09/17/2025
Sample: DW-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

Lab ID: 2509294-13 **Report Matrix:** water **Collected:** 09/17/2025
Sample: MW3-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE Cr-Sp	60 ml	23-0129	0.6mLNH4OH(NH4) 2SO4	2448021		Cooler - 2509294
B	Bottle HDPE ICP-W	125 ml	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Lab ID: 2509294-14 **Report Matrix:** water **Collected:** 09/17/2025
Sample: MW3-0925 **Sample Type:** Sample **Received:** 09/17/2025

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	25-0028	1%HNO3(BAL)	2507066	<2	Cooler - 2509294

Comments: Preserved 9/18/25 1615 LPG

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Shipping Containers

Cooler - 2509294

Received: September 17, 2025 11:49
Tracking No: n/a via Customer Drop-Off
Coolant Type: ice
Temperature: 2.3 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: R-IR-1

Custody seals present? No
Custody seals intact? No
COC present? Yes

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

For BAL use only — BAL Report 2509294
Received by: JNT Date: 9/17/25
Work Order ID: Time: 1149
Project ID:

Client: CRETE Consulting Inc. PO Number: DAWN Mailing Address:
Contact: Rusty Jones Phone: 832.330.1359
Client Project ID: Bridge Point Seattle 130 Email: rusty.jones@creteconsulting.com Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones R. Jones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO_3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration Hexavalent Chromium	Other (specify) Total + Dissolved Zinc	Other (specify) Total + Dissolved Chromium	Comments: Specify Here
1	MW1-0925	9/15/2025	0614	WATER	3	Y+N							X	X	X	*Report using lowest RL possible.* 11,735 uS/cm
2	MW5-0925	↓	0703	↓	2	↓								X		776 uS/cm
3	MW11-0925	↓	0806	↓	2	↓								X		1219 uS/cm
4	~~MW10-0925~~		0901													~~EG~~
5	MW4-0925	9/16/2025	0724	WATER	2	Y+N								X		1050 uS/cm
6	MW2-0925	↓	0816	↓	3	↓							X		X	29,135 uS/cm
7	DW-0925	9/17/2025	0810	↓	3	↓							X		X	14,515 uS/cm
8	MW3-0925	↓	0851	↓	3	↓							X		X	30,873 uS/cm
9																
10																
	Trip Blank															

Relinquished By: R. Jones	Date: 9/17/2025	Time: 1147	Relinquished By:	Date:	Time:
Received By:	Date:	Time:	Total Number of Packages:		

Page 1 of 1 List Hazardous Contaminants:

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

October 15, 2025

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on September 17, 2025 from the Bridge Point Seattle 130 DAWN, F&BI 509282 project. There are 8 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: Grant Hainsworth, Jamie Stevens
CTC1015R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 17, 2025 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 509282 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
509282 -01	MW8-0925-02
509282 -02	MW3-0925
509282 -03	DW-0925

The samples were sent to Enthalpy Analyical for total, filtered, and centrifuged dioxin and furan analyses. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 10/15/25
Date Received: 09/17/25
Project: Bridge Point Seattle 130 DAWN, F&BI 509282
Date Extracted: 09/18/25
Date Analyzed: 09/18/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW8-0925-02 509282-01	2,400	139
Method Blank 05-2304 MB	<100	114

Date of Report: 10/15/25
Date Received: 09/17/25
Project: Bridge Point Seattle 130 DAWN, F&BI 509282
Date Extracted: 09/17/25
Date Analyzed: 09/23/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW8-0925-02 509282-01	810 x	<200	116
Method Blank 05-2371 MB	<50	<200	103

Date of Report: 10/15/25
Date Received: 09/17/25
Project: Bridge Point Seattle 130 DAWN, F&BI 509282
Date Extracted: 09/17/25
Date Analyzed: 09/17/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW8-0925-02 509282-01	980 x	<200	130
Method Blank 05-2371 MB	<50	<200	114

Date of Report: 10/15/25
Date Received: 09/17/25
Project: Bridge Point Seattle 130 DAWN, F&BI 509282

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 509282-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	2,400	2,400	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	100	70-130

Date of Report: 10/15/25
Date Received: 09/17/25
Project: Bridge Point Seattle 130 DAWN, F&BI 509282

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	108	115	65-151	7

Date of Report: 10/15/25
Date Received: 09/17/25
Project: Bridge Point Seattle 130 DAWN, F&BI 509282

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	116	108	65-151	7

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

509282

SAMPLE CHAIN OF CUSTODY

09/17/25 I5/VW1

Report To Jones, Hainsworth, Stevens

Company CRETE Consulting

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*): Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS: Report to lowest RLs possible

Project specific RLs? - Yes / No

INVOICE TO: CRETE

Page # 1 of 1

TURNAROUND TIME

X Standard turnaround

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	DIOXINS/FURANS (NORMAL)	DIOXINS/FURANS (FILTERED)	DIOXINS/FURANS (CENTRIFUGED)		Notes
MW8-0925-02	01A-D	9/17/2025	0728	WATER	4	X	X										WITH AND WITHOUT SGC
MW3-0925	02A-F	↓	0851	↓	6								X	X	X		
DW-0925	03 ↓	↓	0810	↓	6								X	X	X		
													Samples received at 2 °C				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	9/17/2025	1010
Received by:	Nhan Phan	FEDEX	9/17/25	1010
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 509282 CLIENT Crete Consulting INITIALS/ DATE: (NP) 9/17/25

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 2 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ AP
*or other representative documents, letters, and/or shipping memos Date: 9/17/25

Number of days samples have been sitting prior to receipt at laboratory 0 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

October 16, 2025

Enthalpy Analytical - El Dorado Hills
Work Order No. 2509194

Mr. Michael Erdahl
Friedman & Bruya, Inc.
5500 4th Ave. S
Seattle, WA 98108

Dear Mr. Erdahl,

Enclosed are the amended results for the sample set received at Enthalpy Analytical - EDH on September 19, 2025 under your Project Name '509282'.

Enthalpy Analytical - EDH is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at kathy.zipp@enthalpy.com.

Thank you for choosing Enthalpy Analytical - EDH as part of your analytical support team.

Sincerely,

Kathy Zipp
Project Manager

Enthalpy Analytical - EDH certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Enthalpy Analytical - EDH..

Enthalpy Analytical - EDH Work Order No. 2509194
Case Narrative

Sample Condition on Receipt:

Six water samples were received and stored securely in accordance with Enthalpy Analytical - EDH standard operating procedures and EPA methodology. The samples were received in good condition and within the method temperature requirements. As directed, this report was amended to correct sample IDs "DW-0925", "DW-0925 (Filtered)" and "DW-0925 (Cent)".

Analytical Notes:

EPA Method 1613B

The samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-DIOXIN GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

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Sample Inventory Report

Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2509194-01	MW3-0925	17-Sep-25 08:51	19-Sep-25 09:48	Amber Glass NM Bottle, 1L
2509194-02	MW3-0925 (Filtered)	17-Sep-25 08:51	19-Sep-25 09:48	Amber Glass NM Bottle, 1L
2509194-03	MW3-0925 (Cent)	17-Sep-25 08:51	19-Sep-25 09:48	Amber Glass NM Bottle, 1L
2509194-04	DW-0925	17-Sep-25 08:51	19-Sep-25 09:48	Amber Glass NM Bottle, 1L
2509194-05	DW-0925 (Filtered)	17-Sep-25 08:51	19-Sep-25 09:48	Amber Glass NM Bottle, 1L
2509194-06	DW-0925 (Cent)	17-Sep-25 08:51	19-Sep-25 09:48	Amber Glass NM Bottle, 1L

ANALYTICAL RESULTS

Sample ID: Method Blank

EPA Method 1613B

Client Data
Name: Friedman & Bruya, Inc.
Project: 509282
Matrix: Aqueous

Laboratory Data
Lab Sample: B25J009-BLK1
QC Batch: B25J009
Sample Size: 1.00 L
Date Extracted: 01-Oct-25
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	1.26	3.92			09-Oct-25 22:01	1
1,2,3,7,8-PeCDD	ND	1.49	8.32			09-Oct-25 22:01	1
1,2,3,4,7,8-HxCDD	ND	3.16	6.58			09-Oct-25 22:01	1
1,2,3,6,7,8-HxCDD	ND	3.27	5.81			09-Oct-25 22:01	1
1,2,3,7,8,9-HxCDD	ND	3.41	5.99			09-Oct-25 22:01	1
1,2,3,4,6,7,8-HpCDD	ND	2.82	5.53			09-Oct-25 22:01	1
OCDD	ND	6.52	16.3			09-Oct-25 22:01	1
2,3,7,8-TCDF	ND		1.74	1.09		09-Oct-25 22:01	1
1,2,3,7,8-PeCDF	ND	1.07	6.71			09-Oct-25 22:01	1
2,3,4,7,8-PeCDF	ND	0.976	7.55			09-Oct-25 22:01	1
1,2,3,4,7,8-HxCDF	ND	1.77	6.81			09-Oct-25 22:01	1
1,2,3,6,7,8-HxCDF	ND	1.94	6.11			09-Oct-25 22:01	1
2,3,4,6,7,8-HxCDF	ND	2.39	5.93			09-Oct-25 22:01	1
1,2,3,7,8,9-HxCDF	ND	3.03	6.34			09-Oct-25 22:01	1
1,2,3,4,6,7,8-HpCDF	ND	1.70	6.28			09-Oct-25 22:01	1
1,2,3,4,7,8,9-HpCDF	ND	2.67	7.33			09-Oct-25 22:01	1
OCDF	ND	2.37	13.6			09-Oct-25 22:01	1
Toxic Equivalent							
TEQMinWHO2005Dioxin	0.00						
Totals							
Total TCDD	ND	1.26					
Total PeCDD	ND	1.49					
Total HxCDD	ND	3.41					
Total HpCDD	ND	2.82					
Total TCDF	ND			3.55			
Total PeCDF	ND			0.778			
Total HxCDF	ND	3.03					
Total HpCDF	ND	2.67					

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	53.2	25 - 164		09-Oct-25 22:01	1
13C-1,2,3,7,8-PeCDD	IS	54.5	25 - 181		09-Oct-25 22:01	1
13C-1,2,3,4,7,8-HxCDD	IS	47.7	32 - 141		09-Oct-25 22:01	1
13C-1,2,3,6,7,8-HxCDD	IS	49.5	28 - 130		09-Oct-25 22:01	1
13C-1,2,3,7,8,9-HxCDD	IS	49.5	32 - 141		09-Oct-25 22:01	1
13C-1,2,3,4,6,7,8-HpCDD	IS	42.9	23 - 140		09-Oct-25 22:01	1
13C-OCDD	IS	39.6	17 - 157		09-Oct-25 22:01	1
13C-2,3,7,8-TCDF	IS	53.2	24 - 169		09-Oct-25 22:01	1
13C-1,2,3,7,8-PeCDF	IS	52.2	24 - 185		09-Oct-25 22:01	1
13C-2,3,4,7,8-PeCDF	IS	52.5	21 - 178		09-Oct-25 22:01	1
13C-1,2,3,4,7,8-HxCDF	IS	50.4	26 - 152		09-Oct-25 22:01	1
13C-1,2,3,6,7,8-HxCDF	IS	51.3	26 - 123		09-Oct-25 22:01	1
13C-2,3,4,6,7,8-HxCDF	IS	49.7	28 - 136		09-Oct-25 22:01	1
13C-1,2,3,7,8,9-HxCDF	IS	50.2	29 - 147		09-Oct-25 22:01	1
13C-1,2,3,4,6,7,8-HpCDF	IS	51.7	28 - 143		09-Oct-25 22:01	1
13C-1,2,3,4,7,8,9-HpCDF	IS	41.4	26 - 138		09-Oct-25 22:01	1
13C-OCDF	IS	42.2	17 - 157		09-Oct-25 22:01	1
37Cl-2,3,7,8-TCDD	CRS	65.5	35 - 197		09-Oct-25 22:01	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
MDL - Method Detection Limit

Sample ID: OPR **EPA Method 1613B**

Client Data
Name: Friedman & Bruya, Inc.
Project: 509282
Matrix: Aqueous

Laboratory Data
Lab Sample: B25J009-BS1
QC Batch: B25J009 Date Extracted: 01-Oct-25 10:52
Sample Size: 1.00 L Column: ZB-DIOXIN

Analyte	Amt Found (pg/L)	Spike Amt	% Recovery	Limits	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	212	200	106	67-158		09-Oct-25 20:31	1
1,2,3,7,8-PeCDD	1080	1000	108	70-142		09-Oct-25 20:31	1
1,2,3,4,7,8-HxCDD	1120	1000	112	70-164		09-Oct-25 20:31	1
1,2,3,6,7,8-HxCDD	1070	1000	107	76-134		09-Oct-25 20:31	1
1,2,3,7,8,9-HxCDD	1070	1000	107	64-162		09-Oct-25 20:31	1
1,2,3,4,6,7,8-HpCDD	1040	1000	104	70-140		09-Oct-25 20:31	1
OCDD	2210	2000	111	78-144		09-Oct-25 20:31	1
2,3,7,8-TCDF	222	200	111	75-158		09-Oct-25 20:31	1
1,2,3,7,8-PeCDF	1080	1000	108	80-134		09-Oct-25 20:31	1
2,3,4,7,8-PeCDF	1080	1000	108	68-160		09-Oct-25 20:31	1
1,2,3,4,7,8-HxCDF	1110	1000	111	72-134		09-Oct-25 20:31	1
1,2,3,6,7,8-HxCDF	1140	1000	114	84-130		09-Oct-25 20:31	1
2,3,4,6,7,8-HxCDF	1140	1000	114	70-156		09-Oct-25 20:31	1
1,2,3,7,8,9-HxCDF	1090	1000	109	78-130		09-Oct-25 20:31	1
1,2,3,4,6,7,8-HpCDF	1090	1000	109	82-122		09-Oct-25 20:31	1
1,2,3,4,7,8,9-HpCDF	1060	1000	106	78-138		09-Oct-25 20:31	1
OCDF	2180	2000	109	63-170		09-Oct-25 20:31	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	55.4	20-175		09-Oct-25 20:31	1
13C-1,2,3,7,8-PeCDD	IS	65.0	21-227		09-Oct-25 20:31	1
13C-1,2,3,4,7,8-HxCDD	IS	51.6	21-193		09-Oct-25 20:31	1
13C-1,2,3,6,7,8-HxCDD	IS	53.8	25-163		09-Oct-25 20:31	1
13C-1,2,3,7,8,9-HxCDD	IS	53.2	21-193		09-Oct-25 20:31	1
13C-1,2,3,4,6,7,8-HpCDD	IS	56.1	26-166		09-Oct-25 20:31	1
13C-OCDD	IS	40.7	13-199		09-Oct-25 20:31	1
13C-2,3,7,8-TCDF	IS	58.2	22-152		09-Oct-25 20:31	1
13C-1,2,3,7,8-PeCDF	IS	60.5	21-192		09-Oct-25 20:31	1
13C-2,3,4,7,8-PeCDF	IS	62.0	13-328		09-Oct-25 20:31	1
13C-1,2,3,4,7,8-HxCDF	IS	51.9	19-202		09-Oct-25 20:31	1
13C-1,2,3,6,7,8-HxCDF	IS	51.0	21-159		09-Oct-25 20:31	1
13C-2,3,4,6,7,8-HxCDF	IS	50.3	22-176		09-Oct-25 20:31	1
13C-1,2,3,7,8,9-HxCDF	IS	54.8	17-205		09-Oct-25 20:31	1
13C-1,2,3,4,6,7,8-HpCDF	IS	55.0	21-158		09-Oct-25 20:31	1
13C-1,2,3,4,7,8,9-HpCDF	IS	53.2	20-186		09-Oct-25 20:31	1
13C-OCDF	IS	43.1	13-199		09-Oct-25 20:31	1
37Cl-2,3,7,8-TCDD	CRS	68.3	31-191		09-Oct-25 20:31	1

Sample ID: MW3-0925

EPA Method 1613B

Client Data

Name: Friedman & Bruya, Inc.
Project: 509282
Matrix: Water
Date Collected: 17-Sep-25 08:51

Laboratory Data

Lab Sample: 2509194-01
QC Batch: B25J009
Sample Size: 0.912 L
Date Received: 19-Sep-25 09:48
Date Extracted: 01-Oct-25
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	1.06	4.30			13-Oct-25 13:20	1
1,2,3,7,8-PeCDD	ND	1.11	9.12			13-Oct-25 13:20	1
1,2,3,4,7,8-HxCDD	ND	3.12	7.21			13-Oct-25 13:20	1
1,2,3,6,7,8-HxCDD	11.2		6.37		J	13-Oct-25 13:20	1
1,2,3,7,8,9-HxCDD	ND	3.54	6.56			13-Oct-25 13:20	1
1,2,3,4,6,7,8-HpCDD	663		6.06			13-Oct-25 13:20	1
OCDD	12600		17.9			13-Oct-25 13:20	1
2,3,7,8-TCDF	ND	1.13	1.91			13-Oct-25 13:20	1
1,2,3,7,8-PeCDF	ND	1.46	7.35			13-Oct-25 13:20	1
2,3,4,7,8-PeCDF	ND	1.21	8.27			13-Oct-25 13:20	1
1,2,3,4,7,8-HxCDF	ND	1.89	7.46			13-Oct-25 13:20	1
1,2,3,6,7,8-HxCDF	ND	2.02	6.70			13-Oct-25 13:20	1
2,3,4,6,7,8-HxCDF	ND	2.31	6.50			13-Oct-25 13:20	1
1,2,3,7,8,9-HxCDF	ND	3.20	6.95			13-Oct-25 13:20	1
1,2,3,4,6,7,8-HpCDF	89.5		6.88			13-Oct-25 13:20	1
1,2,3,4,7,8,9-HpCDF	6.34		8.03		J	13-Oct-25 13:20	1
OCDF	682		14.9			13-Oct-25 13:20	1
Toxic Equivalent							
TEQMinWHO2005Dioxin	12.7						
Totals							
Total TCDD	ND	1.06					
Total PeCDD	ND			6.78			
Total HxCDD	95.2						
Total HpCDD	1450						
Total TCDF	1.94				J		
Total PeCDF	ND			5.61			
Total HxCDF	69.6			76.3			
Total HpCDF	573						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	59.3	25 - 164		13-Oct-25 13:20	1
13C-1,2,3,7,8-PeCDD	IS	59.2	25 - 181		13-Oct-25 13:20	1
13C-1,2,3,4,7,8-HxCDD	IS	67.7	32 - 141		13-Oct-25 13:20	1
13C-1,2,3,6,7,8-HxCDD	IS	66.9	28 - 130		13-Oct-25 13:20	1
13C-1,2,3,7,8,9-HxCDD	IS	66.4	32 - 141		13-Oct-25 13:20	1
13C-1,2,3,4,6,7,8-HpCDD	IS	63.9	23 - 140		13-Oct-25 13:20	1
13C-OCDD	IS	52.5	17 - 157		13-Oct-25 13:20	1
13C-2,3,7,8-TCDF	IS	63.4	24 - 169		13-Oct-25 13:20	1
13C-1,2,3,7,8-PeCDF	IS	68.2	24 - 185		13-Oct-25 13:20	1
13C-2,3,4,7,8-PeCDF	IS	69.2	21 - 178		13-Oct-25 13:20	1
13C-1,2,3,4,7,8-HxCDF	IS	58.2	26 - 152		13-Oct-25 13:20	1
13C-1,2,3,6,7,8-HxCDF	IS	57.5	26 - 123		13-Oct-25 13:20	1
13C-2,3,4,6,7,8-HxCDF	IS	59.4	28 - 136		13-Oct-25 13:20	1
13C-1,2,3,7,8,9-HxCDF	IS	61.1	29 - 147		13-Oct-25 13:20	1
13C-1,2,3,4,6,7,8-HpCDF	IS	60.4	28 - 143		13-Oct-25 13:20	1
13C-1,2,3,4,7,8,9-HpCDF	IS	56.0	26 - 138		13-Oct-25 13:20	1
13C-OCDF	IS	50.5	17 - 157		13-Oct-25 13:20	1
37Cl-2,3,7,8-TCDD	CRS	66.2	35 - 197		13-Oct-25 13:20	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
MDL - Method Detection Limit

Sample ID: MW3-0925 (Filtered)

EPA Method 1613B

Client Data

Name: Friedman & Bruya, Inc.
Project: 509282
Matrix: Water
Date Collected: 17-Sep-25 08:51

Laboratory Data

Lab Sample: 2509194-02
QC Batch: B25J009
Sample Size: 0.883 L
Date Received: 19-Sep-25 09:48
Date Extracted: 01-Oct-25
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.988	4.44			13-Oct-25 12:28	1
1,2,3,7,8-PeCDD	ND	1.31	9.42			13-Oct-25 12:28	1
1,2,3,4,7,8-HxCDD	ND	2.25	7.45			13-Oct-25 12:28	1
1,2,3,6,7,8-HxCDD	ND	2.26	6.58			13-Oct-25 12:28	1
1,2,3,7,8,9-HxCDD	ND	2.38	6.78			13-Oct-25 12:28	1
1,2,3,4,6,7,8-HpCDD	ND	2.47	6.26			13-Oct-25 12:28	1
OCDD	ND	4.84	18.5			13-Oct-25 12:28	1
2,3,7,8-TCDF	1.30		1.97		J	13-Oct-25 12:28	1
1,2,3,7,8-PeCDF	ND	1.42	7.60			13-Oct-25 12:28	1
2,3,4,7,8-PeCDF	ND	1.28	8.55			13-Oct-25 12:28	1
1,2,3,4,7,8-HxCDF	ND	0.969	7.71			13-Oct-25 12:28	1
1,2,3,6,7,8-HxCDF	ND	1.03	6.92			13-Oct-25 12:28	1
2,3,4,6,7,8-HxCDF	ND	1.19	6.72			13-Oct-25 12:28	1
1,2,3,7,8,9-HxCDF	ND	1.44	7.18			13-Oct-25 12:28	1
1,2,3,4,6,7,8-HpCDF	ND	0.694	7.11			13-Oct-25 12:28	1
1,2,3,4,7,8,9-HpCDF	ND	0.960	8.30			13-Oct-25 12:28	1
OCDF	ND	2.93	15.4			13-Oct-25 12:28	1
Toxic Equivalent							
TEQMinWHO2005Dioxin	0.130						
Totals							
Total TCDD	ND	0.988					
Total PeCDD	ND	1.31					
Total HxCDD	ND	2.38					
Total HpCDD	ND	2.47					
Total TCDF	1.30				J		
Total PeCDF	ND	1.42					
Total HxCDF	ND	1.44					
Total HpCDF	ND	0.960					

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	58.2	25 - 164		13-Oct-25 12:28	1
13C-1,2,3,7,8-PeCDD	IS	57.9	25 - 181		13-Oct-25 12:28	1
13C-1,2,3,4,7,8-HxCDD	IS	63.0	32 - 141		13-Oct-25 12:28	1
13C-1,2,3,6,7,8-HxCDD	IS	64.1	28 - 130		13-Oct-25 12:28	1
13C-1,2,3,7,8,9-HxCDD	IS	67.3	32 - 141		13-Oct-25 12:28	1
13C-1,2,3,4,6,7,8-HpCDD	IS	62.5	23 - 140		13-Oct-25 12:28	1
13C-OCDD	IS	52.6	17 - 157		13-Oct-25 12:28	1
13C-2,3,7,8-TCDF	IS	61.2	24 - 169		13-Oct-25 12:28	1
13C-1,2,3,7,8-PeCDF	IS	67.9	24 - 185		13-Oct-25 12:28	1
13C-2,3,4,7,8-PeCDF	IS	67.0	21 - 178		13-Oct-25 12:28	1
13C-1,2,3,4,7,8-HxCDF	IS	56.6	26 - 152		13-Oct-25 12:28	1
13C-1,2,3,6,7,8-HxCDF	IS	55.8	26 - 123		13-Oct-25 12:28	1
13C-2,3,4,6,7,8-HxCDF	IS	56.1	28 - 136		13-Oct-25 12:28	1
13C-1,2,3,7,8,9-HxCDF	IS	60.5	29 - 147		13-Oct-25 12:28	1
13C-1,2,3,4,6,7,8-HpCDF	IS	58.8	28 - 143		13-Oct-25 12:28	1
13C-1,2,3,4,7,8,9-HpCDF	IS	56.5	26 - 138		13-Oct-25 12:28	1
13C-OCDF	IS	51.6	17 - 157		13-Oct-25 12:28	1
37Cl-2,3,7,8-TCDD	CRS	61.9	35 - 197		13-Oct-25 12:28	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
MDL - Method Detection Limit

Sample ID: MW3-0925 (Cent)

EPA Method 1613B

Client Data

Name: Friedman & Bruya, Inc.
Project: 509282
Matrix: Water
Date Collected: 17-Sep-25 08:51

Laboratory Data

Lab Sample: 2509194-03
QC Batch: B25J009
Sample Size: 0.929 L
Date Received: 19-Sep-25 09:48
Date Extracted: 01-Oct-25
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	1.42	4.22			13-Oct-25 14:05	1
1,2,3,7,8-PeCDD	ND	1.46	8.96			13-Oct-25 14:05	1
1,2,3,4,7,8-HxCDD	ND	2.62	7.08			13-Oct-25 14:05	1
1,2,3,6,7,8-HxCDD	ND	2.78	6.25			13-Oct-25 14:05	1
1,2,3,7,8,9-HxCDD	ND	2.79	6.45			13-Oct-25 14:05	1
1,2,3,4,6,7,8-HpCDD	16.5		5.95		J	13-Oct-25 14:05	1
OCDD	303		17.5			13-Oct-25 14:05	1
2,3,7,8-TCDF	ND	1.31	1.87			13-Oct-25 14:05	1
1,2,3,7,8-PeCDF	ND	1.51	7.22			13-Oct-25 14:05	1
2,3,4,7,8-PeCDF	ND	1.36	8.13			13-Oct-25 14:05	1
1,2,3,4,7,8-HxCDF	ND	1.35	7.33			13-Oct-25 14:05	1
1,2,3,6,7,8-HxCDF	ND	1.31	6.58			13-Oct-25 14:05	1
2,3,4,6,7,8-HxCDF	ND	1.54	6.38			13-Oct-25 14:05	1
1,2,3,7,8,9-HxCDF	ND	2.60	6.83			13-Oct-25 14:05	1
1,2,3,4,6,7,8-HpCDF	ND	1.40	6.76			13-Oct-25 14:05	1
1,2,3,4,7,8,9-HpCDF	ND	2.07	7.89			13-Oct-25 14:05	1
OCDF	20.4		14.6		J	13-Oct-25 14:05	1
Toxic Equivalent							
TEQMinWHO2005Dioxin	0.262						
Totals							
Total TCDD	ND	1.42					
Total PeCDD	ND	1.46					
Total HxCDD	ND	2.79					
Total HpCDD	37.6						
Total TCDF	ND	1.31					
Total PeCDF	ND	1.51					
Total HxCDF	ND	2.09					
Total HpCDF	11.2				J		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	51.6	25 - 164		13-Oct-25 14:05	1
13C-1,2,3,7,8-PeCDD	IS	48.1	25 - 181		13-Oct-25 14:05	1
13C-1,2,3,4,7,8-HxCDD	IS	53.1	32 - 141		13-Oct-25 14:05	1
13C-1,2,3,6,7,8-HxCDD	IS	53.9	28 - 130		13-Oct-25 14:05	1
13C-1,2,3,7,8,9-HxCDD	IS	57.4	32 - 141		13-Oct-25 14:05	1
13C-1,2,3,4,6,7,8-HpCDD	IS	52.4	23 - 140		13-Oct-25 14:05	1
13C-OCDD	IS	44.8	17 - 157		13-Oct-25 14:05	1
13C-2,3,7,8-TCDF	IS	53.1	24 - 169		13-Oct-25 14:05	1
13C-1,2,3,7,8-PeCDF	IS	56.1	24 - 185		13-Oct-25 14:05	1
13C-2,3,4,7,8-PeCDF	IS	55.9	21 - 178		13-Oct-25 14:05	1
13C-1,2,3,4,7,8-HxCDF	IS	47.2	26 - 152		13-Oct-25 14:05	1
13C-1,2,3,6,7,8-HxCDF	IS	48.1	26 - 123		13-Oct-25 14:05	1
13C-2,3,4,6,7,8-HxCDF	IS	47.8	28 - 136		13-Oct-25 14:05	1
13C-1,2,3,7,8,9-HxCDF	IS	50.9	29 - 147		13-Oct-25 14:05	1
13C-1,2,3,4,6,7,8-HpCDF	IS	49.1	28 - 143		13-Oct-25 14:05	1
13C-1,2,3,4,7,8,9-HpCDF	IS	45.4	26 - 138		13-Oct-25 14:05	1
13C-OCDF	IS	42.5	17 - 157		13-Oct-25 14:05	1
37Cl-2,3,7,8-TCDD	CRS	65.5	35 - 197		13-Oct-25 14:05	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
MDL - Method Detection Limit

Sample ID: DW-0925

EPA Method 1613B

Client Data

Name: Friedman & Bruya, Inc.
Project: 509282
Matrix: Water
Date Collected: 17-Sep-25 08:51

Laboratory Data

Lab Sample: 2509194-04
QC Batch: B25J009
Sample Size: 0.928 L
Date Received: 19-Sep-25 09:48
Date Extracted: 01-Oct-25
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.982	4.23			13-Oct-25 14:51	1
1,2,3,7,8-PeCDD	ND	1.17	8.97			13-Oct-25 14:51	1
1,2,3,4,7,8-HxCDD	ND	2.67	7.09			13-Oct-25 14:51	1
1,2,3,6,7,8-HxCDD	ND	2.83	6.26			13-Oct-25 14:51	1
1,2,3,7,8,9-HxCDD	ND	2.87	6.46			13-Oct-25 14:51	1
1,2,3,4,6,7,8-HpCDD	42.7		5.96			13-Oct-25 14:51	1
OCDD	665		17.6			13-Oct-25 14:51	1
2,3,7,8-TCDF	ND	1.15	1.88			13-Oct-25 14:51	1
1,2,3,7,8-PeCDF	ND	1.33	7.23			13-Oct-25 14:51	1
2,3,4,7,8-PeCDF	ND	1.15	8.14			13-Oct-25 14:51	1
1,2,3,4,7,8-HxCDF	ND	1.34	7.34			13-Oct-25 14:51	1
1,2,3,6,7,8-HxCDF	ND	1.34	6.59			13-Oct-25 14:51	1
2,3,4,6,7,8-HxCDF	ND	1.64	6.39			13-Oct-25 14:51	1
1,2,3,7,8,9-HxCDF	ND	2.26	6.83			13-Oct-25 14:51	1
1,2,3,4,6,7,8-HpCDF	5.72		6.77		J	13-Oct-25 14:51	1
1,2,3,4,7,8,9-HpCDF	ND	2.18	7.90			13-Oct-25 14:51	1
OCDF	48.6		14.7		J	13-Oct-25 14:51	1
Toxic Equivalent							
TEQMinWHO2005Dioxin	0.698						
Totals							
Total TCDD	ND	0.982					
Total PeCDD	ND	1.17					
Total HxCDD	ND	2.87					
Total HpCDD	84.4						
Total TCDF	2.20				J		
Total PeCDF	ND	1.33					
Total HxCDF	ND			2.75			
Total HpCDF	30.5						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	54.8	25 - 164		13-Oct-25 14:51	1
13C-1,2,3,7,8-PeCDD	IS	52.3	25 - 181		13-Oct-25 14:51	1
13C-1,2,3,4,7,8-HxCDD	IS	58.2	32 - 141		13-Oct-25 14:51	1
13C-1,2,3,6,7,8-HxCDD	IS	57.9	28 - 130		13-Oct-25 14:51	1
13C-1,2,3,7,8,9-HxCDD	IS	60.6	32 - 141		13-Oct-25 14:51	1
13C-1,2,3,4,6,7,8-HpCDD	IS	57.8	23 - 140		13-Oct-25 14:51	1
13C-OCDD	IS	44.1	17 - 157		13-Oct-25 14:51	1
13C-2,3,7,8-TCDF	IS	56.3	24 - 169		13-Oct-25 14:51	1
13C-1,2,3,7,8-PeCDF	IS	59.8	24 - 185		13-Oct-25 14:51	1
13C-2,3,4,7,8-PeCDF	IS	57.7	21 - 178		13-Oct-25 14:51	1
13C-1,2,3,4,7,8-HxCDF	IS	51.5	26 - 152		13-Oct-25 14:51	1
13C-1,2,3,6,7,8-HxCDF	IS	50.3	26 - 123		13-Oct-25 14:51	1
13C-2,3,4,6,7,8-HxCDF	IS	51.2	28 - 136		13-Oct-25 14:51	1
13C-1,2,3,7,8,9-HxCDF	IS	55.3	29 - 147		13-Oct-25 14:51	1
13C-1,2,3,4,6,7,8-HpCDF	IS	53.6	28 - 143		13-Oct-25 14:51	1
13C-1,2,3,4,7,8,9-HpCDF	IS	49.3	26 - 138		13-Oct-25 14:51	1
13C-OCDF	IS	44.1	17 - 157		13-Oct-25 14:51	1
37Cl-2,3,7,8-TCDD	CRS	73.9	35 - 197		13-Oct-25 14:51	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
MDL - Method Detection Limit

Sample ID: DW-0925 (Filtered)

EPA Method 1613B

Client Data

Name: Friedman & Bruya, Inc.
Project: 509282
Matrix: Water
Date Collected: 17-Sep-25 08:51

Laboratory Data

Lab Sample: 2509194-05
QC Batch: B25J009
Sample Size: 0.954 L
Date Received: 19-Sep-25 09:48
Date Extracted: 01-Oct-25
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	1.04	4.11			13-Oct-25 15:36	1
1,2,3,7,8-PeCDD	ND	1.32	8.72			13-Oct-25 15:36	1
1,2,3,4,7,8-HxCDD	ND	2.36	6.90			13-Oct-25 15:36	1
1,2,3,6,7,8-HxCDD	ND	2.50	6.09			13-Oct-25 15:36	1
1,2,3,7,8,9-HxCDD	ND	2.43	6.28			13-Oct-25 15:36	1
1,2,3,4,6,7,8-HpCDD	ND	2.03	5.80			13-Oct-25 15:36	1
OCDD	ND		17.1	15.0		13-Oct-25 15:36	1
2,3,7,8-TCDF	ND	1.04	1.82			13-Oct-25 15:36	1
1,2,3,7,8-PeCDF	ND	1.05	7.03			13-Oct-25 15:36	1
2,3,4,7,8-PeCDF	ND	0.841	7.91			13-Oct-25 15:36	1
1,2,3,4,7,8-HxCDF	ND	1.30	7.14			13-Oct-25 15:36	1
1,2,3,6,7,8-HxCDF	ND	1.28	6.40			13-Oct-25 15:36	1
2,3,4,6,7,8-HxCDF	ND	1.41	6.22			13-Oct-25 15:36	1
1,2,3,7,8,9-HxCDF	ND	1.81	6.64			13-Oct-25 15:36	1
1,2,3,4,6,7,8-HpCDF	ND		6.58	0.863		13-Oct-25 15:36	1
1,2,3,4,7,8,9-HpCDF	ND	1.41	7.68			13-Oct-25 15:36	1
OCDF	2.81		14.3		J	13-Oct-25 15:36	1
Toxic Equivalent							
TEQMinWHO2005Dioxin	0.000843						
Totals							
Total TCDD	ND	1.04					
Total PeCDD	ND	1.32					
Total HxCDD	ND	2.50					
Total HpCDD	ND	2.03					
Total TCDF	ND	1.04					
Total PeCDF	ND	1.05					
Total HxCDF	ND	1.81					
Total HpCDF	ND			0.863			

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	57.3	25 - 164		13-Oct-25 15:36	1
13C-1,2,3,7,8-PeCDD	IS	55.9	25 - 181		13-Oct-25 15:36	1
13C-1,2,3,4,7,8-HxCDD	IS	57.3	32 - 141		13-Oct-25 15:36	1
13C-1,2,3,6,7,8-HxCDD	IS	59.0	28 - 130		13-Oct-25 15:36	1
13C-1,2,3,7,8,9-HxCDD	IS	59.8	32 - 141		13-Oct-25 15:36	1
13C-1,2,3,4,6,7,8-HpCDD	IS	55.1	23 - 140		13-Oct-25 15:36	1
13C-OCDD	IS	43.3	17 - 157		13-Oct-25 15:36	1
13C-2,3,7,8-TCDF	IS	58.5	24 - 169		13-Oct-25 15:36	1
13C-1,2,3,7,8-PeCDF	IS	61.0	24 - 185		13-Oct-25 15:36	1
13C-2,3,4,7,8-PeCDF	IS	62.1	21 - 178		13-Oct-25 15:36	1
13C-1,2,3,4,7,8-HxCDF	IS	51.6	26 - 152		13-Oct-25 15:36	1
13C-1,2,3,6,7,8-HxCDF	IS	51.6	26 - 123		13-Oct-25 15:36	1
13C-2,3,4,6,7,8-HxCDF	IS	50.8	28 - 136		13-Oct-25 15:36	1
13C-1,2,3,7,8,9-HxCDF	IS	55.2	29 - 147		13-Oct-25 15:36	1
13C-1,2,3,4,6,7,8-HpCDF	IS	52.8	28 - 143		13-Oct-25 15:36	1
13C-1,2,3,4,7,8,9-HpCDF	IS	48.2	26 - 138		13-Oct-25 15:36	1
13C-OCDF	IS	44.0	17 - 157		13-Oct-25 15:36	1
37Cl-2,3,7,8-TCDD	CRS	61.7	35 - 197		13-Oct-25 15:36	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
MDL - Method Detection Limit

Sample ID: DW-0925 (Cent) **EPA Method 1613B**

Client Data
Name: Friedman & Bruya, Inc.
Project: 509282
Matrix: Water
Date Collected: 17-Sep-25 08:51

Laboratory Data
Lab Sample: 2509194-06
QC Batch: B25J009
Sample Size: 0.894 L
Date Received: 19-Sep-25 09:48
Date Extracted: 01-Oct-25
Column: ZB-DIOXIN

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	1.29	4.38			13-Oct-25 16:21	1
1,2,3,7,8-PeCDD	ND	1.58	9.30			13-Oct-25 16:21	1
1,2,3,4,7,8-HxCDD	ND	2.46	7.36			13-Oct-25 16:21	1
1,2,3,6,7,8-HxCDD	ND	2.53	6.50			13-Oct-25 16:21	1
1,2,3,7,8,9-HxCDD	ND	2.46	6.70			13-Oct-25 16:21	1
1,2,3,4,6,7,8-HpCDD	ND	3.08	6.18			13-Oct-25 16:21	1
OCDD	ND		18.2	16.5		13-Oct-25 16:21	1
2,3,7,8-TCDF	ND	1.33	1.95			13-Oct-25 16:21	1
1,2,3,7,8-PeCDF	ND	1.34	7.50			13-Oct-25 16:21	1
2,3,4,7,8-PeCDF	ND	1.04	8.44			13-Oct-25 16:21	1
1,2,3,4,7,8-HxCDF	ND	1.24	7.61			13-Oct-25 16:21	1
1,2,3,6,7,8-HxCDF	ND	1.34	6.83			13-Oct-25 16:21	1
2,3,4,6,7,8-HxCDF	ND	1.68	6.63			13-Oct-25 16:21	1
1,2,3,7,8,9-HxCDF	ND	1.96	7.09			13-Oct-25 16:21	1
1,2,3,4,6,7,8-HpCDF	ND	1.15	7.02			13-Oct-25 16:21	1
1,2,3,4,7,8,9-HpCDF	ND	1.94	8.20			13-Oct-25 16:21	1
OCDF	ND	3.14	15.2			13-Oct-25 16:21	1
Toxic Equivalent							
TEQMinWHO2005Dioxin	0.00						
Totals							
Total TCDD	ND	1.29					
Total PeCDD	ND	1.58					
Total HxCDD	ND	2.53					
Total HpCDD	ND	3.08					
Total TCDF	ND	1.33					
Total PeCDF	ND	1.34					
Total HxCDF	ND	1.96					
Total HpCDF	ND	1.94					

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	46.0	25 - 164		13-Oct-25 16:21	1
13C-1,2,3,7,8-PeCDD	IS	43.5	25 - 181		13-Oct-25 16:21	1
13C-1,2,3,4,7,8-HxCDD	IS	45.4	32 - 141		13-Oct-25 16:21	1
13C-1,2,3,6,7,8-HxCDD	IS	46.8	28 - 130		13-Oct-25 16:21	1
13C-1,2,3,7,8,9-HxCDD	IS	49.6	32 - 141		13-Oct-25 16:21	1
13C-1,2,3,4,6,7,8-HpCDD	IS	44.7	23 - 140		13-Oct-25 16:21	1
13C-OCDD	IS	35.4	17 - 157		13-Oct-25 16:21	1
13C-2,3,7,8-TCDF	IS	49.3	24 - 169		13-Oct-25 16:21	1
13C-1,2,3,7,8-PeCDF	IS	50.8	24 - 185		13-Oct-25 16:21	1
13C-2,3,4,7,8-PeCDF	IS	50.8	21 - 178		13-Oct-25 16:21	1
13C-1,2,3,4,7,8-HxCDF	IS	42.0	26 - 152		13-Oct-25 16:21	1
13C-1,2,3,6,7,8-HxCDF	IS	40.6	26 - 123		13-Oct-25 16:21	1
13C-2,3,4,6,7,8-HxCDF	IS	41.0	28 - 136		13-Oct-25 16:21	1
13C-1,2,3,7,8,9-HxCDF	IS	44.7	29 - 147		13-Oct-25 16:21	1
13C-1,2,3,4,6,7,8-HpCDF	IS	42.3	28 - 143		13-Oct-25 16:21	1
13C-1,2,3,4,7,8,9-HpCDF	IS	38.0	26 - 138		13-Oct-25 16:21	1
13C-OCDF	IS	33.7	17 - 157		13-Oct-25 16:21	1
37Cl-2,3,7,8-TCDD	CRS	57.9	35 - 197		13-Oct-25 16:21	1

EDL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
MDL - Method Detection Limit

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
RL	For 537.1, the reported RLs are the MRLs.
TEQ	Toxic Equivalency, sum of the toxic equivalency factors (TEF) multiplied by the sample concentrations.
TEQMax	TEQ calculation that uses the detection limit as the concentration for non-detects
TEQMin	TEQ calculation that uses zero as the concentration for non-detects
TEQRisk	TEQ calculation that uses ½ the detection limit as the concentration for non-detects
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Enthalpy Analytical - EDH Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	21-023-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2020018
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	2211390
Nevada Division of Environmental Protection	CA00413
New Hampshire Environmental Accreditation Program	207721
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Ohio Environmental Protection Agency	87778
Oregon Laboratory Accreditation Program	4042-021
Texas Commission on Environmental Quality	T104704189-22-13
Vermont Department of Health	VT-4042
Virginia Department of General Services	11276
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters can be found at Enthalpy.com/Resources/Accreditations.

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2509194 1.9 C

Page # 1 of 1

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER Enthalpy	
PROJECT NAME/NO. 509282	PO # F-458
REMARKS EIM	

TURNAROUND TIME
☒ Standard
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	Dioxins/Furans (Filtered)	Dioxins/Furans (Centrifuged)								Notes
MW3-0925		9/17/2025	851	water	3	x	x	x								
DW-0925		9/17/2025	810	water	3	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:		Michael Erdahl	Friedman & Bruya	9/18/25	0830
Received by:		Xithaly Olivos	EDH Enthalpy	09.19.25	09:45
Relinquished by:					
Received by:					

CoC/Label Reconciliation Report WO# 2509194

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
2509194-01	A MW3-0925	☑	17-Sep-25 08:51 ☑	Amber Glass NM Bottle, 1L	Aqueous	
2509194-02	A MW3-0925 (Filtered)	☑	17-Sep-25 08:51 ☑	Amber Glass NM Bottle, 1L	Aqueous	
2509194-03	A MW3-0925 (Cent)	☑ (A)	17-Sep-25 08:51 ☐ (B)	Amber Glass NM Bottle, 1L	Aqueous	
2509194-04	A DW-0925	☑	17-Sep-25 08:51 ☑	Amber Glass NM Bottle, 1L	Aqueous	
2509194-05	A DW-0925 (Filtered)	☑	17-Sep-25 08:51 ☑	Amber Glass NM Bottle, 1L	Aqueous	
2509194-06	A DW-0925 (Cent)	☑	17-Sep-25 08:51 ☐ (B)	Amber Glass NM Bottle, 1L	Aqueous	

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

CONDITION	Yes	No	NA
Sample Container Intact?	/		
Sample Container(s) Custody Seals Intact?			/
Custody Seals On Cooler Intact?	/		
Adequate Sample Volume?	/		
Container Type Appropriate for Analysis(es)?	/		

Comments:
(A) Sample ID "MW-3-0925"
(B) Sample date & time missing

Preservation Documented: Na2S2O3 Trizma NH4CH3CO2 None Other

Verifed by/Date: XAO 10/16/25 * Originally labeled & Reconciled 09/19/25 By XAO

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

January 22, 2026

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on January 7, 2026 from the Bridge Point Seattle 130 DAWN, F&BI 601053 project. There are 21 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: Grant Hainsworth, Jamie Stevens
CTC0122R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 7, 2026 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 601053 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
601053 -01	DUP02-0126
601053 -02	MW4-0126
601053 -03	MW11-0126
601053 -04	MW5-0126

Samples MW4-0126 and MW5-0126 were sent to Alliance Technical Group for ammonia and RSK dissolved gases testing. The samples were also submitted to Amtest for total organic carbon testing. The reports are enclosed.

The 8260D calibration standard did not meet the acceptance criteria for chloroethane in the method blank. The result was flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 01/22/26
Date Received: 01/07/26
Project: Bridge Point Seattle 130 DAWN, F&BI 601053
Date Extracted: 01/08/26
Date Analyzed: 01/12/26

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW5-0126 601053-04	<50	<200	108
Method Blank 06-0113 MB2	<50	<200	108

Date of Report: 01/22/26
Date Received: 01/07/26
Project: Bridge Point Seattle 130 DAWN, F&BI 601053
Date Extracted: 01/08/25
Date Analyzed: 01/08/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW5-0126 601053-04	150 x	<200	98
Method Blank 06-0113 MB2	<50	<200	109

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	DUP02-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/08/26	Lab ID:	601053-01
Date Analyzed:	01/08/26	Data File:	010812.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	105	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.042
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.10
Tetrachloroethene	0.66

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW4-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/08/26	Lab ID:	601053-02
Date Analyzed:	01/08/26	Data File:	010813.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	106	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.32
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.32
Tetrachloroethene	0.91

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW11-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/08/26	Lab ID:	601053-03
Date Analyzed:	01/08/26	Data File:	010814.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	106	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.039
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.10
Tetrachloroethene	0.67

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW5-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/08/26	Lab ID:	601053-04
Date Analyzed:	01/08/26	Data File:	010815.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	104	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.16
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	1.2
Tetrachloroethene	5.9

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/08/26	Lab ID:	06-0009 mb
Date Analyzed:	01/08/26	Data File:	010809.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	97	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1 ca
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.05
Tetrachloroethene	<0.5

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW4-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/08/26	Lab ID:	601053-02 x200
Date Analyzed:	01/14/26	Data File:	601053-02 x200.070
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	31,000
Manganese	460

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW5-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/08/26	Lab ID:	601053-04 x20
Date Analyzed:	01/14/26	Data File:	601053-04 x20.071
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	4,000
Manganese	400

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/08/26	Lab ID:	I6-24 mb
Date Analyzed:	01/08/26	Data File:	I6-24 mb.165
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	<50
Manganese	<1

Analysis For Anions By EPA Method 300.0

Client Sample ID:	MW4-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/07/26	Lab ID:	601053-02
Date Analyzed:	01/07/26	Data File:	01-07-26.seq
Matrix:	Water	Instrument:	IC1
Units:	mg/L (ppm)	Operator:	JH

Analyte:	Concentration mg/L (ppm)
Nitrite (as N)	<0.2
Nitrate (as N)	<0.2

Analysis For Anions By EPA Method 300.0

Client Sample ID:	MW4-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/07/26	Lab ID:	601053-02 1/20
Date Analyzed:	01/07/26	Data File:	01-07-26.seq
Matrix:	Water	Instrument:	IC1
Units:	mg/L (ppm)	Operator:	JH

Analyte:	Concentration mg/L (ppm)
Sulfate	310

Analysis For Anions By EPA Method 300.0

Client Sample ID:	MW5-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/07/26	Lab ID:	601053-04
Date Analyzed:	01/07/26	Data File:	01-07-26.seq
Matrix:	Water	Instrument:	IC1
Units:	mg/L (ppm)	Operator:	JH

Analyte:	Concentration mg/L (ppm)
Nitrite (as N)	<0.2
Sulfate	<1
Nitrate (as N)	<0.2

Analysis For Anions By EPA Method 300.0

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/07/26	Lab ID:	I6-0019 mb
Date Analyzed:	01/07/26	Data File:	01-07-26.seq
Matrix:	Water	Instrument:	IC1
Units:	mg/L (ppm)	Operator:	JH

Analyte:	Concentration mg/L (ppm)
Nitrite (as N)	<0.2
Sulfate	<1
Nitrate (as N)	<0.2

Date of Report: 01/22/26
Date Received: 01/07/26
Project: Bridge Point Seattle 130 DAWN, F&BI 601053

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	108	120	65-151	11

Date of Report: 01/22/26
Date Received: 01/07/26
Project: Bridge Point Seattle 130 DAWN, F&BI 601053

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	108	120	65-151	11

Date of Report: 01/22/26
Date Received: 01/07/26
Project: Bridge Point Seattle 130 DAWN, F&BI 601053

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 601056-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	89	16-176
Chloroethane	ug/L (ppb)	10	<1	76	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	92	50-150
Methylene chloride	ug/L (ppb)	10	<5	67	40-143
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	97	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	92	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	89	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	93	50-150
Trichloroethene	ug/L (ppb)	10	<0.05	99	43-133
Tetrachloroethene	ug/L (ppb)	10	<0.5	99	50-150

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)	10	91	88	43-149	3
Chloroethane	ug/L (ppb)	10	77	75	59-157	3
1,1-Dichloroethene	ug/L (ppb)	10	94	94	67-138	0
Methylene chloride	ug/L (ppb)	10	88	87	29-192	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	96	97	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	90	89	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	96	97	70-130	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	88	89	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	91	92	70-130	1
Trichloroethene	ug/L (ppb)	10	97	96	70-130	1
Tetrachloroethene	ug/L (ppb)	10	100	100	70-130	0

Date of Report: 01/22/26
Date Received: 01/07/26
Project: Bridge Point Seattle 130 DAWN, F&BI 601053

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 601053-04 (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	3,040	0 b	0 b	75-125	nm
Manganese	ug/L (ppb)	20	359	0 b	4 b	75-125	200 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Iron	ug/L (ppb)	100	106	80-120
Manganese	ug/L (ppb)	20	103	80-120

Date of Report: 01/22/26
Date Received: 01/07/26
Project: Bridge Point Seattle 130 DAWN, F&BI 601053

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR ANIONS USING EPA METHOD 300.0

Laboratory Code: 601048-01 1/1.1 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Nitrite (as N)	mg/L (ppm)	5	<1	0 ip	0 ip	80-120	nm
Sulfate	mg/L (ppm)	5	16	60 b	57 b	80-120	5 b
Nitrate (as N)	mg/L (ppm)	5	12	91 b	138 b	80-120	41 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Nitrite (as N)	mg/L (ppm)	5	107	90-110
Sulfate	mg/L (ppm)	5	105	90-110
Nitrate (as N)	mg/L (ppm)	5	105	90-110

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

601053

SAMPLE CHAIN OF CUSTODY

01/07/26 J2/MW2/C3

Page # 1 of 1

Report To Jones/Stevens/Hairsworth

Company CRETE Consulting Inc.

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME Bridge Point Seattle 130

PO # DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	TOC ~~PCBs EPA 8082~~	Methane/Ethane/Ethene	Dissolved Fe + Mn	Nitrate/Nitrite/Anions	Ammonia, Sulfide	Notes
~~DUP01-0126~~ RT																	RT
DUP02-0126	01 A-C	1/6/2026	0002	WATER	3					X							
MW4-0126	02 A-J	↓	0040	↓	10					X		X	X	X	X	X	
MW11-0126	03 A-C	↓	0136	↓	3					X							
MW5-0126	04 A-N	1/7/2026	0154	↓	14	X				X		X	X	X	X	X	TPH-Dx w/ and w/out SGC
													Samples received at 1 °C				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	1/7/2026	1123
Received by: [signature]	Nhan Phan	FEBT	1/7/2026	1123
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 601053 CLIENT Crete INITIALS/ DATE: (NP) 01/07/26

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 1 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO **Initials/ Date:** (NP) 01/07
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory ~~0~~ ≥ 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

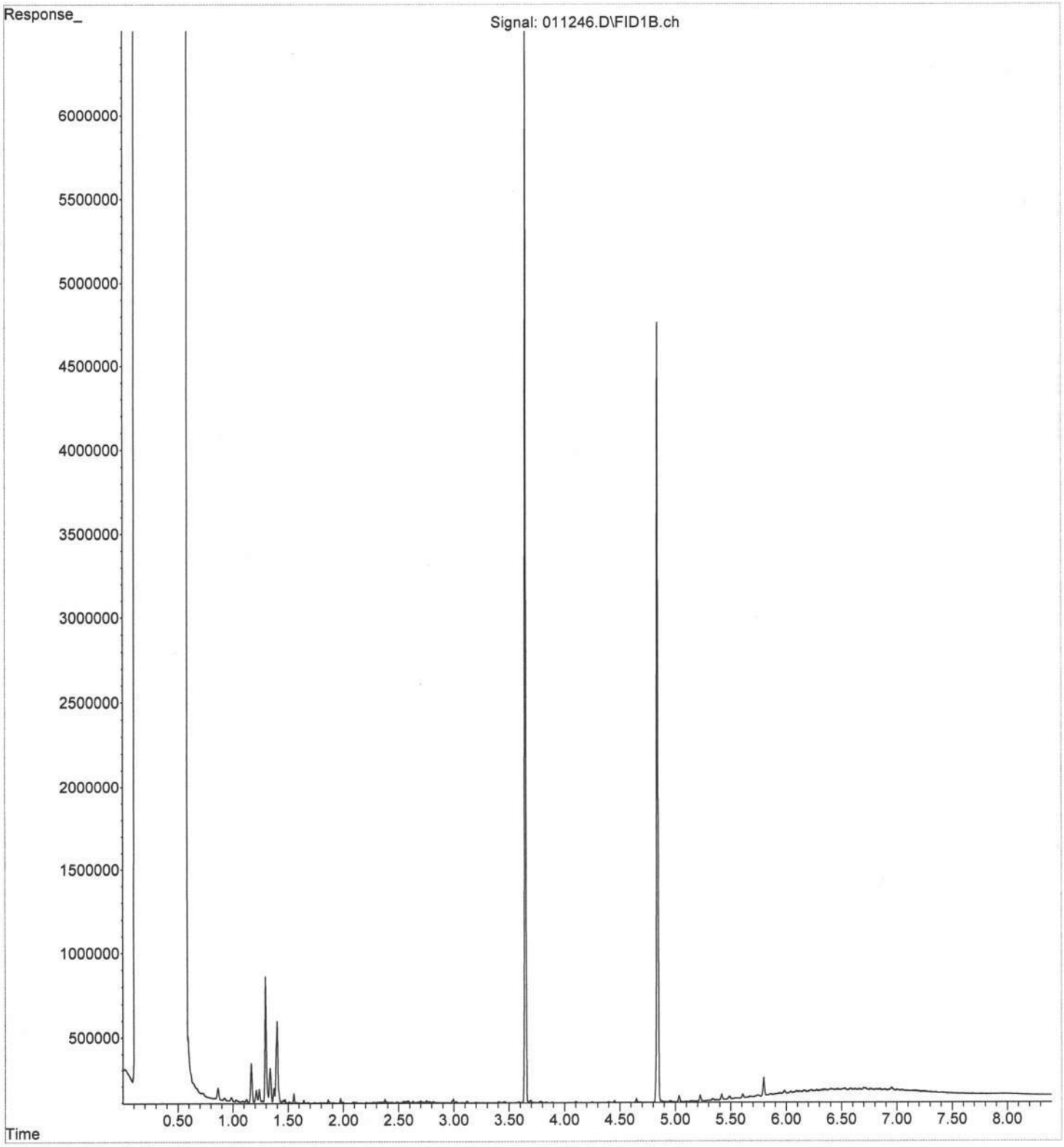
Sample ID's	☑ Yes	☐ No	☐ Not on COC/label
Date Sampled	☑ Yes	☐ No	☐ Not on COC/label
Time Sampled	☑ Yes	☐ No	☐ Not on COC/label
# of Containers	☑ Yes	☐ No	
Relinquished	☑ Yes	☐ No	
Requested analysis	☑ Yes	☐ On Hold	

Other comments (use a separate page if needed)

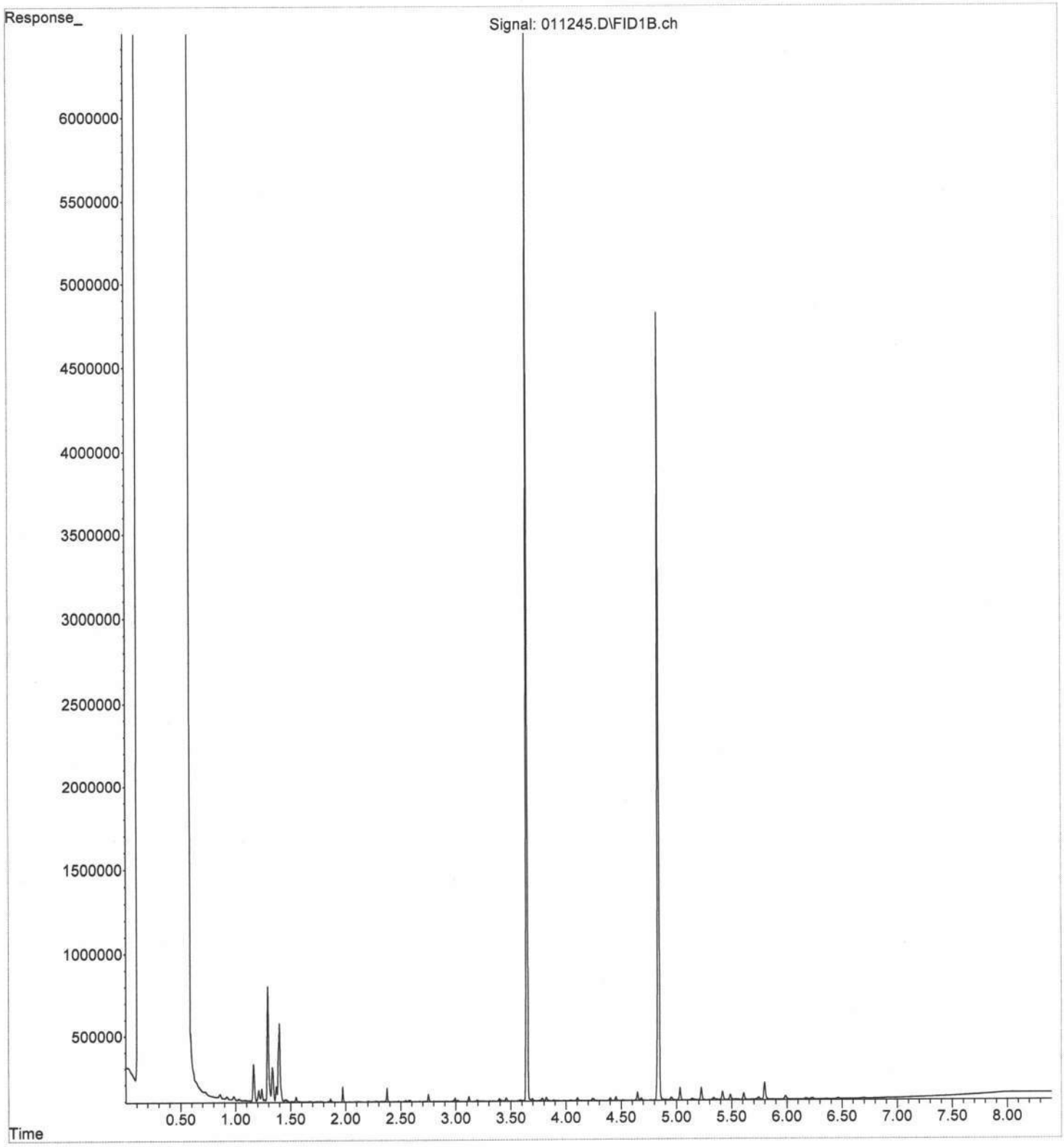
Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

File :P:\Proc_GC14\01-12-26\011246.D
Operator : TL
Acquired : 12 Jan 2026 08:00 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 601053-04 sg
Misc Info : ERR
Vial Number: 37

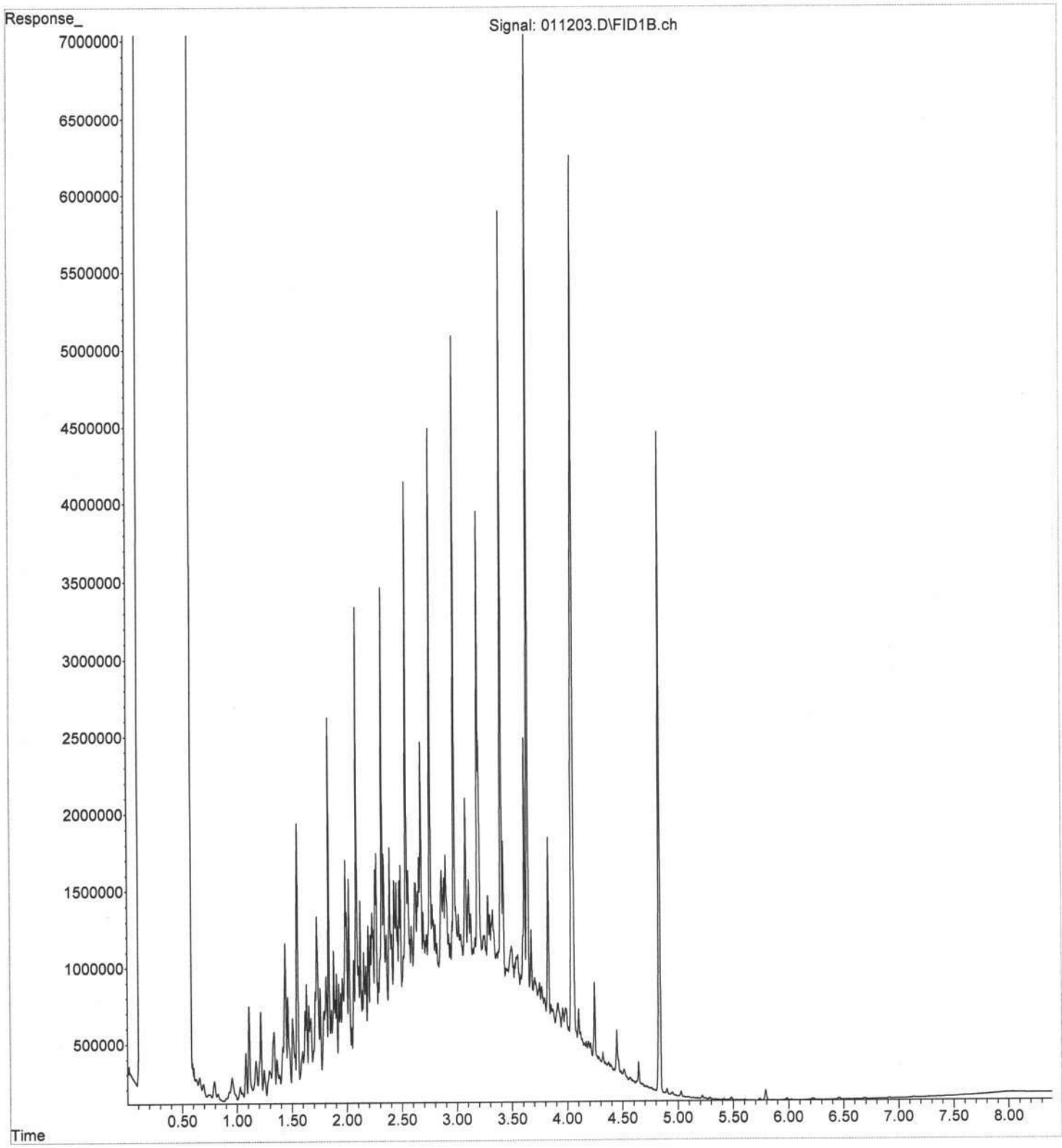


File :P:\Proc_GC14\01-12-26\011245.D
Operator : TL
Acquired : 12 Jan 2026 07:47 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 06-0113 mb2 sg
Misc Info : ERR
Vial Number: 36



File :P:\Proc_GC14\01-12-26\011203.D
Operator : TL
Acquired : 12 Jan 2026 09:19 am using AcqMethod DX.M
Instrument : GC14
Sample Name: 500 Dx 77-79C
Misc Info :
Vial Number: 3

ERR



3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 601053,
Work Order Number: 2601118

January 15, 2026

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 2 sample(s) on 1/7/2026 for the analyses presented in the following report.

Ammonia by SM 4500 NH3G
Dissolved Gases by RSK-175

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Lyann Rivera
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *01/15/2026*

CLIENT: Friedman & Bruya
Project: 601053
Work Order: 2601118

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2601118-001	MW4-0126	01/06/2026 12:40 AM	01/07/2026 4:20 PM
2601118-002	MW5-0126	01/07/2026 1:54 AM	01/07/2026 4:20 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original

Case Narrative

WO#: **2601118**

Date: **1/15/2026**

CLIENT: Friedman & Bruya
Project: 601053

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2601118**
Date Reported: **1/15/2026**

CLIENT: Friedman & Bruya
Project: 601053

Lab ID: 2601118-001 **Collection Date:** 1/6/2026 12:40:00 AM
Client Sample ID: **MW4-0126** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10602		Analyst: BCA
Methane	0.818	0.0250	D	mg/L	5	1/13/2026 11:32:00 AM
Ethene	ND	0.0100		mg/L	1	1/13/2026 11:06:00 AM
Ethane	ND	0.0100		mg/L	1	1/13/2026 11:06:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 50599		Analyst: BB
Nitrogen, Ammonia	ND	0.150		mg/L	1	1/12/2026 2:44:00 PM

Lab ID: 2601118-002 **Collection Date:** 1/7/2026 1:54:00 AM
Client Sample ID: **MW5-0126** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R10602		Analyst: BCA
Methane	2.22	0.100	D	mg/L	20	1/13/2026 11:34:00 AM
Ethene	ND	0.0100		mg/L	1	1/13/2026 11:08:00 AM
Ethane	ND	0.0100		mg/L	1	1/13/2026 11:08:00 AM
Ammonia by SM 4500 NH3G				Batch ID: 50599		Analyst: BB
Nitrogen, Ammonia	ND	0.150		mg/L	1	1/12/2026 2:49:00 PM

Work Order: 2601118
CLIENT: Friedman & Bruya
Project: 601053

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **LCS-50599**	SampType: **LCS**			Units: **mg/L**		Prep Date: **1/12/2026**		RunNo: **106010**		
Client ID: **LCSW**	Batch ID: **50599**					Analysis Date: **1/12/2026**		SeqNo: **2210579**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	0.507	0.150	0.5000	0	101	73.6	121				

Sample ID: **MB-50599**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **1/12/2026**		RunNo: **106010**		
Client ID: **MBLKW**	Batch ID: **50599**					Analysis Date: **1/12/2026**		SeqNo: **2210581**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	0.150									

Sample ID: **2512691-001BDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **1/12/2026**		RunNo: **106010**		
Client ID: **BATCH**	Batch ID: **50599**					Analysis Date: **1/12/2026**		SeqNo: **2210584**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	1.50						0		30	D

Sample ID: **2512691-001BMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **1/12/2026**		RunNo: **106010**		
Client ID: **BATCH**	Batch ID: **50599**					Analysis Date: **1/12/2026**		SeqNo: **2210585**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	5.29	1.50	5.000	0	106	5.52	142				D

Sample ID: **2512691-001BMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **1/12/2026**		RunNo: **106010**		
Client ID: **BATCH**	Batch ID: **50599**					Analysis Date: **1/12/2026**		SeqNo: **2210586**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	4.70	1.50	5.000	0	94.0	5.52	142	5.290	11.8	30	D

Work Order: 2601118
CLIENT: Friedman & Bruya
Project: 601053

QC SUMMARY REPORT

Ammonia by SM 4500 NH3G

Sample ID: **2512691-011BDUP** SampType: **DUP** Units: **mg/L** Prep Date: **1/12/2026** RunNo: **106010**
Client ID: **BATCH** Batch ID: **50599** Analysis Date: **1/12/2026** SeqNo: **2210598**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	1.50						0		30	D

Sample ID: **2512691-011BMS** SampType: **MS** Units: **mg/L** Prep Date: **1/12/2026** RunNo: **106010**
Client ID: **BATCH** Batch ID: **50599** Analysis Date: **1/12/2026** SeqNo: **2210599**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	4.83	1.50	5.000	0	96.6	5.52	142				D

Work Order: 2601118
CLIENT: Friedman & Bruya
Project: 601053

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: **LCS-106029**	SampType: **LCS**	Units: **ppmv**	Prep Date: **1/13/2026**	RunNo: **106029**
Client ID: **LCSW**	Batch ID: **R106029**		Analysis Date: **1/13/2026**	SeqNo: **2210893**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,080	0.00500	1,000	0	108	73.6	124				
Ethene	1,030	0.0100	1,000	0	103	76.3	122				
Ethane	1,030	0.0100	1,000	0	103	76.1	123				

Sample ID: **MB-106029**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **1/13/2026**	RunNo: **106029**
Client ID: **MBLKW**	Batch ID: **R106029**		Analysis Date: **1/13/2026**	SeqNo: **2210892**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									
Ethene	ND	0.0100									
Ethane	ND	0.0100									

Sample ID: **2601112-002EREP**	SampType: **REP**	Units: **mg/L**	Prep Date: **1/13/2026**	RunNo: **106029**
Client ID: **BATCH**	Batch ID: **R106029**		Analysis Date: **1/13/2026**	SeqNo: **2210902**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.00890	0.00500						0.009976	11.4	20	
Ethene	ND	0.0100						0		20	
Ethane	ND	0.0100						0		20	

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**2601118**
Logged by:	**Brianna Barnes**	Date Received:	**1/7/2026 4:20:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	3.0

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 2601118

Send Report To Michael Erdahl
Company Friedman and Bruya, Inc.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
email: merdahl@friedmanandbruya.com

SUBCONTRACTER: ATG

PROJECT NAME/NO.	PO #
601053	F-662

REMARKS: EIM

TURNAROUND TIME
☒ Standard
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: RSK MEE	Ammonia									Notes
MW4-0126		1/6/2026	0040	water	3	x	x									
MW5-0126		1/7/2026	0154	water	3	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:		Michael Erdahl	Friedman & Bruya	1/7/26	1130
Received by:		gina gerrard	ATG	1/7/26	4:20
Relinquished by:					
Received by:					

Am Test Inc.
13600 NE 126th Place Suite C
Kirkland, WA
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

January 16, 2026

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL

Project: Friedman & Bruya (CHEM)
Project Number: 601053
COC Number: 601053

MICHAEL ERDAHL:

Enclosed please find the analytical data for your Friedman & Bruya (CHEM) project.

Your sample(s) were received on Wednesday, January 7, 2026 and properly maintained prior to the subsequent analysis. The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA, Standard Methods or the Army Corps of Engineers.

Following the analytical results you will find the Quality Control (QA/QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

If you should have any questions pertaining to the data package, please feel free to contact me.
Sincerely,

Aaron Young

ElementStationManager For Aaron Young
President
aarony@amtestlab.com

Am Test Inc.
13600 NE 126th Place Suite C
Kirkland, WA
(425) 885-1664
www.amtestlab.com

ANALYSIS REPORT

Professional Analytical Services

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project Name: Friedman & Bruya (CHEM)
Project #: 601053

Date Received: 01/07/26
Date Reported: 01/16/26

Reported Samples

Lab ID	Sample	Matrix	Qualifiers	Date Sampled	Date Received
A26A0103-01	MW4-0126	Water		01/06/2026	01/07/2026
A26A0103-02	MW5-0126	Water		01/07/2026	01/07/2026

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Am Test Inc.
13600 NE 126th Place Suite C
Kirkland, WA
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

ANALYSIS REPORT

Date Received: 01/07/26
Date Reported: 01/16/26

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project Name: Friedman & Bruya (CHEM)
Project #: 601053

AMTEST Identification Number: A26A0103-01
Client Identification: MW4-0126
Sampling Date: 01/06/26 00:40

Conventional Chemistry Parameters by APHA/EPA Methods

PARAMETER	RESULT	UNITS	Q	R.L.	METHOD	ANALYST	DATE
Total Organic Carbon (TOC)	4.33	mg/L		0.50	SM 5310B_2011	NN	01/12/2026

AMTEST Identification Number: A26A0103-02
Client Identification: MW5-0126
Sampling Date: 01/07/26 01:54

Conventional Chemistry Parameters by APHA/EPA Methods

PARAMETER	RESULT	UNITS	Q	R.L.	METHOD	ANALYST	DATE
Total Organic Carbon (TOC)	2.43	mg/L		0.50	SM 5310B_2011	NN	01/12/2026

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AMTEST LABORATORIES

Professional Analytical Services

ANALYSIS REPORT

Date Received: 01/07/26
Date Reported: 01/16/26

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project Name: Friedman & Bruya (CHEM)
Project #: 601053

Quality Control

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BDA0163 - No Prep - WetChem										
Blank (BDA0163-BLK1)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	ND	U	0.50	mg/L						
Blank (BDA0163-BLK2)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	ND	U	0.50	mg/L						
LCS (BDA0163-BS1)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	9.88		0.50	mg/L	10.00		99%	80-120%		
LCS (BDA0163-BS2)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	10.1		0.50	mg/L	10.00		101%	80-120%		
Calibration Blank (BDA0163-CCB1)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	ND	U		mg/L						
Calibration Blank (BDA0163-CCB2)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	ND	U		mg/L						
Calibration Blank (BDA0163-CCB3)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	ND	U		mg/L						
Calibration Blank (BDA0163-CCB4)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	ND	U		mg/L						
Calibration Check (BDA0163-CCV1)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	22.6		0.50	mg/L	25.00		91%	85-115%		
Calibration Check (BDA0163-CCV2)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	28.2		0.50	mg/L	25.00		113%	85-115%		
Calibration Check (BDA0163-CCV3)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	24.8		0.50	mg/L	25.00		99%	85-115%		
Calibration Check (BDA0163-CCV4)					Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	25.2		0.50	mg/L	25.00		101%	85-115%		
Duplicate (BDA0163-DUP1)		**Source: A26A0083-07**			Prepared & Analyzed: 01/12/26					

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Am Test Inc.
13600 NE 126th Place Suite C
Kirkland, WA
(425) 885-1664
www.amtestlab.com

ANALYSIS REPORT

Professional Analytical Services

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project Name: Friedman & Bruya (CHEM)
Project #: 601053

Date Received: 01/07/26
Date Reported: 01/16/26

Quality Control
(Continued)

Conventional Chemistry Parameters by APHA/EPA Methods (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BDA0163 - No Prep - WetChem (Continued)										
Duplicate (BDA0163-DUP1)		**Source: A26A0083-07**			Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	11.5		0.50	mg/L		14.1			20	38
Duplicate (BDA0163-DUP2)		**Source: A26A0158-02**			Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	15.3		0.50	mg/L		17.5			13	38
Duplicate (BDA0163-DUP3)		**Source: A26A0165-09**			Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	0.21	J	0.50	mg/L		0.21				38
Duplicate (BDA0163-DUP4)		**Source: A26A0166-05**			Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	7.78		0.50	mg/L		7.50			4	38
Matrix Spike (BDA0163-MS1)		**Source: A26A0083-08**			Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	73.1		0.50	mg/L	50.00	15.2	116%	60-140%		
Matrix Spike (BDA0163-MS2)		**Source: A26A0158-03**			Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	55.1		0.50	mg/L	50.00	0.25	110%	60-140%		
Matrix Spike (BDA0163-MS3)		**Source: A26A0165-10**			Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	52.2		0.50	mg/L	50.00	1.18	102%	60-140%		
Matrix Spike (BDA0163-MS4)		**Source: A26A0166-06**			Prepared & Analyzed: 01/12/26					
Total Organic Carbon (TOC)	60.1		0.50	mg/L	50.00	6.29	108%	60-140%		

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Am Test Inc.
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ANALYSIS REPORT

Professional Analytical Services

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project Name: Friedman & Bruya (CHEM)
Project #: 601053

Date Received: 01/07/26
Date Reported: 01/16/26

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

A'26 A 0 1 0 3 -

Page # 1 of 1

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
Amtest	
PROJECT NAME/NO.	PO #
601053	F-663
REMARKS	
2.3 °C	

TURNAROUND TIME
☒ Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	TOC										Notes
MW4-0126		1/6/2026	0040	water	2	x										
MW5-0126		1/7/2026	0154	water	2	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:		Michael Erdahl	Friedman & Bruya	1/7/26	1130
Received by:	Hailey Sheffer	Hailey Sheffer	AmTest	1/7/26	14:06
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

February 3, 2026

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the additional results from the testing of material submitted on January 7, 2026 from the Bridge Point Seattle 130 DAWN, F&BI 601053 project. There are 8 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Grant Hainsworth, Jamie Stevens
CTC0203R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 7, 2026 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 601053 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
601053 -01	DUP02-0126
601053 -02	MW4-0126
601053 -03	MW11-0126
601053 -04	MW5-0126

All quality control requirements were acceptable.

Analysis For Anions By EPA Method 300.0

Client Sample ID:	MW4-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/07/26	Lab ID:	601053-02
Date Analyzed:	01/07/26	Data File:	01-07-26.seq
Matrix:	Water	Instrument:	IC1
Units:	mg/L (ppm)	Operator:	JH

Analyte:	Concentration mg/L (ppm)
ortho-Phosphate (as P)	<1

Analysis For Anions By EPA Method 300.0

Client Sample ID:	MW4-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/07/26	Lab ID:	601053-02 1/100
Date Analyzed:	01/30/26	Data File:	01-30-26.seq
Matrix:	Water	Instrument:	IC1
Units:	mg/L (ppm)	Operator:	JH

Analyte:	Concentration mg/L (ppm)
Chloride	2,300

Analysis For Anions By EPA Method 300.0

Client Sample ID:	MW5-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/07/26	Lab ID:	601053-04
Date Analyzed:	01/07/26	Data File:	01-07-26.seq
Matrix:	Water	Instrument:	IC1
Units:	mg/L (ppm)	Operator:	JH

Analyte:	Concentration mg/L (ppm)
ortho-Phosphate (as P)	<1

Analysis For Anions By EPA Method 300.0

Client Sample ID:	MW5-0126	Client:	Crete Consulting
Date Received:	01/07/26	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/07/26	Lab ID:	601053-04
Date Analyzed:	01/30/26	Data File:	01-30-26.seq
Matrix:	Water	Instrument:	IC1
Units:	mg/L (ppm)	Operator:	JH

Analyte:	Concentration mg/L (ppm)
Chloride	24

Analysis For Anions By EPA Method 300.0

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Bridge Point Seattle 130 DAWN
Date Extracted:	01/07/26	Lab ID:	I6-0019 mb
Date Analyzed:	01/07/26	Data File:	01-07-26.seq
Matrix:	Water	Instrument:	IC1
Units:	mg/L (ppm)	Operator:	JH

Analyte:	Concentration mg/L (ppm)
Chloride	<1
ortho-Phosphate (as P)	<1

Date of Report: 02/03/26
Date Received: 01/07/26
Project: Bridge Point Seattle 130 DAWN, F&BI 601053

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR ANIONS USING EPA METHOD 300.0

Laboratory Code: 601048-01 1/1.1 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Chloride	mg/L (ppm)	5	17,000	0 ip	0 ip	80-120	nm
ortho-Phosphate (as P)	mg/L (ppm)	5	7.4	93 b	141 b	80-120	41 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chloride	mg/L (ppm)	5	104	90-110
ortho-Phosphate (as P)	mg/L (ppm)	5	108	90-110

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

601053

SAMPLE CHAIN OF CUSTODY

01/07/26 J2/MW2/C3

Page # 1 of 1

Report To Jones/Stevens/Hainsworth

Company CRETE Consulting Inc.

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME Bridge Point Seattle 130

PO # DAWN

REMARKS

Project specific RLs? - Yes / No

INVOICE TO CRETE

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	TOC PCBs EPA 8082	Methane/Ethane/Ethene	Dissolved Fe + Mn	Nitrate/Nitrite/Iron	Ammonia, Sulfide	Ortho-P and chloride	Notes
~~DUP01-0126~~ RS																		RT
DUP02-0126	01 A-C	1/6/2026	0002	WATER	3					X								
MW4-0126	02 A-J	↓	0040	↓	10					X		X	X	X	X	X		●
MW11-0126	03 A-C	↓	0136	↓	3					X								
MW5-0126	04 A-N	1/7/2026	0154	↓	14	X				X		X	X	X	X	X		● NH-Dx w/ and w/out SGC
													Samples received at 1 °C					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	1/7/2026	1123
Received by: [signature]	Nhan Phan	FEBT	1/7/2026	1123
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 601053 CLIENT Crete INITIALS/ DATE: (NP) 01/07/26

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 1 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO **Initials/ Date:** (NP) 01/07
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory ~~0~~ ≥ 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes	☐ No	☐ Not on COC/label
Date Sampled	☑ Yes	☐ No	☐ Not on COC/label
Time Sampled	☑ Yes	☐ No	☐ Not on COC/label
# of Containers	☑ Yes	☐ No	
Relinquished	☑ Yes	☐ No	
Requested analysis	☑ Yes	☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

BROOKS APPLIED LABS
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January 15, 2026

Crete Consulting
ATTN: Rusty Jones
108 S. Washington Street, Suite 300
Seattle, WA 98104
832-330-1359
rusty.jones@creteconsulting.com

RE: Project CRC-SE2101 Client Project: Bridge Point Seattle 130

Dear Rusty Jones,

On January 7, 2026, Brooks Applied Labs (BAL) received fourteen (14) aqueous samples in a sealed cooler at an acceptable temperature of 3.9°C. The samples were logged in for total recoverable and dissolved arsenic (As), copper (Cu), and zinc (Zn), according to the chain-of-custody form. Samples for dissolved analyses were 0.45µm filtered prior to receipt. All sample fractions were preserved to a pH <2 upon receipt at BAL.

Samples 2601062-07 (MW8-0126) and 261062-08 (MW8-0126) were placed on hold per the COC request. These samples were not analyzed, and there are no results included in this report for these samples.

Total Recoverable and Dissolved (As, Cu, Zn) Quantitation by ICP-QQQ-MS
Each aqueous sample fraction for total recoverable or dissolved metals was digested on a hotblock apparatus with nitric and hydrochloric acids. The resulting digests were analyzed via inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS instrumentation uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (**N/C**).

In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision. When the spiking levels were ≤ 25% of the native sample concentrations, the recoveries were not reported **(NR)**. No sample results were qualified on the basis of the MS or MSD recoveries.

The matrix spike (MS) B260059-MS1 and matrix spike duplicate (MSD) B260059-MSD1 performed on sample 2601062-01 had recoveries for Zn that were above the acceptance limit. In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision.

The results were not method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification and all associated quality control sample results met the acceptance criteria.

BAL verifies that the reported results of all analyses for which the laboratory is accredited meet the requirements of the accrediting body, unless otherwise noted in the report narrative. For more information regarding accreditations please see the *Report Information* and *Batch Summary* pages. This report must be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Report Information

General Disclaimers

Test results are based solely upon the sample submitted to Brooks Applied Labs in the condition it was received . This report shall not be reproduced or copied, except in full, without written approval of the laboratory. Brooks Applied Labs is not responsible for the consequences arising from the use of a partial report.

Laboratory Accreditation

BAL maintains accreditation with various state and national agencies for select test methods. For a current list of BAL accreditations, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. The reported analyte/matrix/method combination shall be considered outside BAL's scopes of accreditation unless otherwise identified as ISO, TNI, or ISO,TNI in the tables. It is the responsibility of the client to verify whether a specific accreditation is required for the intended data use.

ISO: ISO/IEC 17025:2017 accredited test method. Issued by ANSI National Accreditation Board (ANAB), #ADE-1447.02.

TNI: NELAP accredited test method. Issued by the State of Florida Department of Health, #E87982.

ISO,TNI: Test method is accredited under both the ISO/IEC 17025:2017 and NELAP accreditations referenced above.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

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Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
MW1-0126	2601062-01	Water	Sample	01/04/2026	01/07/2026
MW1-0126	2601062-02	Water	Sample	01/04/2026	01/07/2026
MW3-0126	2601062-03	Water	Sample	01/05/2026	01/07/2026
MW3-0126	2601062-04	Water	Sample	01/05/2026	01/07/2026
MW9-0126	2601062-05	Water	Sample	01/05/2026	01/07/2026
MW9-0126	2601062-06	Water	Sample	01/05/2026	01/07/2026
MW8-0126	2601062-07	Water	Sample	01/05/2026	01/07/2026
MW8-0126	2601062-08	Water	Sample	01/05/2026	01/07/2026
DUP01-0126	2601062-09	Water	Field Duplicate	01/06/2026	01/07/2026
DUP01-0126	2601062-10	Water	Field Duplicate	01/06/2026	01/07/2026
MW4-0126	2601062-11	Water	Sample	01/06/2026	01/07/2026
MW4-0126	2601062-12	Water	Sample	01/06/2026	01/07/2026
MW5-0126	2601062-13	Water	Sample	01/07/2026	01/07/2026
MW5-0126	2601062-14	Water	Sample	01/07/2026	01/07/2026

Batch Summary

Analyte	Lab Matrix	Method	Accred.	Prepared	Analyzed	Batch	Sequence
As	Water	EPA 1638 Mod	ISO,TNI	01/09/26	01/09/26	B260059	S260028
Cu	Water	EPA 1638 Mod	ISO,TNI	01/09/26	01/09/26	B260059	S260028
Zn	Water	EPA 1638 Mod	ISO,TNI	01/09/26	01/09/26	B260059	S260028

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW1-0126 2601062-01	Zn	Water	TR	116		12.1	24.2	µg/L	B260059	S260028
MW1-0126 2601062-02	Zn	Water	D	87.4		12.1	24.2	µg/L	B260059	S260028
MW3-0126 2601062-03	Cu	Water	TR	5.98		0.909	1.82	µg/L	B260059	S260028
MW3-0126 2601062-04	Cu	Water	D	3.01		0.909	1.82	µg/L	B260059	S260028
MW9-0126 2601062-05	As	Water	TR	5.09		0.222	0.727	µg/L	B260059	S260028
MW9-0126 2601062-06	As	Water	D	4.84		0.222	0.727	µg/L	B260059	S260028
DUP01-0126 2601062-09	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B260059	S260028
DUP01-0126 2601062-10	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B260059	S260028
MW4-0126 2601062-11	Zn	Water	TR	≤ 12.1	U	12.1	24.2	µg/L	B260059	S260028
MW4-0126 2601062-12	Zn	Water	D	≤ 12.1	U	12.1	24.2	µg/L	B260059	S260028
MW5-0126 2601062-13	Zn	Water	TR	567		12.1	24.2	µg/L	B260059	S260028
MW5-0126 2601062-14	Zn	Water	D	456		12.1	24.2	µg/L	B260059	S260028

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Accuracy & Precision Summary

Batch: B260059
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B260059-BS1	**Blank Spike, (2516020)**						
	As		55.56	55.19	µg/L	99% 75-125	
	Cu		55.56	58.99	µg/L	106% 75-125	
	Zn		55.56	59.45	µg/L	107% 75-125	
B260059-SRM1	**Reference Material (2537023, NIST 1643f)**						
	As		57.42	65.51	µg/L	114% 75-125	
	Cu		21.66	25.39	µg/L	117% 75-125	
	Zn		74.40	89.31	µg/L	120% 75-125	
B260059-DUP1	**Duplicate, (2601062-01)**						
	As	3.097		2.991	µg/L		3% 20
	Cu	2.588		2.426	µg/L		6% 20
	Zn	116.0		117.6	µg/L		1% 20
B260059-MS1	**Matrix Spike, (2601062-01)**						
	As	3.097	56.12	67.44	µg/L	115% 75-125	
	Cu	2.588	56.12	67.35	µg/L	115% 75-125	
	Zn	116.0	56.12	198.1	µg/L	*146%* 75-125	
B260059-MSD1	**Matrix Spike Duplicate, (2601062-01)**						
	As	3.097	56.12	68.70	µg/L	117% 75-125	2% 20
	Cu	2.588	56.12	69.40	µg/L	119% 75-125	3% 20
	Zn	116.0	56.12	201.5	µg/L	*152%* 75-125	2% 20
B260059-DUP2	**Duplicate, (2601062-13)**						
	As	1.467		1.465	µg/L		0.2% 20
	Cu	ND		ND	µg/L		N/C 20
	Zn	567.3		578.0	µg/L		2% 20
B260059-MS2	**Matrix Spike, (2601062-13)**						
	As	1.467	56.12	57.73	µg/L	100% 75-125	
	Cu	ND	56.12	59.99	µg/L	107% 75-125	
	Zn	567.3	56.12	622.7	µg/L	NR 75-125	

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Accuracy & Precision Summary

Batch: B260059
Lab Matrix: Water
Method: EPA 1638 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B260059-MSD2	**Matrix Spike Duplicate, (2601062-13)**						
	As	1.467	56.12	54.22	µg/L	94% 75-125	6% 20
	Cu	ND	56.12	56.69	µg/L	101% 75-125	6% 20
	Zn	567.3	56.12	634.4	µg/L	NR 75-125	N/C 20

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Method Blanks & Reporting Limits

Batch: B260059
Matrix: Water
Method: EPA 1638 Mod
Analyte: As

Sample	Result	Units
B260059-BLK1	0.005	µg/L
B260059-BLK2	0.005	µg/L
B260059-BLK3	0.007	µg/L
B260059-BLK4	0.005	µg/L

Average: 0.006
Limit: 0.072
MDL: 0.022
MRL: 0.072

Analyte: Cu

Sample	Result	Units
B260059-BLK1	0.029	µg/L
B260059-BLK2	0.014	µg/L
B260059-BLK3	0.022	µg/L
B260059-BLK4	0.009	µg/L

Average: 0.019
Limit: 0.180
MDL: 0.090
MRL: 0.180

Analyte: Zn

Sample	Result	Units
B260059-BLK1	0.475	µg/L
B260059-BLK2	0.172	µg/L
B260059-BLK3	0.355	µg/L
B260059-BLK4	0.181	µg/L

Average: 0.296
Limit: 2.400
MDL: 1.20
MRL: 2.40

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2601062-01 **Report Matrix:** Water **Collected:** 01/04/2026
Sample: MW1-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-02 **Report Matrix:** Water **Collected:** 01/04/2026
Sample: MW1-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-03 **Report Matrix:** Water **Collected:** 01/05/2026
Sample: MW3-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-04 **Report Matrix:** Water **Collected:** 01/05/2026
Sample: MW3-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-05 **Report Matrix:** Water **Collected:** 01/05/2026
Sample: MW9-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

13751 Lake City Way NE, Suite 108, Seattle, WA 98125 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Sample Containers

Lab ID: 2601062-06 **Report Matrix:** Water **Collected:** 01/05/2026
Sample: MW9-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-07 **Report Matrix:** Water **Collected:** 01/05/2026
Sample: MW8-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-08 **Report Matrix:** Water **Collected:** 01/05/2026
Sample: MW8-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-09 **Report Matrix:** Water **Collected:** 01/06/2026
Sample: DUP01-0126 **Sample Type:** Field Duplicate **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-10 **Report Matrix:** Water **Collected:** 01/06/2026
Sample: DUP01-0126 **Sample Type:** Field Duplicate **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

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Project ID: CRC-SE2101
PM: Amy Goodall

Client PM: Rusty Jones
Client Project: Bridge Point Seattle 130

Sample Containers

Lab ID: 2601062-11 **Report Matrix:** Water **Collected:** 01/06/2026
Sample: MW4-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-12 **Report Matrix:** Water **Collected:** 01/06/2026
Sample: MW4-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-13 **Report Matrix:** Water **Collected:** 01/07/2026
Sample: MW5-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Lab ID: 2601062-14 **Report Matrix:** Water **Collected:** 01/07/2026
Sample: MW5-0126 **Sample Type:** Sample **Received:** 01/07/2026

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle HDPE ICP-W	125 mL	2508372	1% HNO3 BAL)	2522013	<2	Cooler - 2601062

Comments: JNT preserved 1/7/26 14:35

Shipping Containers

Cooler - 2601062

Received: January 7, 2026 11:55
Tracking No: N/A via Customer Drop-Off
Coolant Type: Ice
Temperature: 3.9 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: SCTH-1

Custody seals present? No
Custody seals intact? No
COC present? Yes

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
13751 Lake City Way NE, Suite 108
Seattle, WA 98125

BAL Report 2601062

For BAL use only
Received by: _____ *Date:* _____
Work Order ID: _____ *Time:* _____
Project ID: _____

Client: CRETE Consulting Inc. PO Number: DAWN Mailing Address: _____
Contact: Rusty Jones Phone: 832.330.1359 _____
Client Project ID: Bridge Point Seattle 130 Email: rusty.jones@creteconsulting.com Email Receipt Confirmation? (Yes/No)
Samples Collected By: Rusty Jones R.Jones BAL PM: Amy Goodall

Requested TAT (business days)
- [x] 20 (standard)
- [ ] 15*
- [ ] 10*
- [ ] 5*
- [ ] Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Client Sample Info: Number of Containers	Client Sample Info: Field Filtered? (Yes/No)	Client Sample Info: Preservation Type HCl/HNO_3/Other	BAL Analyses Required: Total Hg, EPA 1631	BAL Analyses Required: Methyl Hg, EPA 1630	BAL Analyses Required: ICP-MS Metals (specify) Total + Dissolved, Method 1638 Mod.	BAL Analyses Required: As Species (specify) InOrg, III, V, MMA, DMA	BAL Analyses Required: Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	BAL Analyses Required: Filtration	BAL Analyses Required: Other (specify) uS/cm Specific Conductivity	BAL Analyses Required: Other (specify)	Comments: Specify Here
1	MW1-0126	1/4/2026	2348	WATER	2	Y/N	NONE			X				6010		Zinc only
2	MW3-0126	1/5/2026	0017	↑	2	↓	↓			X				19465		Copper only
3	MW9-0126	1/5/2026	1148		2					X				702		Arsenic only
4	MW8-0126	1/5/2026	1238	↓	2									544		HOLD
5	DUP01-0126	1/6/2026 ~~0010~~ 0015		0001 WATER	2					X				<10000		Zinc only
6	MW4-0126	1/6/2026	0040	WATER	2					X				6835		Zinc only
7	MW5-0126	1/7/2026	0154	↓	2	↓	↓			X				259		Zinc only
8																
9																
10																
	Trip Blank															

Relinquished By: R.Jones	Date: 1/7/2026	Time: 1155	Relinquished By:	Date:	Time:
Received By: JNT	Date: 1/7/26	Time: 1155	Total Number of Packages:		

Page 1 of 1 List Hazardous Contaminants: _____

samples@brooksapplied.com | brooksapplied.com

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

February 19, 2026 Ceres ID: 20573

Friedman and Bruya, Inc.
5500 4th Ave. S.
Seattle, WA 98109

The following report contains the results for the one aqueous sample received on February 17, 2026. This sample was analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 1613. Rush turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # G-57 and Project No. 602250.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
20573-001	MW-3D-0226	2/17/2026	2/15/2026	23:15

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample **Method Blank**	**QC Batch #:** 3688	**Date Received:** NA
	Matrix: Aqueous	**Date Extracted:** 2/17/2026
Project ID: 602250	**Sample Size:** 1.000 L	**Date Analyzed:** 2/18/2026

Analyte	Conc. (pg/L)	MDL	RL	Qual.	Labeled Standards	% R	LCL-UCL (a)	Qualifiers
2,3,7,8-TCDD	ND< 0.342	2.96	5.00		13C-2378-TCDD	105	25-164	
12378-PeCDD	ND< 0.707	8.39	25.0		13C-12378-PeCDD	55.4	25-181	
123478-HxCDD	ND< 0.534	16.6	25.0		13C-123478-HxCDD	102	32-141	
123678-HxCDD	ND< 0.523	9.38	25.0		13C-123678-HxCDD	104	28-130	
123789-HxCDD	ND< 0.527	9.18	25.0		13C-1234678-HpCDD	88.1	23-140	
1234678-HpCDD	ND< 0.483	7.31	25.0		13C-OCDD	80.0	17-157	
OCDD	ND< 0.973	22.2	50.0		13C-2378-TCDF	88.6	24-169	
2,3,7,8-TCDF	ND< 0.274	1.44	5.00		13C-12378-PeCDF	59.0	24-185	
12378-PeCDF	ND< 0.952	6.86	25.0		13C-23478-PeCDF	55.0	21-178	
23478-PeCDF	ND< 0.974	5.95	25.0		13C-123478-HxCDF	90.6	26-152	
123478-HxCDF	ND< 0.666	8.38	25.0		13C-123678-HxCDF	88.1	26-123	
123678-HxCDF	ND< 0.657	8.04	25.0		13C-234678-HxCDF	88.1	28-136	
234678-HxCDF	ND< 0.582	6.88	25.0		13C-123789-HxCDF	89.1	29-147	
123789-HxCDF	ND< 0.554	7.81	25.0		13C-1234678-HpCDF	78.8	28-143	
1234678-HpCDF	ND< 0.353	7.73	25.0		13C-1234789-HpCDF	67.5	26-138	
1234789-HpCDF	ND< 0.741	7.07	25.0					
OCDF	ND< 0.953	9.32	50.0					

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 0.342	
Total PeCDD	ND< 0.707	
Total HxCDD	ND< 0.534	
Total HpCDD	ND< 0.483	
Total TCDF	ND< 0.274	
Total PeCDF	ND< 0.974	
Total HxCDF	ND< 0.666	
Total HpCDF	ND< 0.741	

CRS

37Cl4-2378-TCDD	95.3	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample Ongoing Precision and Recovery		Date Received: NA
	QC Batch #: 3688	Date Extracted: 2/17/2026
	Matrix: Aqueous	Date Analyzed: 2/18/2026
Project ID: 602250	Sample Size: 1.000 L	

Analyte	Conc. (ng/mL)	Limits (a)	Labeled Standards	% Rec.	Limits (a)
2,3,7,8-TCDD	8.20	6.7-15.8	13C-2378-TCDD	92.1	20-175
12378-PeCDD	42.8	35-71	13C-12378-PeCDD	51.2	21-227
123478-HxCDD	42.0	35-82	13C-123478-HxCDD	96.7	21-193
123678-HxCDD	40.6	38-67	13C-123678-HxCDD	99.7	25-163
123789-HxCDD	40.5	32-81	13C-1234678-HpCDD	89.8	26-166
1234678-HpCDD	43.7	35-70	13C-OCDD	74.7	13-198
OCDD	90.4	78-144	13C-2378-TCDF	85.0	22-152
2,3,7,8-TCDF	8.55	7.5-15.8	13C-12378-PeCDF	53.2	21-192
12378-PeCDF	42.9	40-67	13C-23478-PeCDF	50.1	13-328
23478-PeCDF	40.8	34-80	13C-123478-HxCDF	90.2	19-202
123478-HxCDF	41.4	36-67	13C-123678-HxCDF	86.0	21-159
123678-HxCDF	43.4	42-65	13C-234678-HxCDF	87.9	22-176
234678-HxCDF	42.0	35-78	13C-123789-HxCDF	81.7	17-205
123789-HxCDF	44.3	39-65	13C-1234678-HpCDF	76.1	21-158
1234678-HpCDF	49.1	41-61	13C-1234789-HpCDF	67.6	20-186
1234789-HpCDF	46.8	39-69			
OCDF	81.5	63-170			
			CRS		
			37Cl4-2378-TCDD	82.2	31-191

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW-3D-0226		
Project ID: 602250	**Ceres Sample ID:** 20573-001	**Date Received:** 2/17/2026
	QC Batch #: 3688	**Date Extracted:** 2/17/2026
Date Collected: 2/15/2026	**Matrix:** Aqueous	**Date Analyzed:** 2/18/2026
Time Collected: 23:15	**Sample Size:** 0.944 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 0.138	2.96	5.30	
12378-PeCDD	ND< 0.757	8.39	26.5	
123478-HxCDD	ND< 0.378	16.6	26.5	
123678-HxCDD	ND< 0.387	9.38	26.5	
123789-HxCDD	ND< 0.372	9.18	26.5	
1234678-HpCDD	6.77	7.31	26.5	J
OCDD	40.8	22.2	53.0	J
2,3,7,8-TCDF	ND< 0.330	1.44	5.30	
12378-PeCDF	ND< 1.11	6.86	26.5	
23478-PeCDF	ND< 1.16	5.95	26.5	
123478-HxCDF	ND< 1.37	8.38	26.5	
123678-HxCDF	ND< 1.46	8.04	26.5	
234678-HxCDF	ND< 1.24	6.88	26.5	
123789-HxCDF	ND< 1.23	7.81	26.5	
1234678-HpCDF	ND< 1.04	7.73	26.5	
1234789-HpCDF	ND< 1.12	7.07	26.5	
OCDF	ND< 1.94	9.32	53.0	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 0.138	
Total PeCDD	ND< 0.757	
Total HxCDD	ND< 0.387	
Total HpCDD	11.1	
Total TCDF	ND< 0.330	
Total PeCDF	ND< 1.16	
Total HxCDF	ND< 1.46	
Total HpCDF	ND< 1.12	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	103	25-164	
13C-12378-PeCDD	55.1	25-181	
13C-123478-HxCDD	98.2	32-141	
13C-123678-HxCDD	98.4	28-130	
13C-1234678-HpCDD	75.8	23-140	
13C-OCDD	49.6	17-157	
13C-2378-TCDF	83.2	24-169	
13C-12378-PeCDF	56.7	24-185	
13C-23478-PeCDF	52.5	21-178	
13C-123478-HxCDF	82.1	26-152	
13C-123678-HxCDF	78.3	26-123	
13C-234678-HxCDF	80.8	28-136	
13C-123789-HxCDF	77.3	29-147	
13C-1234678-HpCDF	60.9	28-143	
13C-1234789-HpCDF	62.6	26-138	

CRS

37Cl4-2378-TCDD	101	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0799 pg/L

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER Ceres Analytical	
PROJECT NAME/NO. 602250	PO # G-57
REMARKS EIM EDD	

TURNAROUND TIME
Standard
☒ RUSH 3-DAY TAT
Rush charges authorized by: ME

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: D/F 1613										Notes
MW-3D-0226		2/15/2026	2315	water	2 x	x										

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98109
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	2/16/26	1141
Received by:	HH	Harrison Hedin		2/17/26	0935
Relinquished by:					
Received by:					

Sample Receipt Check List Logged by: HH (initials)

Ceres ID: 20573	Date/Time: 2/17/26 09:35
Client Project ID: 602250	Received Temp: 3.3 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Chain of Custody Received by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / (N) / NA
Residual Cl?	Y / (N) / NA
Aqueous sample pH: 7	NA
List COC discrepancies: HH 2/17/26	
List Damaged Samples: HH 2/17/26	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

February 27, 2026

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on February 13, 2026 from the Bridge Point Seattle 130 DAWN, F&BI 602250 project. There is 1 page 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: Grant Hainsworth, Jamie Stevens
CTC0227R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 13, 2026 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 602250 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
602250 -01	MW3D-0226

Sample MW3D-0226 was sent to Ceres Analytical for dioxin and furan analysis. The report is enclosed.

602250

SAMPLE CHAIN OF CUSTODY

02/16/26 F2

Report To [redacted] Jones / Hainsworth / Stevens

Company CRETE Consulting Inc.

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones [redacted]

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS: Lowest reporting limits available.
Project specific RLs? (Yes) No

INVOICE TO: CRETE

Page # 1 of 1

TURNAROUND TIME
☐ Standard turnaround
☒ RUSH 3-day
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Dioxins/Furans				Notes
						ANALYSES REQUESTED											
MW3D-0226	01A-B	2/15/2026	2315	GRAB, WATER	2								X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	2/16/2026	1105
Received by:	Anh Phan	FBI	02/16/26	11:05
Relinquished by:		Samples received at 1 °C		
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 602250 CLIENT Cretc INITIALS/ DATE: AP 02/16/26

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 1 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ AP
*or other representative documents, letters, and/or shipping memos Date: 02/16/26

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ Number of unused TO17 tubes _____
**Fill out Green manifolds billing sheet

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

February 19, 2026 Ceres ID: 20573

Friedman and Bruya, Inc.
5500 4th Ave. S.
Seattle, WA 98109

The following report contains the results for the one aqueous sample received on February 17, 2026. This sample was analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 1613. Rush turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # G-57 and Project No. 602250.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
20573-001	MW-3D-0226	2/17/2026	2/15/2026	23:15

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample **Method Blank**	**QC Batch #:** 3688	**Date Received:** NA
	Matrix: Aqueous	**Date Extracted:** 2/17/2026
Project ID: 602250	**Sample Size:** 1.000 L	**Date Analyzed:** 2/18/2026

Analyte	Conc. (pg/L)	MDL	RL	Qual.	Labeled Standards	% R	LCL-UCL (a)	Qualifiers
2,3,7,8-TCDD	ND< 0.342	2.96	5.00		13C-2378-TCDD	105	25-164	
12378-PeCDD	ND< 0.707	8.39	25.0		13C-12378-PeCDD	55.4	25-181	
123478-HxCDD	ND< 0.534	16.6	25.0		13C-123478-HxCDD	102	32-141	
123678-HxCDD	ND< 0.523	9.38	25.0		13C-123678-HxCDD	104	28-130	
123789-HxCDD	ND< 0.527	9.18	25.0		13C-1234678-HpCDD	88.1	23-140	
1234678-HpCDD	ND< 0.483	7.31	25.0		13C-OCDD	80.0	17-157	
OCDD	ND< 0.973	22.2	50.0		13C-2378-TCDF	88.6	24-169	
2,3,7,8-TCDF	ND< 0.274	1.44	5.00		13C-12378-PeCDF	59.0	24-185	
12378-PeCDF	ND< 0.952	6.86	25.0		13C-23478-PeCDF	55.0	21-178	
23478-PeCDF	ND< 0.974	5.95	25.0		13C-123478-HxCDF	90.6	26-152	
123478-HxCDF	ND< 0.666	8.38	25.0		13C-123678-HxCDF	88.1	26-123	
123678-HxCDF	ND< 0.657	8.04	25.0		13C-234678-HxCDF	88.1	28-136	
234678-HxCDF	ND< 0.582	6.88	25.0		13C-123789-HxCDF	89.1	29-147	
123789-HxCDF	ND< 0.554	7.81	25.0		13C-1234678-HpCDF	78.8	28-143	
1234678-HpCDF	ND< 0.353	7.73	25.0		13C-1234789-HpCDF	67.5	26-138	
1234789-HpCDF	ND< 0.741	7.07	25.0					
OCDF	ND< 0.953	9.32	50.0					

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 0.342	
Total PeCDD	ND< 0.707	
Total HxCDD	ND< 0.534	
Total HpCDD	ND< 0.483	
Total TCDF	ND< 0.274	
Total PeCDF	ND< 0.974	
Total HxCDF	ND< 0.666	
Total HpCDF	ND< 0.741	

CRS

37Cl4-2378-TCDD	95.3	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample Ongoing Precision and Recovery		Date Received: NA
	QC Batch #: 3688	Date Extracted: 2/17/2026
	Matrix: Aqueous	Date Analyzed: 2/18/2026
Project ID: 602250	Sample Size: 1.000 L	

Analyte	Conc. (ng/mL)	Limits (a)	Labeled Standards	% Rec.	Limits (a)
2,3,7,8-TCDD	8.20	6.7-15.8	13C-2378-TCDD	92.1	20-175
12378-PeCDD	42.8	35-71	13C-12378-PeCDD	51.2	21-227
123478-HxCDD	42.0	35-82	13C-123478-HxCDD	96.7	21-193
123678-HxCDD	40.6	38-67	13C-123678-HxCDD	99.7	25-163
123789-HxCDD	40.5	32-81	13C-1234678-HpCDD	89.8	26-166
1234678-HpCDD	43.7	35-70	13C-OCDD	74.7	13-198
OCDD	90.4	78-144	13C-2378-TCDF	85.0	22-152
2,3,7,8-TCDF	8.55	7.5-15.8	13C-12378-PeCDF	53.2	21-192
12378-PeCDF	42.9	40-67	13C-23478-PeCDF	50.1	13-328
23478-PeCDF	40.8	34-80	13C-123478-HxCDF	90.2	19-202
123478-HxCDF	41.4	36-67	13C-123678-HxCDF	86.0	21-159
123678-HxCDF	43.4	42-65	13C-234678-HxCDF	87.9	22-176
234678-HxCDF	42.0	35-78	13C-123789-HxCDF	81.7	17-205
123789-HxCDF	44.3	39-65	13C-1234678-HpCDF	76.1	21-158
1234678-HpCDF	49.1	41-61	13C-1234789-HpCDF	67.6	20-186
1234789-HpCDF	46.8	39-69			
OCDF	81.5	63-170			
			CRS		
			37Cl4-2378-TCDD	82.2	31-191

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW-3D-0226		
Project ID: 602250	**Ceres Sample ID:** 20573-001	**Date Received:** 2/17/2026
	QC Batch #: 3688	**Date Extracted:** 2/17/2026
Date Collected: 2/15/2026	**Matrix:** Aqueous	**Date Analyzed:** 2/18/2026
Time Collected: 23:15	**Sample Size:** 0.944 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 0.138	2.96	5.30	
12378-PeCDD	ND< 0.757	8.39	26.5	
123478-HxCDD	ND< 0.378	16.6	26.5	
123678-HxCDD	ND< 0.387	9.38	26.5	
123789-HxCDD	ND< 0.372	9.18	26.5	
1234678-HpCDD	6.77	7.31	26.5	J
OCDD	40.8	22.2	53.0	J
2,3,7,8-TCDF	ND< 0.330	1.44	5.30	
12378-PeCDF	ND< 1.11	6.86	26.5	
23478-PeCDF	ND< 1.16	5.95	26.5	
123478-HxCDF	ND< 1.37	8.38	26.5	
123678-HxCDF	ND< 1.46	8.04	26.5	
234678-HxCDF	ND< 1.24	6.88	26.5	
123789-HxCDF	ND< 1.23	7.81	26.5	
1234678-HpCDF	ND< 1.04	7.73	26.5	
1234789-HpCDF	ND< 1.12	7.07	26.5	
OCDF	ND< 1.94	9.32	53.0	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 0.138	
Total PeCDD	ND< 0.757	
Total HxCDD	ND< 0.387	
Total HpCDD	11.1	
Total TCDF	ND< 0.330	
Total PeCDF	ND< 1.16	
Total HxCDF	ND< 1.46	
Total HpCDF	ND< 1.12	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	103	25-164	
13C-12378-PeCDD	55.1	25-181	
13C-123478-HxCDD	98.2	32-141	
13C-123678-HxCDD	98.4	28-130	
13C-1234678-HpCDD	75.8	23-140	
13C-OCDD	49.6	17-157	
13C-2378-TCDF	83.2	24-169	
13C-12378-PeCDF	56.7	24-185	
13C-23478-PeCDF	52.5	21-178	
13C-123478-HxCDF	82.1	26-152	
13C-123678-HxCDF	78.3	26-123	
13C-234678-HxCDF	80.8	28-136	
13C-123789-HxCDF	77.3	29-147	
13C-1234678-HpCDF	60.9	28-143	
13C-1234789-HpCDF	62.6	26-138	

CRS

37Cl4-2378-TCDD	101	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0799 pg/L

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER Ceres Analytical	
PROJECT NAME/NO. 602250	PO # G-57
REMARKS EIM EDD	

TURNAROUND TIME
Standard
☒ RUSH 3-DAY TAT
Rush charges authorized by: ME

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	D/F 1613										Notes
MW-3D-0226		2/15/2026	2315	water	2 x	x										

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98109
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
~~Relinquished by:~~		Michael Erdahl	Friedman & Bruya	2/16/26	1141
Received by:	HH	Harrison Hedin		2/17/26	0935
Relinquished by:					
Received by:					

Sample Receipt Check List Logged by: HH (initials)

Ceres ID: 20573	Date/Time: 2/17/26 09:35
Client Project ID: 602250	Received Temp: 3.3 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Chain of Custody Received by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / (N) / NA
Residual Cl?	Y / (N) / NA
Aqueous sample pH: 7	NA
List COC discrepancies: HH 2/17/26	
List Damaged Samples: HH 2/17/26	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

March 4, 2026

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on February 16, 2026 from the Bridge Point Seattle 130 DAWN, F&BI 602251 project. There is 1 page 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 office, 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: Grant Hainsworth, Jamie Stevens
CTC0304R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 16, 2026 by Friedman & Bruya, Inc. from the Crete Consulting Bridge Point Seattle 130 DAWN, F&BI 602251 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
602251 -01	MW3D-0226
602251 -02	MW3D-0226 Filtered

The sample was centrifuged at Friedman and Bruya and sent to Ceres Analytical for dioxin and furan analysis. The report is enclosed.

602251

SAMPLE CHAIN OF CUSTODY 02/16/26 F2

Page # 1 of 1

Report To Jones / Hainsworth / Stevens

Company CRETE Consulting Inc.

Address

City, State, ZIP

Phone 832.330.1359 Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: Bridge Point Seattle 130

PO #: DAWN

REMARKS: Lowest reporting limits available.

Project specific RLs? (Yes) / No

INVOICE TO: CRETE

TURNAROUND TIME
- ☐ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Dioxins/Furans				Notes
MW3D-0226	01	2/15/2026	2315	GRAB WATER	(1) 2 JS								X				~~HOLD~~
MW3D-0226 FILTERED	02	2/15/2026	2315	GRAB WATER	(1)												HOLD

X-centrifuge and then analyze per JS

02/26/26 ME

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE	2/16/2026	1105
Received by:	Andy Phan	FBI	02/16/26	11:05
Relinquished by:		Samples received at 1 °C		
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 602251 CLIENT Cretc INITIALS/ DATE: AP 02/16/26

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 1 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ AP
*or other representative documents, letters, and/or shipping memos Date: 02/16/26

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

March 2, 2026 Ceres ID: 20606

Friedman and Bruya, Inc.
5500 4th Ave. S.
Seattle, WA 98109

The following report contains the results for one of the two samples received on February 27, 2026. This sample was analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 1613. Rush turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # G-75 and Project No. 602251.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
20606-001	MW3D-0226	2/27/2026	2/15/2026	23:15
20606-002	MW3D-0226 FILTERED	2/27/2026	2/15/2026	23:15

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample **Method Blank**	**QC Batch #:** 3702	**Date Received:** NA
	Matrix: Aqueous	**Date Extracted:** 2/28/2026
Project ID: 602251	**Sample Size:** 1.000 L	**Date Analyzed:** 3/1/2026

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 0.763	2.96	5.00	
12378-PeCDD	ND< 3.30	8.39	25.0	
123478-HxCDD	ND< 0.823	16.6	25.0	
123678-HxCDD	ND< 0.981	9.38	25.0	
123789-HxCDD	ND< 0.811	9.18	25.0	
1234678-HpCDD	ND< 2.18	7.31	25.0	
OCDD	ND< 2.30	22.2	50.0	
2,3,7,8-TCDF	ND< 0.504	1.44	5.00	
12378-PeCDF	ND< 1.53	6.86	25.0	
23478-PeCDF	ND< 1.66	5.95	25.0	
123478-HxCDF	ND< 1.93	8.38	25.0	
123678-HxCDF	ND< 2.04	8.04	25.0	
234678-HxCDF	ND< 1.91	6.88	25.0	
123789-HxCDF	ND< 1.72	7.81	25.0	
1234678-HpCDF	ND< 0.620	7.73	25.0	
1234789-HpCDF	ND< 0.756	7.07	25.0	
OCDF	ND< 2.26	9.32	50.0	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	100	25-164	
13C-12378-PeCDD	64.3	25-181	
13C-123478-HxCDD	118	32-141	
13C-123678-HxCDD	91.3	28-130	
13C-1234678-HpCDD	94.3	23-140	
13C-OCDD	92.4	17-157	
13C-2378-TCDF	83.2	24-169	
13C-12378-PeCDF	67.3	24-185	
13C-23478-PeCDF	62.4	21-178	
13C-123478-HxCDF	96.3	26-152	
13C-123678-HxCDF	86.5	26-123	
13C-234678-HxCDF	89.0	28-136	
13C-123789-HxCDF	91.4	29-147	
13C-1234678-HpCDF	85.5	28-143	
13C-1234789-HpCDF	77.5	26-138	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 0.763	
Total PeCDD	ND< 3.30	
Total HxCDD	ND< 0.981	
Total HpCDD	ND< 2.18	
Total TCDF	ND< 0.504	
Total PeCDF	ND< 1.66	
Total HxCDF	ND< 2.04	
Total HpCDF	ND< 0.756	

CRS

37Cl4-2378-TCDD	103	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample Ongoing Precision and Recovery		Date Received: NA
	QC Batch #: 3702	Date Extracted: 2/28/2026
	Matrix: Aqueous	Date Analyzed: 3/1/2026
Project ID: 602251	Sample Size: 1.000 L	

Analyte	Conc. (ng/mL)	Limits (a)	Labeled Standards	% Rec.	Limits (a)
2,3,7,8-TCDD	7.86	6.7-15.8	13C-2378-TCDD	101	20-175
12378-PeCDD	43.8	35-71	13C-12378-PeCDD	60.9	21-227
123478-HxCDD	41.3	35-82	13C-123478-HxCDD	97.9	21-193
123678-HxCDD	41.5	38-67	13C-123678-HxCDD	95.6	25-163
123789-HxCDD	39.1	32-81	13C-1234678-HpCDD	95.8	26-166
1234678-HpCDD	43.7	35-70	13C-OCDD	93.7	13-198
OCDD	90.6	78-144	13C-2378-TCDF	88.8	22-152
2,3,7,8-TCDF	8.06	7.5-15.8	13C-12378-PeCDF	63.4	21-192
12378-PeCDF	44.7	40-67	13C-23478-PeCDF	60.8	13-328
23478-PeCDF	41.8	34-80	13C-123478-HxCDF	84.6	19-202
123478-HxCDF	43.7	36-67	13C-123678-HxCDF	83.1	21-159
123678-HxCDF	44.0	42-65	13C-234678-HxCDF	86.9	22-176
234678-HxCDF	42.5	35-78	13C-123789-HxCDF	85.9	17-205
123789-HxCDF	45.5	39-65	13C-1234678-HpCDF	82.1	21-158
1234678-HpCDF	49.7	41-61	13C-1234789-HpCDF	77.0	20-186
1234789-HpCDF	49.5	39-69			
OCDF	83.2	63-170			
			CRS		
			37Cl4-2378-TCDD	85.6	31-191

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW3D-0226		
Project ID: 602251	**Ceres Sample ID:** 20606-001	**Date Received:** 2/27/2026
	QC Batch #: 3702	**Date Extracted:** 2/28/2026
Date Collected: 2/15/2026	**Matrix:** Aqueous	**Date Analyzed:** 3/1/2026
Time Collected: 23:15	**Sample Size:** 0.891 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 0.413	2.96	5.61	
12378-PeCDD	ND< 1.54	8.39	28.1	
123478-HxCDD	ND< 0.697	16.6	28.1	
123678-HxCDD	ND< 0.751	9.38	28.1	
123789-HxCDD	ND< 0.687	9.18	28.1	
1234678-HpCDD	9.34	7.31	28.1	J
OCDD	75.0	22.2	56.1	
2,3,7,8-TCDF	ND< 0.680	1.44	5.61	
12378-PeCDF	ND< 1.07	6.86	28.1	
23478-PeCDF	ND< 1.08	5.95	28.1	
123478-HxCDF	ND< 1.13	8.38	28.1	
123678-HxCDF	ND< 1.22	8.04	28.1	
234678-HxCDF	ND< 1.06	6.88	28.1	
123789-HxCDF	ND< 1.01	7.81	28.1	
1234678-HpCDF	ND< 1.01	7.73	28.1	
1234789-HpCDF	ND< 1.04	7.07	28.1	
OCDF	ND< 2.24	9.32	56.1	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 0.413	
Total PeCDD	ND< 1.54	
Total HxCDD	ND< 0.751	
Total HpCDD	18.0	
Total TCDF	ND< 0.680	
Total PeCDF	ND< 1.08	
Total HxCDF	ND< 1.22	
Total HpCDF	ND< 1.04	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	96.3	25-164	
13C-12378-PeCDD	56.7	25-181	
13C-123478-HxCDD	91.1	32-141	
13C-123678-HxCDD	88.2	28-130	
13C-1234678-HpCDD	73.0	23-140	
13C-OCDD	52.9	17-157	
13C-2378-TCDF	80.0	24-169	
13C-12378-PeCDF	60.4	24-185	
13C-23478-PeCDF	55.9	21-178	
13C-123478-HxCDF	72.8	26-152	
13C-123678-HxCDF	71.3	26-123	
13C-234678-HxCDF	75.2	28-136	
13C-123789-HxCDF	73.6	29-147	
13C-1234678-HpCDF	57.7	28-143	
13C-1234789-HpCDF	61.4	26-138	

CRS

37Cl4-2378-TCDD	95.8	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.116 pg/L

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
Ceres	
PROJECT NAME/NO.	PO #
602251	G-75
REMARKS	
EIM	

TURNAROUND TIME
Standard
☒ RUSH ___ 3-DAY
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins/Furans 1613										Notes
MW3D-0226		2/15/2026	2315	water	1	x										Centrifuged at F&B
MW3D-0226 FILTERED		2/15/2026	2315	water	1	~~x~~										HOLD FILTERED ME

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98109
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	2/26/26	1015
Received by:		Harrison Hedin	Ceres	2/27/26	1037
Relinquished by:					
Received by:					

Sample Receipt Check List Logged by: HH (initials)

Ceres ID: 20606	Date/Time: 2/27/26 10:37
Client Project ID: 602251	Received Temp: 3.0 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Chain of Custody Received by signed?	(Y) / N
Custody Seals? Present?	(Y) / N
Intact?	(Y) / N
NA:	NA
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / (N) / NA
Residual Cl?	Y / (N) / NA
Aqueous sample pH: 7.7	NA
List COC discrepancies: HH 2/27/26	
List Damaged Samples: HH 2/27/26	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

April 12, 2026 Ceres ID: 20761

Friedman and Bruya, Inc.
5500 4th Ave. S.
Seattle, WA 98109

The following report contains the results for the one aqueous sample received on April 7, 2026. This sample was analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 1613. Routine turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # F-168 and Project No. 604101.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
20761-001	MW-3D	4/7/2026	4/5/2026	14:58

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample **Method Blank**	**QC Batch #:** 3738	**Date Received:** NA
	Matrix: Aqueous	**Date Extracted:** 4/10/2026
Project ID: 604101	**Sample Size:** 1.000 L	**Date Analyzed:** 4/11/2026

Analyte	Conc. (pg/L)	MDL	RL	Qual.	Labeled Standards	% R	LCL-UCL (a)	Qualifiers
2,3,7,8-TCDD	ND< 3.83	2.96	5.00		13C-2378-TCDD	97.5	25-164	
12378-PeCDD	ND< 2.22	8.39	25.0		13C-12378-PeCDD	61.8	25-181	
123478-HxCDD	ND< 2.44	16.6	25.0		13C-123478-HxCDD	101	32-141	
123678-HxCDD	ND< 2.64	9.38	25.0		13C-123678-HxCDD	96.1	28-130	
123789-HxCDD	ND< 2.40	9.18	25.0		13C-1234678-HpCDD	63.4	23-140	
1234678-HpCDD	ND< 4.39	7.31	25.0		13C-OCDD	37.0	17-157	
OCDD	ND< 11.4	22.2	50.0		13C-2378-TCDF	111	24-169	
2,3,7,8-TCDF	ND< 0.713	1.44	5.00		13C-12378-PeCDF	73.3	24-185	
12378-PeCDF	ND< 0.999	6.86	25.0		13C-23478-PeCDF	68.2	21-178	
23478-PeCDF	ND< 1.04	5.95	25.0		13C-123478-HxCDF	104	26-152	
123478-HxCDF	ND< 2.46	8.38	25.0		13C-123678-HxCDF	98.8	26-123	
123678-HxCDF	ND< 2.52	8.04	25.0		13C-234678-HxCDF	98.7	28-136	
234678-HxCDF	ND< 2.22	6.88	25.0		13C-123789-HxCDF	84.4	29-147	
123789-HxCDF	ND< 2.66	7.81	25.0		13C-1234678-HpCDF	68.7	28-143	
1234678-HpCDF	ND< 2.21	7.73	25.0		13C-1234789-HpCDF	52.1	26-138	
1234789-HpCDF	ND< 3.62	7.07	25.0					
OCDF	ND< 8.26	9.32	50.0					

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 3.83	
Total PeCDD	ND< 2.22	
Total HxCDD	ND< 2.64	
Total HpCDD	ND< 4.39	
Total TCDF	ND< 0.713	
Total PeCDF	ND< 1.04	
Total HxCDF	ND< 2.66	
Total HpCDF	ND< 3.62	

CRS

37Cl4-2378-TCDD	98.0	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample Ongoing Precision and Recovery		Date Received: NA
	QC Batch #: 3738	Date Extracted: 4/10/2026
	Matrix: Aqueous	Date Analyzed: 4/11/2026
Project ID: 604101	Sample Size: 1.000 L	

Analyte	Conc. (ng/mL)	Limits (a)	Labeled Standards	% Rec.	Limits (a)
2,3,7,8-TCDD	9.57	6.7-15.8	13C-2378-TCDD	106	20-175
12378-PeCDD	52.1	35-71	13C-12378-PeCDD	68.8	21-227
123478-HxCDD	47.5	35-82	13C-123478-HxCDD	108	21-193
123678-HxCDD	46.8	38-67	13C-123678-HxCDD	102	25-163
123789-HxCDD	41.3	32-81	13C-1234678-HpCDD	70.6	26-166
1234678-HpCDD	48.1	35-70	13C-OCDD	42.4	13-198
OCDD	94.7	78-144	13C-2378-TCDF	136	22-152
2,3,7,8-TCDF	8.39	7.5-15.8	13C-12378-PeCDF	86.4	21-192
12378-PeCDF	47.6	40-67	13C-23478-PeCDF	77.1	13-328
23478-PeCDF	45.5	34-80	13C-123478-HxCDF	111	19-202
123478-HxCDF	46.3	36-67	13C-123678-HxCDF	109	21-159
123678-HxCDF	46.0	42-65	13C-234678-HxCDF	107	22-176
234678-HxCDF	45.6	35-78	13C-123789-HxCDF	91.3	17-205
123789-HxCDF	47.4	39-65	13C-1234678-HpCDF	71.3	21-158
1234678-HpCDF	55.1	41-61	13C-1234789-HpCDF	58.6	20-186
1234789-HpCDF	48.6	39-69			
OCDF	96.4	63-170			
			CRS		
			37Cl4-2378-TCDD	113	31-191

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW-3D		
Project ID: 604101	**Ceres Sample ID:** 20761-001	**Date Received:** 4/7/2026
	QC Batch #: 3738	**Date Extracted:** 4/10/2026
Date Collected: 4/5/2026	**Matrix:** Aqueous	**Date Analyzed:** 4/11/2026
Time Collected: 14:58	**Sample Size:** 0.923 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 1.58	2.96	5.42	
12378-PeCDD	ND< 3.43	8.39	27.1	
123478-HxCDD	ND< 1.97	16.6	27.1	
123678-HxCDD	ND< 2.06	9.38	27.1	
123789-HxCDD	ND< 1.95	9.18	27.1	
1234678-HpCDD	7.51	7.31	27.1	J
OCDD	42.6	22.2	54.2	J
2,3,7,8-TCDF	ND< 1.10	1.44	5.42	
12378-PeCDF	ND< 1.58	6.86	27.1	
23478-PeCDF	ND< 1.75	5.95	27.1	
123478-HxCDF	ND< 2.11	8.38	27.1	
123678-HxCDF	ND< 2.15	8.04	27.1	
234678-HxCDF	ND< 1.92	6.88	27.1	
123789-HxCDF	ND< 2.10	7.81	27.1	
1234678-HpCDF	ND< 2.65	7.73	27.1	
1234789-HpCDF	ND< 3.56	7.07	27.1	
OCDF	ND< 11.8	9.32	54.2	

Totals	Conc. (pg/L)	EMPC	Qual.
Total TCDD	ND< 1.58		
Total PeCDD	ND< 3.43		
Total HxCDD	ND< 2.06		
Total HpCDD	16.3		J
Total TCDF	ND< 1.10		
Total PeCDF	ND< 1.75		
Total HxCDF	ND< 2.15		
Total HpCDF	ND< 3.56		

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	99.4	25-164	
13C-12378-PeCDD	55.4	25-181	
13C-123478-HxCDD	101	32-141	
13C-123678-HxCDD	91.8	28-130	
13C-1234678-HpCDD	62.2	23-140	
13C-OCDD	30.6	17-157	
13C-2378-TCDF	113	24-169	
13C-12378-PeCDF	70.3	24-185	
13C-23478-PeCDF	63.4	21-178	
13C-123478-HxCDF	96.5	26-152	
13C-123678-HxCDF	89.8	26-123	
13C-234678-HxCDF	92.5	28-136	
13C-123789-HxCDF	82.6	29-147	
13C-1234678-HpCDF	58.1	28-143	
13C-1234789-HpCDF	51.6	26-138	

CRS

37Cl4-2378-TCDD	108	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0879 pg/L

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
Ceres	
PROJECT NAME/NO.	PO #
604101	F-168
REMARKS	
HOLD FILTERED CONTAINER	

TURNAROUND TIME
☒ Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins/Furans										Notes
MW-3D		4/5/2026	1458	water	2	x										

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98109
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	4/6/26	1015
Received by:		James Hales	Ceres	4/7/26	0954
Relinquished by:					
Received by:					

Sample Receipt Check List Logged by: _____ (initials)

Ceres ID: 20761	Date/Time: 4/7/26 0954
Client Project ID: 604101	Received Temp: 3.7 °C Acceptable: Y / N
Chain of Custody Relinquished by signed?	Y / N
Chain of Custody Received by signed?	Y / N
Custody Seals? Present? Ice Chest	Y / N
Intact?	Y / N
NA:	NA
Unlabeled / Illegible Samples	Y / N
Proper Containers:	Y / N
Preservation Acceptable (Chemical or Temperature)?	Y / N
Drinking Water, Sodium Thiosulfate present?	Y / N / NA
Residual Cl?	Y / N / NA
Aqueous sample pH: 7	NA
List COC discrepancies: 4/7/26	
List Damaged Samples: 4/7/26	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

June 26, 2026 Ceres ID: 21192

Friedman and Bruya, Inc.
5500 4th Ave. S.
Seattle, WA 98109

The following report contains the results for the two of the three aqueous samples received on June 23, 2026. These samples were analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 1613. Routine turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # G-296 and Project No. 606421.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
21192-001	SEEP-0626	6/23/2026	6/18/2026	14:22
21192-002	MW3-0626	6/23/2026	6/18/2026	15:27
21192-003	MW3D-0626	6/23/2026	6/18/2026	15:38

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample **Method Blank**	**QC Batch #:** 3802	**Date Received:** NA
	Matrix: Aqueous	**Date Extracted:** 6/24/2026
Project ID: 606421	**Sample Size:** 1.000 L	**Date Analyzed:** 6/24/2026

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 3.47	2.96	5.00	
12378-PeCDD	ND< 7.56	8.39	25.0	
123478-HxCDD	ND< 6.60	16.6	25.0	
123678-HxCDD	ND< 6.66	9.38	25.0	
123789-HxCDD	ND< 6.51	9.18	25.0	
1234678-HpCDD	ND< 7.33	7.31	25.0	
OCDD	ND< 16.2	22.2	50.0	
2,3,7,8-TCDF	ND< 4.00	1.44	5.00	
12378-PeCDF	ND< 7.09	6.86	25.0	
23478-PeCDF	ND< 6.77	5.95	25.0	
123478-HxCDF	ND< 5.96	8.38	25.0	
123678-HxCDF	ND< 6.50	8.04	25.0	
234678-HxCDF	ND< 5.39	6.88	25.0	
123789-HxCDF	ND< 6.55	7.81	25.0	
1234678-HpCDF	ND< 4.44	7.73	25.0	
1234789-HpCDF	ND< 6.48	7.07	25.0	
OCDF	ND< 24.0	9.32	50.0	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 3.47	
Total PeCDD	ND< 7.56	
Total HxCDD	ND< 6.66	
Total HpCDD	ND< 7.33	
Total TCDF	ND< 4.00	
Total PeCDF	ND< 7.09	
Total HxCDF	ND< 6.55	
Total HpCDF	ND< 6.48	

Labeled Standards	% R	LCL-UCL (a)
13C-2378-TCDD	82.2	25-164
13C-12378-PeCDD	74.2	25-181
13C-123478-HxCDD	88.7	32-141
13C-123678-HxCDD	106	28-130
13C-1234678-HpCDD	74.0	23-140
13C-OCDD	62.0	17-157
13C-2378-TCDF	58.5	24-169
13C-12378-PeCDF	78.9	24-185
13C-23478-PeCDF	75.3	21-178
13C-123478-HxCDF	93.7	26-152
13C-123678-HxCDF	101	26-123
13C-234678-HxCDF	93.8	28-136
13C-123789-HxCDF	77.2	29-147
13C-1234678-HpCDF	72.6	28-143
13C-1234789-HpCDF	56.2	26-138

CRS

37Cl4-2378-TCDD	94.7	35-197

Qualifiers

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample Ongoing Precision and Recovery		Date Received: NA
	QC Batch #: 3802	Date Extracted: 6/24/2026
	Matrix: Aqueous	Date Analyzed: 6/24/2026
Project ID: 606421	Sample Size: 1.000 L	

Analyte	Conc. (ng/mL)	Limits (a)	Labeled Standards	% Rec.	Limits (a)
2,3,7,8-TCDD	8.43	6.7-15.8	13C-2378-TCDD	84.9	20-175
12378-PeCDD	45.8	35-71	13C-12378-PeCDD	70.5	21-227
123478-HxCDD	46.4	35-82	13C-123478-HxCDD	86.0	21-193
123678-HxCDD	44.7	38-67	13C-123678-HxCDD	109	25-163
123789-HxCDD	46.2	32-81	13C-1234678-HpCDD	68.0	26-166
1234678-HpCDD	51.0	35-70	13C-OCDD	65.5	13-198
OCDD	98.8	78-144	13C-2378-TCDF	69.4	22-152
2,3,7,8-TCDF	10.8	7.5-15.8	13C-12378-PeCDF	81.3	21-192
12378-PeCDF	50.6	40-67	13C-23478-PeCDF	74.6	13-328
23478-PeCDF	48.7	34-80	13C-123478-HxCDF	98.9	19-202
123478-HxCDF	46.4	36-67	13C-123678-HxCDF	108	21-159
123678-HxCDF	46.0	42-65	13C-234678-HxCDF	91.5	22-176
234678-HxCDF	48.5	35-78	13C-123789-HxCDF	82.7	17-205
123789-HxCDF	48.6	39-65	13C-1234678-HpCDF	77.1	21-158
1234678-HpCDF	55.3	41-61	13C-1234789-HpCDF	61.5	20-186
1234789-HpCDF	51.3	39-69			
OCDF	98.0	63-170			
			CRS		
			37Cl4-2378-TCDD	93.6	31-191

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW3-0626		
Project ID: 606421	**Ceres Sample ID:** 21192-002	**Date Received:** 6/18/2026
	QC Batch #: 3802	**Date Extracted:** 6/24/2026
Date Collected: 6/18/2026	**Matrix:** Aqueous	**Date Analyzed:** 6/24/2026
Time Collected: 15:27	**Sample Size:** 0.969 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 4.01	2.96	5.16	
12378-PeCDD	ND< 6.70	8.39	25.8	
123478-HxCDD	ND< 12.6	16.6	25.8	
123678-HxCDD	16.3	9.38	25.8	J
123789-HxCDD	ND< 12.4	9.18	25.8	
1234678-HpCDD	1190	7.31	25.8	
OCDD	16300	22.2	51.6	
2,3,7,8-TCDF	ND< 2.80	1.44	5.16	
12378-PeCDF	ND< 7.05	6.86	25.8	
23478-PeCDF	ND< 6.28	5.95	25.8	
123478-HxCDF	ND< 10.2	8.38	25.8	
123678-HxCDF	ND< 10.8	8.04	25.8	
234678-HxCDF	ND< 10.2	6.88	25.8	
123789-HxCDF	ND< 11.8	7.81	25.8	
1234678-HpCDF	178	7.73	25.8	
1234789-HpCDF	ND< 8.10	7.07	25.8	
OCDF	1390	9.32	51.6	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 4.01	
Total PeCDD	ND< 6.70	
Total HxCDD	87.6	
Total HpCDD	2360	
Total TCDF	ND< 2.80	
Total PeCDF	ND< 7.05	
Total HxCDF	158	
Total HpCDF	1130	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	77.8	25-164	
13C-12378-PeCDD	65.0	25-181	
13C-123478-HxCDD	96.4	32-141	
13C-123678-HxCDD	114	28-130	
13C-1234678-HpCDD	74.6	23-140	
13C-OCDD	36.5	17-157	
13C-2378-TCDF	63.7	24-169	
13C-12378-PeCDF	70.5	24-185	
13C-23478-PeCDF	71.8	21-178	
13C-123478-HxCDF	96.7	26-152	
13C-123678-HxCDF	110	26-123	
13C-234678-HxCDF	102	28-136	
13C-123789-HxCDF	85.8	29-147	
13C-1234678-HpCDF	73.8	28-143	
13C-1234789-HpCDF	69.8	26-138	

CRS

37Cl4-2378-TCDD	95.6	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 20.6 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW3D-0226		
Project ID: 606421	**Ceres Sample ID:** 21192-003	**Date Received:** 6/18/2026
	QC Batch #: 3802	**Date Extracted:** 6/24/2026
Date Collected: 6/18/2026	**Matrix:** Aqueous	**Date Analyzed:** 6/24/2026
Time Collected: 15:27	**Sample Size:** 0.958 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 1.72	2.96	5.22	
12378-PeCDD	ND< 2.62	8.39	26.1	
123478-HxCDD	ND< 2.95	16.6	26.1	
123678-HxCDD	ND< 3.19	9.38	26.1	
123789-HxCDD	ND< 2.91	9.18	26.1	
1234678-HpCDD	ND< 4.10	7.31	26.1	
OCDD	ND< 19.9	22.2	52.2	
2,3,7,8-TCDF	ND< 0.984	1.44	5.22	
12378-PeCDF	ND< 2.46	6.86	26.1	
23478-PeCDF	ND< 2.16	5.95	26.1	
123478-HxCDF	ND< 4.04	8.38	26.1	
123678-HxCDF	ND< 4.02	8.04	26.1	
234678-HxCDF	ND< 3.62	6.88	26.1	
123789-HxCDF	ND< 4.18	7.81	26.1	
1234678-HpCDF	ND< 4.79	7.73	26.1	
1234789-HpCDF	ND< 5.51	7.07	26.1	
OCDF	ND< 12.9	9.32	52.2	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 1.72	
Total PeCDD	ND< 2.62	
Total HxCDD	ND< 3.19	
Total HpCDD	ND< 4.10	
Total TCDF	ND< 0.984	
Total PeCDF	ND< 2.46	
Total HxCDF	ND< 4.18	
Total HpCDF	ND< 5.51	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	104	25-164	
13C-12378-PeCDD	74.5	25-181	
13C-123478-HxCDD	98.2	32-141	
13C-123678-HxCDD	107	28-130	
13C-1234678-HpCDD	63.6	23-140	
13C-OCDD	40.1	17-157	
13C-2378-TCDF	72.8	24-169	
13C-12378-PeCDF	75.6	24-185	
13C-23478-PeCDF	69.8	21-178	
13C-123478-HxCDF	100	26-152	
13C-123678-HxCDF	95.6	26-123	
13C-234678-HxCDF	95.4	28-136	
13C-123789-HxCDF	79.8	29-147	
13C-1234678-HpCDF	66.0	28-143	
13C-1234789-HpCDF	65.4	26-138	

CRS

37Cl4-2378-TCDD	98.1	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.00 pg/L

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
Ceres	
PROJECT NAME/NO.	PO #
606421	G-296
REMARKS	
EIM EDD	

TURNAROUND TIME

☒ Standard

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 and Furans 1613B	Dioxins and Furans 1613B (Filtered)	Dioxins and Furans 1613B (Centrifuged)							Notes
															HOLD ALL SEEP-0626
SEEP-0626		6/18/2026	1422	water	3										
MW3-0626		6/18/2026	1527	water	3	x									
MW3D-0626		6/18/2026	1538	water	3	x									

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	6/22/26	0846
Received by:				6/23/26	10:20
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98109
Ph. (206) 285-8282
Fax (206) 283-5044

Sample Receipt Check List Logged by: HH (initials)

Ceres ID: 21192	Date/Time: 6/23/26 10:20
Client Project ID: 606421	Received Temp: 4.0 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Chain of Custody Received by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / (N) / NA
Residual Cl?	Y / (N) / NA
Aqueous sample pH: 7.57	NA
List COC discrepancies: HH 6/23/26	
List Damaged Samples: HH 6/23/26	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

July 13, 2026 Ceres ID: 21192-FC

Friedman and Bruya, Inc.
5500 4th Ave. S.
Seattle, WA 98109

The following report contains the results for the filtered and centrifuged portions of one of the three aqueous samples received on June 23, 2026. These samples were analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 1613. Routine turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # G-296 and Project No. 606421.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
21192-001	SEEP-0626	6/23/2026	6/18/2026	14:22
21192-002	MW3-0626	6/23/2026	6/18/2026	15:27
21192-003	MW3D-0626	6/23/2026	6/18/2026	15:38

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample **Method Blank**	**QC Batch #:** 3819	**Date Received:** NA
	Matrix: Aqueous	**Date Extracted:** 7/9/2026
Project ID: SP 2612909	**Sample Size:** 1.000 L	**Date Analyzed:** 7/11/2026

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 2.63	2.96	5.00	
12378-PeCDD	ND< 8.52	8.39	25.0	
123478-HxCDD	ND< 8.80	16.6	25.0	
123678-HxCDD	ND< 9.87	9.38	25.0	
123789-HxCDD	ND< 8.68	9.18	25.0	
1234678-HpCDD	ND< 11.4	7.31	25.0	
OCDD	ND< 14.3	22.2	50.0	
2,3,7,8-TCDF	ND< 1.62	1.44	5.00	
12378-PeCDF	ND< 13.9	6.86	25.0	
23478-PeCDF	ND< 11.6	5.95	25.0	
123478-HxCDF	ND< 9.88	8.38	25.0	
123678-HxCDF	ND< 9.22	8.04	25.0	
234678-HxCDF	ND< 8.47	6.88	25.0	
123789-HxCDF	ND< 9.79	7.81	25.0	
1234678-HpCDF	ND< 7.68	7.73	25.0	
1234789-HpCDF	ND< 9.94	7.07	25.0	
OCDF	ND< 15.0	9.32	50.0	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 2.63	
Total PeCDD	ND< 8.52	
Total HxCDD	ND< 9.87	
Total HpCDD	ND< 11.4	
Total TCDF	ND< 1.62	
Total PeCDF	ND< 13.9	
Total HxCDF	ND< 9.88	
Total HpCDF	ND< 9.94	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	105	25-164	
13C-12378-PeCDD	55.0	25-181	
13C-123478-HxCDD	105	32-141	
13C-123678-HxCDD	102	28-130	
13C-1234678-HpCDD	86.2	23-140	
13C-OCDD	73.6	17-157	
13C-2378-TCDF	92.3	24-169	
13C-12378-PeCDF	59.0	24-185	
13C-23478-PeCDF	61.3	21-178	
13C-123478-HxCDF	103	26-152	
13C-123678-HxCDF	100	26-123	
13C-234678-HxCDF	104	28-136	
13C-123789-HxCDF	93.1	29-147	
13C-1234678-HpCDF	86.8	28-143	
13C-1234789-HpCDF	78.3	26-138	

CRS

37Cl4-2378-TCDD	111	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample Ongoing Precision and Recovery		Date Received: NA
	QC Batch #: 3819	Date Extracted: 7/9/2026
	Matrix: Aqueous	Date Analyzed: 7/11/2026
Project ID: SP 2612909	Sample Size: 1.000 L	

Analyte	Conc. (ng/mL)	Limits (a)	Labeled Standards	% Rec.	Limits (a)
2,3,7,8-TCDD	8.76	6.7-15.8	13C-2378-TCDD	96.8	20-175
12378-PeCDD	43.1	35-71	13C-12378-PeCDD	67.4	21-227
123478-HxCDD	45.3	35-82	13C-123478-HxCDD	99.3	21-193
123678-HxCDD	47.6	38-67	13C-123678-HxCDD	94.1	25-163
123789-HxCDD	43.5	32-81	13C-1234678-HpCDD	91.8	26-166
1234678-HpCDD	48.2	35-70	13C-OCDD	86.0	13-198
OCDD	87.4	78-144	13C-2378-TCDF	80.3	22-152
2,3,7,8-TCDF	10.3	7.5-15.8	13C-12378-PeCDF	65.4	21-192
12378-PeCDF	44.9	40-67	13C-23478-PeCDF	65.2	13-328
23478-PeCDF	43.6	34-80	13C-123478-HxCDF	98.3	19-202
123478-HxCDF	52.1	36-67	13C-123678-HxCDF	98.5	21-159
123678-HxCDF	49.6	42-65	13C-234678-HxCDF	101	22-176
234678-HxCDF	47.5	35-78	13C-123789-HxCDF	94.0	17-205
123789-HxCDF	47.9	39-65	13C-1234678-HpCDF	93.7	21-158
1234678-HpCDF	53.7	41-61	13C-1234789-HpCDF	69.6	20-186
1234789-HpCDF	54.4	39-69			
OCDF	104	63-170			
			CRS		
			37Cl4-2378-TCDD	102	31-191

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW3-0626 Filtered		
Project ID: SP 2612909	**Ceres Sample ID:** 21192-002F	**Date Received:** 6/23/2026
	QC Batch #: 3819	**Date Extracted:** 7/9/2026
Date Collected: 6/18/2026	**Matrix:** Aqueous	**Date Analyzed:** 7/11/2026
Time Collected: 15:27	**Sample Size:** 0.917 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 3.88	2.96	5.45	
12378-PeCDD	ND< 12.0	8.39	27.3	
123478-HxCDD	ND< 11.5	16.6	27.3	
123678-HxCDD	ND< 11.1	9.38	27.3	
123789-HxCDD	ND< 11.4	9.18	27.3	
1234678-HpCDD	ND< 11.4	7.31	27.3	
OCDD	ND< 39.9	22.2	54.5	
2,3,7,8-TCDF	ND< 2.24	1.44	5.45	
12378-PeCDF	ND< 12.6	6.86	27.3	
23478-PeCDF	ND< 11.8	5.95	27.3	
123478-HxCDF	ND< 14.2	8.38	27.3	
123678-HxCDF	ND< 16.0	8.04	27.3	
234678-HxCDF	ND< 13.7	6.88	27.3	
123789-HxCDF	ND< 15.0	7.81	27.3	
1234678-HpCDF	ND< 8.11	7.73	27.3	
1234789-HpCDF	ND< 8.83	7.07	27.3	
OCDF	ND< 37.6	9.32	54.5	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 3.88	
Total PeCDD	ND< 12.0	
Total HxCDD	ND< 11.5	
Total HpCDD	ND< 11.4	
Total TCDF	ND< 2.24	
Total PeCDF	ND< 12.6	
Total HxCDF	ND< 16.0	
Total HpCDF	ND< 8.83	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	93.5	25-164	
13C-12378-PeCDD	55.5	25-181	
13C-123478-HxCDD	104	32-141	
13C-123678-HxCDD	107	28-130	
13C-1234678-HpCDD	93.0	23-140	
13C-OCDD	61.3	17-157	
13C-2378-TCDF	84.5	24-169	
13C-12378-PeCDF	66.9	24-185	
13C-23478-PeCDF	66.3	21-178	
13C-123478-HxCDF	103	26-152	
13C-123678-HxCDF	104	26-123	
13C-234678-HxCDF	98.7	28-136	
13C-123789-HxCDF	90.7	29-147	
13C-1234678-HpCDF	68.0	28-143	
13C-1234789-HpCDF	76.7	26-138	

CRS			
37Cl4-2378-TCDD	102	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.00 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW3-0626 Centrifuged		
Project ID: SP 2612909	**Ceres Sample ID:** 21192-002C	**Date Received:** 6/23/2026
	QC Batch #: 3819	**Date Extracted:** 7/9/2026
Date Collected: 6/18/2026	**Matrix:** Aqueous	**Date Analyzed:** 7/11/2026
Time Collected: 15:27	**Sample Size:** 0.966 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 2.70	2.96	5.18	
12378-PeCDD	ND< 6.40	8.39	25.9	
123478-HxCDD	ND< 7.93	16.6	25.9	
123678-HxCDD	ND< 7.78	9.38	25.9	
123789-HxCDD	ND< 7.82	9.18	25.9	
1234678-HpCDD	36.1	7.31	25.9	
OCDD	293	22.2	51.8	
2,3,7,8-TCDF	ND< 1.22	1.44	5.18	
12378-PeCDF	ND< 6.10	6.86	25.9	
23478-PeCDF	ND< 5.53	5.95	25.9	
123478-HxCDF	ND< 6.49	8.38	25.9	
123678-HxCDF	ND< 7.64	8.04	25.9	
234678-HxCDF	ND< 7.25	6.88	25.9	
123789-HxCDF	ND< 6.57	7.81	25.9	
1234678-HpCDF	ND< 15.4	7.73	25.9	
1234789-HpCDF	ND< 18.5	7.07	25.9	
OCDF	ND< 45.5	9.32	51.8	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 2.70	
Total PeCDD	ND< 6.40	
Total HxCDD	ND< 7.93	
Total HpCDD	89.9	
Total TCDF	ND< 1.22	
Total PeCDF	ND< 6.10	
Total HxCDF	ND< 7.64	
Total HpCDF	ND< 18.5	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	98.6	25-164	
13C-12378-PeCDD	50.1	25-181	
13C-123478-HxCDD	94.9	32-141	
13C-123678-HxCDD	98.8	28-130	
13C-1234678-HpCDD	70.9	23-140	
13C-OCDD	61.5	17-157	
13C-2378-TCDF	85.0	24-169	
13C-12378-PeCDF	57.3	24-185	
13C-23478-PeCDF	55.5	21-178	
13C-123478-HxCDF	95.9	26-152	
13C-123678-HxCDF	91.7	26-123	
13C-234678-HxCDF	95.3	28-136	
13C-123789-HxCDF	91.8	29-147	
13C-1234678-HpCDF	71.1	28-143	
13C-1234789-HpCDF	67.9	26-138	

CRS

37Cl4-2378-TCDD	117	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.449 pg/L

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
Ceres	
PROJECT NAME/NO.	PO #
606421	G-296
REMARKS	
EIM EDD	

TURNAROUND TIME

☒ Standard

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 and Furans 1613B	Dioxins and Furans 1613B (Filtered)	Dioxins and Furans 1613B (Centrifuged)	Notes
									HOLD ALL SEEP-0626
SEEP-0626		6/18/2026	1422	water	3				
MW3-0626		6/18/2026	1527	water	3	x	x	x	added 7/2/26 by CRETE - J.Stevens
MW3D-0626		6/18/2026	1538	water	3	x			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	6/22/26	0846
Received by:			6/23/26	10:20
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98109
Ph. (206) 285-8282
Fax (206) 283-5044

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
Ceres	
PROJECT NAME/NO.	PO #
606421	G-296
REMARKS	
EIM EDD	

TURNAROUND TIME

☒ Standard

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 and Furans 1613B	Dioxins and Furans 1613B (Filtered)	Dioxins and Furans 1613B (Centrifuged)	Notes
									HOLD ALL SEEP-0626
SEEP-0626		6/18/2026	1422	water	3				
MW3-0626		6/18/2026	1527	water	3	x			
MW3D-0626		6/18/2026	1538	water	3	x			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	6/22/26	0846
Received by:			6/23/26	10:20
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98109
Ph. (206) 285-8282
Fax (206) 283-5044

Sample Receipt Check List Logged by: AH (initials)

Ceres ID: 21192	Date/Time: 6/23/26 10:20
Client Project ID: 606421	Received Temp: 4.0 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Chain of Custody Received by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / (N) / NA
Residual Cl?	Y / (N) / NA
Aqueous sample pH: 7.57	NA
List COC discrepancies: AH 6/23/26	
List Damaged Samples: AH 6/23/26	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

July 23, 2026 Ceres ID: 21323

Friedman and Bruya, Inc.
5500 4th Ave. S.
Seattle, WA 98109

The following report contains the results for the aqueous samples received on July 21, 2026. The requested samples were analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 1613. Rush turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # G-352 and Project No. 607279.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
21323-001	SW3-0726	7/21/2026	7/16/2026	12:24
21323-002	SW2D-0726	7/21/2026	7/16/2026	12:39
21323-003	PD2-0726	7/21/2026	7/16/2026	13:09
21323-004	MW3-0726	7/21/2026	7/16/2026	14:23
21323-005	MW3D-0726	7/21/2026	7/16/2026	15:23

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample **Method Blank**	**QC Batch #:** 3830	**Date Received:** NA
	Matrix: Aqueous	**Date Extracted:** 7/22/2026
Project ID: 607279	**Sample Size:** 1.000 L	**Date Analyzed:** 7/22/2026

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 2.07	2.96	5.00	
12378-PeCDD	ND< 2.84	8.39	25.0	
123478-HxCDD	ND< 2.58	16.6	25.0	
123678-HxCDD	ND< 2.66	9.38	25.0	
123789-HxCDD	ND< 2.54	9.18	25.0	
1234678-HpCDD	ND< 2.61	7.31	25.0	
OCDD	ND< 9.43	22.2	50.0	
2,3,7,8-TCDF	ND< 1.03	1.44	5.00	
12378-PeCDF	ND< 1.29	6.86	25.0	
23478-PeCDF	ND< 1.28	5.95	25.0	
123478-HxCDF	ND< 1.76	8.38	25.0	
123678-HxCDF	ND< 1.94	8.04	25.0	
234678-HxCDF	ND< 1.80	6.88	25.0	
123789-HxCDF	ND< 2.08	7.81	25.0	
1234678-HpCDF	ND< 2.14	7.73	25.0	
1234789-HpCDF	ND< 3.70	7.07	25.0	
OCDF	ND< 9.00	9.32	50.0	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 2.07	
Total PeCDD	ND< 2.84	
Total HxCDD	ND< 2.66	
Total HpCDD	ND< 2.61	
Total TCDF	ND< 1.03	
Total PeCDF	ND< 1.29	
Total HxCDF	ND< 2.08	
Total HpCDF	ND< 3.70	

Labeled Standards	% R	LCL-UCL (a)
13C-2378-TCDD	79.5	25-164
13C-12378-PeCDD	82.5	25-181
13C-123478-HxCDD	86.1	32-141
13C-123678-HxCDD	82.3	28-130
13C-1234678-HpCDD	63.4	23-140
13C-OCDD	45.7	17-157
13C-2378-TCDF	126	24-169
13C-12378-PeCDF	126	24-185
13C-23478-PeCDF	115	21-178
13C-123478-HxCDF	111	26-152
13C-123678-HxCDF	108	26-123
13C-234678-HxCDF	109	28-136
13C-123789-HxCDF	93.4	29-147
13C-1234678-HpCDF	84.5	28-143
13C-1234789-HpCDF	57.3	26-138

CRS		
37Cl4-2378-TCDD	104	35-197

Qualifiers

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample Ongoing Precision and Recovery		Date Received: NA
	QC Batch #: 3830	Date Extracted: 7/22/2026
	Matrix: Aqueous	Date Analyzed: 7/22/2026
Project ID: 607279	Sample Size: 1.000 L	

Analyte	Conc. (ng/mL)	Limits (a)	Labeled Standards	% Rec.	Limits (a)
2,3,7,8-TCDD	11.5	6.7-15.8	13C-2378-TCDD	80.4	20-175
12378-PeCDD	62.3	35-71	13C-12378-PeCDD	86.1	21-227
123478-HxCDD	58.8	35-82	13C-123478-HxCDD	80.5	21-193
123678-HxCDD	55.9	38-67	13C-123678-HxCDD	85.3	25-163
123789-HxCDD	52.8	32-81	13C-1234678-HpCDD	65.9	26-166
1234678-HpCDD	53.5	35-70	13C-OCDD	81.2	13-198
OCDD	85.6	78-144	13C-2378-TCDF	126	22-152
2,3,7,8-TCDF	11.3	7.5-15.8	13C-12378-PeCDF	130	21-192
12378-PeCDF	52.1	40-67	13C-23478-PeCDF	124	13-328
23478-PeCDF	48.4	34-80	13C-123478-HxCDF	110	19-202
123478-HxCDF	46.0	36-67	13C-123678-HxCDF	105	21-159
123678-HxCDF	49.0	42-65	13C-234678-HxCDF	106	22-176
234678-HxCDF	48.0	35-78	13C-123789-HxCDF	93.0	17-205
123789-HxCDF	48.1	39-65	13C-1234678-HpCDF	84.1	21-158
1234678-HpCDF	51.4	41-61	13C-1234789-HpCDF	58.0	20-186
1234789-HpCDF	50.6	39-69			
OCDF	86.4	63-170			
			CRS		
			37Cl4-2378-TCDD	99.7	31-191

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: SW3-0726		
Project ID: 607279	**Ceres Sample ID:** 21323-001	**Date Received:** 7/21/2026
	QC Batch #: 3830	**Date Extracted:** 7/22/2026
Date Collected: 7/16/2026	**Matrix:** Aqueous	**Date Analyzed:** 7/22/2026
Time Collected: 12:24	**Sample Size:** 0.996 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 1.78	2.96	5.02	
12378-PeCDD	ND< 2.77	8.39	25.1	
123478-HxCDD	ND< 4.36	16.6	25.1	
123678-HxCDD	ND< 4.64	9.38	25.1	
123789-HxCDD	ND< 4.30	9.18	25.1	
1234678-HpCDD	ND< 5.33	7.31	25.1	
OCDD	23.2	22.2	50.2	J
2,3,7,8-TCDF	ND< 1.90	1.44	5.02	
12378-PeCDF	ND< 1.97	6.86	25.1	
23478-PeCDF	ND< 2.07	5.95	25.1	
123478-HxCDF	ND< 2.54	8.38	25.1	
123678-HxCDF	ND< 2.48	8.04	25.1	
234678-HxCDF	ND< 2.47	6.88	25.1	
123789-HxCDF	ND< 2.63	7.81	25.1	
1234678-HpCDF	ND< 5.83	7.73	25.1	
1234789-HpCDF	ND< 7.66	7.07	25.1	
OCDF	ND< 18.2	9.32	50.2	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 1.78	
Total PeCDD	ND< 2.77	
Total HxCDD	ND< 4.64	
Total HpCDD	ND< 5.33	
Total TCDF	ND< 1.90	
Total PeCDF	ND< 2.07	
Total HxCDF	ND< 2.63	
Total HpCDF	ND< 7.66	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	54.8	25-164	
13C-12378-PeCDD	65.1	25-181	
13C-123478-HxCDD	57.4	32-141	
13C-123678-HxCDD	54.4	28-130	
13C-1234678-HpCDD	36.7	23-140	
13C-OCDD	32.9	17-157	
13C-2378-TCDF	94.0	24-169	
13C-12378-PeCDF	94.4	24-185	
13C-23478-PeCDF	85.0	21-178	
13C-123478-HxCDF	66.6	26-152	
13C-123678-HxCDF	65.2	26-123	
13C-234678-HxCDF	64.4	28-136	
13C-123789-HxCDF	60.6	29-147	
13C-1234678-HpCDF	41.8	28-143	
13C-1234789-HpCDF	35.5	26-138	

CRS

37Cl4-2378-TCDD	68.8	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.00696 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: PD2-0726		
Project ID: 607279	**Ceres Sample ID:** 21323-003	**Date Received:** 7/21/2026
	QC Batch #: 3830	**Date Extracted:** 7/22/2026
Date Collected: 7/16/2026	**Matrix:** Aqueous	**Date Analyzed:** 7/22/2026
Time Collected: 13:09	**Sample Size:** 0.998 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 1.40	2.96	5.01	
12378-PeCDD	ND< 3.10	8.39	25.1	
123478-HxCDD	ND< 2.43	16.6	25.1	
123678-HxCDD	ND< 2.87	9.38	25.1	
123789-HxCDD	ND< 2.39	9.18	25.1	
1234678-HpCDD	ND< 2.41	7.31	25.1	
OCDD	30.3	22.2	50.1	J
2,3,7,8-TCDF	ND< 1.19	1.44	5.01	
12378-PeCDF	ND< 1.57	6.86	25.1	
23478-PeCDF	ND< 1.79	5.95	25.1	
123478-HxCDF	ND< 3.22	8.38	25.1	
123678-HxCDF	ND< 3.35	8.04	25.1	
234678-HxCDF	ND< 3.15	6.88	25.1	
123789-HxCDF	ND< 3.38	7.81	25.1	
1234678-HpCDF	ND< 1.96	7.73	25.1	
1234789-HpCDF	ND< 2.50	7.07	25.1	
OCDF	ND< 8.04	9.32	50.1	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 1.40	
Total PeCDD	ND< 3.10	
Total HxCDD	ND< 2.87	
Total HpCDD	ND< 2.41	
Total TCDF	ND< 1.19	
Total PeCDF	ND< 1.79	
Total HxCDF	ND< 3.38	
Total HpCDF	ND< 2.50	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	71.9	25-164	
13C-12378-PeCDD	75.8	25-181	
13C-123478-HxCDD	93.9	32-141	
13C-123678-HxCDD	83.2	28-130	
13C-1234678-HpCDD	57.1	23-140	
13C-OCDD	26.9	17-157	
13C-2378-TCDF	99.4	24-169	
13C-12378-PeCDF	117	24-185	
13C-23478-PeCDF	95.4	21-178	
13C-123478-HxCDF	101	26-152	
13C-123678-HxCDF	96.2	26-123	
13C-234678-HxCDF	101	28-136	
13C-123789-HxCDF	88.2	29-147	
13C-1234678-HpCDF	69.2	28-143	
13C-1234789-HpCDF	57.9	26-138	

CRS

37Cl4-2378-TCDD	92.0	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.00909 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW3-0726		
Project ID: 607279	**Ceres Sample ID:** 21323-004	**Date Received:** 7/21/2026
	QC Batch #: 3830	**Date Extracted:** 7/22/2026
Date Collected: 7/16/2026	**Matrix:** Aqueous	**Date Analyzed:** 7/22/2026
Time Collected: 14:23	**Sample Size:** 0.867 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 1.30	2.96	5.77	
12378-PeCDD	ND< 1.84	8.39	28.8	
123478-HxCDD	6.90	16.6	28.8	J
123678-HxCDD	11.5	9.38	28.8	J
123789-HxCDD	ND< 1.95	9.18	28.8	
1234678-HpCDD	713	7.31	28.8	
OCDD	9630	22.2	57.7	
2,3,7,8-TCDF	ND< 0.869	1.44	5.77	
12378-PeCDF	ND< 1.81	6.86	28.8	
23478-PeCDF	ND< 1.85	5.95	28.8	
123478-HxCDF	ND< 1.48	8.38	28.8	
123678-HxCDF	ND< 1.52	8.04	28.8	
234678-HxCDF	ND< 1.56	6.88	28.8	
123789-HxCDF	ND< 1.69	7.81	28.8	
1234678-HpCDF	53.5	7.73	28.8	
1234789-HpCDF	ND< 3.70	7.07	28.8	
OCDF	380	9.32	57.7	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 1.30	
Total PeCDD	17.8	
Total HxCDD	151	
Total HpCDD	2000	
Total TCDF	15.3	
Total PeCDF	ND< 1.85	
Total HxCDF	44.5	
Total HpCDF	288	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	73.5	25-164	
13C-12378-PeCDD	76.8	25-181	
13C-123478-HxCDD	102	32-141	
13C-123678-HxCDD	91.7	28-130	
13C-1234678-HpCDD	59.5	23-140	
13C-OCDD	30.3	17-157	
13C-2378-TCDF	109	24-169	
13C-12378-PeCDF	109	24-185	
13C-23478-PeCDF	98.3	21-178	
13C-123478-HxCDF	110	26-152	
13C-123678-HxCDF	106	26-123	
13C-234678-HxCDF	107	28-136	
13C-123789-HxCDF	92.4	29-147	
13C-1234678-HpCDF	72.1	28-143	
13C-1234789-HpCDF	56.9	26-138	

CRS

37Cl4-2378-TCDD	97.1	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 12.5 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW3D-0726		
Project ID: 607279	**Ceres Sample ID:** 21323-005	**Date Received:** 7/21/2026
	QC Batch #: 3830	**Date Extracted:** 7/22/2026
Date Collected: 7/16/2026	**Matrix:** Aqueous	**Date Analyzed:** 7/22/2026
Time Collected: 15:23	**Sample Size:** 0.984 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 1.43	2.96	5.08	
12378-PeCDD	ND< 2.04	8.39	25.4	
123478-HxCDD	ND< 1.93	16.6	25.4	
123678-HxCDD	ND< 2.42	9.38	25.4	
123789-HxCDD	ND< 1.91	9.18	25.4	
1234678-HpCDD	ND< 2.26	7.31	25.4	
OCDD	30.0	22.2	50.8	J
2,3,7,8-TCDF	ND< 1.13	1.44	5.08	
12378-PeCDF	ND< 1.01	6.86	25.4	
23478-PeCDF	ND< 1.06	5.95	25.4	
123478-HxCDF	ND< 1.35	8.38	25.4	
123678-HxCDF	ND< 1.42	8.04	25.4	
234678-HxCDF	ND< 1.38	6.88	25.4	
123789-HxCDF	ND< 1.46	7.81	25.4	
1234678-HpCDF	ND< 1.29	7.73	25.4	
1234789-HpCDF	ND< 1.93	7.07	25.4	
OCDF	ND< 9.28	9.32	50.8	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 1.43	
Total PeCDD	ND< 2.04	
Total HxCDD	ND< 2.42	
Total HpCDD	ND< 2.26	
Total TCDF	ND< 1.13	
Total PeCDF	ND< 1.06	
Total HxCDF	ND< 1.46	
Total HpCDF	ND< 1.93	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	66.6	25-164	
13C-12378-PeCDD	68.8	25-181	
13C-123478-HxCDD	104	32-141	
13C-123678-HxCDD	93.0	28-130	
13C-1234678-HpCDD	59.3	23-140	
13C-OCDD	42.6	17-157	
13C-2378-TCDF	96.7	24-169	
13C-12378-PeCDF	95.7	24-185	
13C-23478-PeCDF	84.4	21-178	
13C-123478-HxCDF	115	26-152	
13C-123678-HxCDF	111	26-123	
13C-234678-HxCDF	112	28-136	
13C-123789-HxCDF	99.9	29-147	
13C-1234678-HpCDF	70.4	28-143	
13C-1234789-HpCDF	56.3	26-138	

CRS

37Cl4-2378-TCDD	87.2	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.00900 pg/L

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: MW3D-0726 Filtered		
Project ID: 607279	**Ceres Sample ID:** 21323-005F	**Date Received:** 7/21/2026
	QC Batch #: 3830	**Date Extracted:** 7/22/2026
Date Collected: 7/16/2026	**Matrix:** Aqueous	**Date Analyzed:** 7/22/2026
Time Collected: 15:23	**Sample Size:** 0.988 L	

Analyte	Conc. (pg/L)	MDL	RL	Qual.
2,3,7,8-TCDD	ND< 1.27	2.96	5.06	
12378-PeCDD	ND< 1.76	8.39	25.3	
123478-HxCDD	ND< 1.92	16.6	25.3	
123678-HxCDD	ND< 2.40	9.38	25.3	
123789-HxCDD	ND< 1.89	9.18	25.3	
1234678-HpCDD	ND< 2.25	7.31	25.3	
OCDD	ND< 14.7	22.2	50.6	
2,3,7,8-TCDF	ND< 0.480	1.44	5.06	
12378-PeCDF	ND< 0.994	6.86	25.3	
23478-PeCDF	ND< 1.02	5.95	25.3	
123478-HxCDF	ND< 1.45	8.38	25.3	
123678-HxCDF	ND< 1.60	8.04	25.3	
234678-HxCDF	ND< 1.68	6.88	25.3	
123789-HxCDF	ND< 1.83	7.81	25.3	
1234678-HpCDF	ND< 1.58	7.73	25.3	
1234789-HpCDF	ND< 2.34	7.07	25.3	
OCDF	ND< 12.4	9.32	50.6	

Totals	Conc. (pg/L)	EMPC
Total TCDD	ND< 1.27	
Total PeCDD	ND< 1.76	
Total HxCDD	ND< 2.40	
Total HpCDD	ND< 2.25	
Total TCDF	ND< 0.480	
Total PeCDF	ND< 1.02	
Total HxCDF	ND< 1.83	
Total HpCDF	ND< 2.34	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	84.0	25-164	
13C-12378-PeCDD	83.5	25-181	
13C-123478-HxCDD	101	32-141	
13C-123678-HxCDD	88.8	28-130	
13C-1234678-HpCDD	57.9	23-140	
13C-OCDD	28.9	17-157	
13C-2378-TCDF	127	24-169	
13C-12378-PeCDF	121	24-185	
13C-23478-PeCDF	107	21-178	
13C-123478-HxCDF	119	26-152	
13C-123678-HxCDF	115	26-123	
13C-234678-HxCDF	109	28-136	
13C-123789-HxCDF	91.6	29-147	
13C-1234678-HpCDF	71.2	28-143	
13C-1234789-HpCDF	53.1	26-138	

CRS

37Cl4-2378-TCDD	107	35-197	

EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.

(a) - Lower control limit - Upper control limit

(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.00 pg/L

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER
Ceres

PROJECT NAME/NO.
607279

PO #
G-352

REMARKS
Please Email Results

Page # ____ of ____

TURNAROUND TIME
Standard (2 Weeks)
RUSH DUE 7/23
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 and Furans 1613B	Dioxins and Furans 1613B (Filtered)	Dioxins and Furans 1613B (Centrifuged)								Notes
SW3-0726		7/16/2026	12:24	warter	3	x										
SW2D-0726		7/16/2026	12:39	water	3											HOLD ALL
PD2-0726		7/16/2026	13:09	water	3	x										
MW3-0726		7/16/2026	14:23	water	3	x										
MW3D-0726		7/16/2026	15:23	water	3	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:		~~Michael Erdahl~~ Golden	Friedman and Bruya	7/20/26	8:25
Received by:				7/21/26	10:08
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

Sample Receipt Check List Logged by: HN (initials)

Ceres ID: 21323	Date/Time: 7/21/26 10:08
Client Project ID: 607279	Received Temp: 5.0 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Chain of Custody Received by signed?	(Y) / N
Custody Seals? Present? on ice chests	(Y) / N
Intact?	(Y) / N
NA:	NA
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or ~~Temperature~~)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / (N) / NA
Residual Cl?	Y / (N) / NA
Aqueous sample pH: 7 7 7 7 7	NA
List COC discrepancies: HN 7/21/26	
List Damaged Samples: HN 7/21/26	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

July 21, 2026 Ceres ID: 21301

Friedman and Bruya, Inc.
5500 4th Ave. S.
Seattle, WA 98109

The following report contains the results for the one of the seven soil samples received on July 16, 2026. This sample was analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 1613. Rush turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # G-344 and Project No. 607230.

Sample results are reported on a dry weight basis.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
21301-001	RI-SB-19 2.5-5	7/16/2026	7/14/2026	10:10
21301-002	RI-SB-19 5-7.5	7/16/2026	7/14/2026	10:12
21301-003	RI-SB-19 7.5-10	7/16/2026	7/14/2026	10:14
21301-004	RI-SB-19 10-12.5	7/16/2026	7/14/2026	10:16
21301-005	RI-SB-19 12.5-14.5	7/16/2026	7/14/2026	10:18
21301-006	RI-SB-19 15-17.5	7/16/2026	7/14/2026	10:20
21301-007	RI-SB-19 17.5-20	7/16/2026	7/14/2026	10:22

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample **Method Blank**	**QC Batch #:** 3822 **Matrix:** Solid	**Date Received:** NA **Date Extracted:** 7/18/2026
Project ID: 607230	**Sample Size:** 10.00 g	**Date Analyzed:** 7/18/2026

Analyte	Conc. (pg/g)	MDL	RL	Qual.	Labeled Standards	% R	LCL-UCL (a)	Qualifiers
2,3,7,8-TCDD	ND< 0.394	0.183	0.500		13C-2378-TCDD	89.6	25-164	
12378-PeCDD	ND< 1.57	1.75	2.50		13C-12378-PeCDD	55.8	25-181	
123478-HxCDD	ND< 2.03	1.02	2.50		13C-123478-HxCDD	97.3	32-141	
123678-HxCDD	ND< 1.81	0.881	2.50		13C-123678-HxCDD	118	28-130	
123789-HxCDD	ND< 2.00	1.10	2.50		13C-1234678-HpCDD	58.2	23-140	
1234678-HpCDD	ND< 1.53	0.736	2.50		13C-OCDD	49.4	17-157	
OCDD	ND< 1.89	3.36	5.00		13C-2378-TCDF	91.1	24-169	
2,3,7,8-TCDF	ND< 0.316	0.272	0.500		13C-12378-PeCDF	49.8	24-185	
12378-PeCDF	ND< 1.92	0.696	2.50		13C-23478-PeCDF	50.8	21-178	
23478-PeCDF	ND< 1.66	0.912	2.50		13C-123478-HxCDF	91.6	26-152	
123478-HxCDF	ND< 2.27	1.35	2.50		13C-123678-HxCDF	97.3	26-123	
123678-HxCDF	ND< 2.28	0.769	2.50		13C-234678-HxCDF	85.1	28-136	
234678-HxCDF	ND< 2.01	0.865	2.50		13C-123789-HxCDF	64.9	29-147	
123789-HxCDF	ND< 1.92	1.12	2.50		13C-1234678-HpCDF	62.4	28-143	
1234678-HpCDF	ND< 1.99	0.794	2.50		13C-1234789-HpCDF	48.4	26-138	
1234789-HpCDF	ND< 1.89	1.22	2.50					
OCDF	ND< 3.56	3.15	5.00					

Totals	Conc. (pg/g)	EMPC
Total TCDD	ND< 0.394	
Total PeCDD	ND< 1.57	
Total HxCDD	ND< 2.03	
Total HpCDD	ND< 1.53	
Total TCDF	ND< 0.316	
Total PeCDF	ND< 1.92	
Total HxCDF	ND< 2.28	
Total HpCDF	ND< 1.99	

CRS

37Cl4-2378-TCDD	93.8	35-197	

DL - Signifies Non-Detect (ND<) sample specific detection limit.
EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.
(a) - Lower control limit - Upper control limit
(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.00 pg/g

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613B

Quality Assurance Sample Ongoing Precision and Recovery		Date Received: NA
	QC Batch #: 3822	Date Extracted: 7/18/2026
	Matrix: Solid	Date Analyzed: 7/18/2026
Project ID: 607230	Sample Size: 10.00 g	

Analyte	Conc. (ng/mL)	Limits (a)
2,3,7,8-TCDD	8.31	6.7-15.8
12378-PeCDD	42.7	35-71
123478-HxCDD	43.9	35-82
123678-HxCDD	45.4	38-67
123789-HxCDD	45.9	32-81
1234678-HpCDD	49.7	35-70
OCDD	87.1	78-144
2,3,7,8-TCDF	8.91	7.5-15.8
12378-PeCDF	46.5	40-67
23478-PeCDF	46.2	34-80
123478-HxCDF	50.4	36-67
123678-HxCDF	47.4	42-65
234678-HxCDF	50.6	35-78
123789-HxCDF	44.3	39-65
1234678-HpCDF	50.0	41-61
1234789-HpCDF	45.3	39-69
OCDF	94.2	63-170

Labeled Standards	% Rec.	Limits (a)
13C-2378-TCDD	95.2	20-175
13C-12378-PeCDD	46.9	21-227
13C-123478-HxCDD	100	21-193
13C-123678-HxCDD	109	25-163
13C-1234678-HpCDD	66.2	26-166
13C-OCDD	48.7	13-198
13C-2378-TCDF	87.2	22-152
13C-12378-PeCDF	48.4	21-192
13C-23478-PeCDF	49.0	13-328
13C-123478-HxCDF	86.9	19-202
13C-123678-HxCDF	95.2	21-159
13C-234678-HxCDF	89.1	22-176
13C-123789-HxCDF	77.9	17-205
13C-1234678-HpCDF	73.8	21-158
13C-1234789-HpCDF	52.6	20-186
CRS		
37Cl4-2378-TCDD	103	31-191

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: RI-SB-19 12.5-14.5		
Project ID: 607230	**Ceres Sample ID:** 21301-005	**Date Received:** 7/16/2026
	QC Batch #: 3822	**Date Extracted:** 7/18/2026
Date Collected: 7/14/2026	**Matrix:** Solid	**Date Analyzed:** 7/18/2026
Time Collected: 10:18	**Sample Size:** 11.67 g **% Solid:** 85.6	

Analyte	Conc. (pg/g)	MDL	RL	Qual.
2,3,7,8-TCDD	1.24	0.183	0.501	
12378-PeCDD	6.19	1.75	2.50	
123478-HxCDD	387	1.02	2.50	
123678-HxCDD	697	0.881	2.50	
123789-HxCDD	52.9	1.10	2.50	
1234678-HpCDD	41600	0.736	2.50	E
OCDD	369000	3.36	5.01	E
2,3,7,8-TCDF	ND< 0.463	0.272	0.501	
12378-PeCDF	ND< 1.44	0.696	2.50	
23478-PeCDF	12.9	0.912	2.50	
123478-HxCDF	37.0	1.35	2.50	
123678-HxCDF	11.8	0.769	2.50	
234678-HxCDF	41.4	0.865	2.50	
123789-HxCDF	56.2	1.12	2.50	
1234678-HpCDF	4930	0.794	2.50	E
1234789-HpCDF	163	1.22	2.50	
OCDF	25400	3.15	5.01	E

Totals	Conc. (pg/g)	EMPC	
Total TCDD	36.2		
Total PeCDD	126		
Total HxCDD	3060		E
Total HpCDD	93200		E
Total TCDF	122		X
Total PeCDF	183		X
Total HxCDF	6420		E,X
Total HpCDF	32300		E

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	87.8	25-164	
13C-12378-PeCDD	42.2	25-181	
13C-123478-HxCDD	66.4	32-141	
13C-123678-HxCDD	64.6	28-130	
13C-1234678-HpCDD	42.4	23-140	
13C-OCDD	35.7	17-157	
13C-2378-TCDF	82.4	24-169	
13C-12378-PeCDF	44.1	24-185	
13C-23478-PeCDF	42.6	21-178	
13C-123478-HxCDF	62.8	26-152	
13C-123678-HxCDF	72.6	26-123	
13C-234678-HxCDF	67.0	28-136	
13C-123789-HxCDF	55.4	29-147	
13C-1234678-HpCDF	55.6	28-143	
13C-1234789-HpCDF	49.9	26-138	

CRS

37Cl4-2378-TCDD	121	35-197	

DL - Signifies Non-Detect (ND<) sample specific detection limit.
EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.
(a) - Lower control limit - Upper control limit
(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 725 pg/g

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
Ceres	
PROJECT NAME/NO.	PO #
607230	G-344
REMARKS	

Page # 1 of 1

TURNAROUND TIME

☒ Standard

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins and Furans										Notes
RI-SB-19 2.5-5		7/14/2026	1010	soil	1											HOLD
RI-SB-19 5-7.5		7/14/2026	1012	soil	1											HOLD
RI-SB-19 7.5-10		7/14/2026	1014	soil	1											HOLD
RI-SB-19 10-12.5		7/14/2026	1016	soil	1											HOLD
RI-SB-19 12.5-14.5		7/14/2026	1018	soil	1	x										
RI-SB-19 15-17.5		7/14/2026	1020	soil	1											HOLD
RI-SB-19 17.5-20		7/14/2026	1022	soil	1											HOLD

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98109
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	7/15/26	1000
Received by:		James M Hedges	Ceres	7/16/26	10:08
Relinquished by:					
Received by:					

Sample Receipt Check List Logged by: _____ (initials)

Ceres ID: 21301	Date/Time: 7/16/26 10:05
Client Project ID: 607230 PO# G-344	Received Temp: 1.3 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Chain of Custody Received by signed?	(Y) / N
Custody Seals? Present?	Icechest (Y) / N
Intact?	(Y) / N
NA:	NA
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / N / (NA)
Residual Cl?	Y / N / (NA)
Aqueous sample pH: _____	(NA)
List COC discrepancies: 7/16/26	
List Damaged Samples: 7/16/26	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

August 5, 2026 Ceres ID: 21301-7

Friedman and Bruya, Inc.
5500 4th Ave. S.
Seattle, WA 98109

The following report contains the results for the one of the seven soil samples received on July 16, 2026. This sample was requested for analysis on August 3, 2026. This sample was analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 1613. Rush turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # G-344 and Project No. 607230.

Sample results are reported on a dry weight basis.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
21301-001	RI-SB-19 2.5-5	7/16/2026	7/14/2026	10:10
21301-002	RI-SB-19 5-7.5	7/16/2026	7/14/2026	10:12
21301-003	RI-SB-19 7.5-10	7/16/2026	7/14/2026	10:14
21301-004	RI-SB-19 10-12.5	7/16/2026	7/14/2026	10:16
21301-005	RI-SB-19 12.5-14.5	7/16/2026	7/14/2026	10:18
21301-006	RI-SB-19 15-17.5	7/16/2026	7/14/2026	10:20
21301-007	RI-SB-19 17.5-20	7/16/2026	7/14/2026	10:22

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Quality Assurance Sample **Method Blank**	**QC Batch #:** 3838	**Date Received:** NA
	Matrix: Solid	**Date Extracted:** 8/3/2026
Project ID: 607230	**Sample Size:** 10.00 g	**Date Analyzed:** 8/4/2026

Analyte	Conc. (pg/g)	MDL	RL	Qual.	Labeled Standards	% R	LCL-UCL (a)	Qualifiers
2,3,7,8-TCDD	ND< 0.0864	0.183	0.500		13C-2378-TCDD	87.2	25-164	
12378-PeCDD	ND< 0.113	1.75	2.50		13C-12378-PeCDD	51.9	25-181	
123478-HxCDD	ND< 0.174	1.02	2.50		13C-123478-HxCDD	79.7	32-141	
123678-HxCDD	ND< 0.165	0.881	2.50		13C-123678-HxCDD	90.0	28-130	
123789-HxCDD	ND< 0.171	1.10	2.50		13C-1234678-HpCDD	45.5	23-140	
1234678-HpCDD	ND< 0.259	0.736	2.50		13C-OCDD	27.3	17-157	
OCDD	ND< 0.790	3.36	5.00		13C-2378-TCDF	102	24-169	
2,3,7,8-TCDF	ND< 0.0992	0.272	0.500		13C-12378-PeCDF	78.0	24-185	
12378-PeCDF	ND< 0.0792	0.696	2.50		13C-23478-PeCDF	71.1	21-178	
23478-PeCDF	ND< 0.0765	0.912	2.50		13C-123478-HxCDF	114	26-152	
123478-HxCDF	ND< 0.107	1.35	2.50		13C-123678-HxCDF	127	26-123	
123678-HxCDF	ND< 0.106	0.769	2.50		13C-234678-HxCDF	112	28-136	
234678-HxCDF	ND< 0.116	0.865	2.50		13C-123789-HxCDF	78.5	29-147	
123789-HxCDF	ND< 0.178	1.12	2.50		13C-1234678-HpCDF	63.4	28-143	
1234678-HpCDF	ND< 0.131	0.794	2.50		13C-1234789-HpCDF	42.0	26-138	
1234789-HpCDF	ND< 0.283	1.22	2.50					
OCDF	ND< 0.709	3.15	5.00					

Totals	Conc. (pg/g)	EMPC
Total TCDD	ND< 0.0864	
Total PeCDD	ND< 0.113	
Total HxCDD	ND< 0.174	
Total HpCDD	ND< 0.259	
Total TCDF	ND< 0.0992	
Total PeCDF	ND< 0.0792	
Total HxCDF	ND< 0.178	
Total HpCDF	ND< 0.283	

CRS

37Cl4-2378-TCDD	103	35-197	

DL - Signifies Non-Detect (ND<) sample specific detection limit.
EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.
(a) - Lower control limit - Upper control limit
(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.00 pg/g

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613B

Quality Assurance Sample Ongoing Precision and Recovery		Date Received: NA
	QC Batch #: 3838	Date Extracted: 8/3/2026
	Matrix: Solid	Date Analyzed: 8/4/2026
Project ID: 607230	Sample Size: 10.00 g	

Analyte	Conc. (ng/mL)	Limits (a)	Labeled Standards	% Rec.	Limits (a)
2,3,7,8-TCDD	9.51	6.7-15.8	13C-2378-TCDD	84.8	20-175
12378-PeCDD	52.7	35-71	13C-12378-PeCDD	51.5	21-227
123478-HxCDD	52.0	35-82	13C-123478-HxCDD	85.8	21-193
123678-HxCDD	52.1	38-67	13C-123678-HxCDD	98.2	25-163
123789-HxCDD	46.3	32-81	13C-1234678-HpCDD	50.0	26-166
1234678-HpCDD	44.1	35-70	13C-OCDD	27.2	13-198
OCDD	84.1	78-144	13C-2378-TCDF	102	22-152
2,3,7,8-TCDF	10.3	7.5-15.8	13C-12378-PeCDF	76.0	21-192
12378-PeCDF	51.6	40-67	13C-23478-PeCDF	69.0	13-328
23478-PeCDF	50.8	34-80	13C-123478-HxCDF	120	19-202
123478-HxCDF	49.4	36-67	13C-123678-HxCDF	128	21-159
123678-HxCDF	50.4	42-65	13C-234678-HxCDF	118	22-176
234678-HxCDF	48.6	35-78	13C-123789-HxCDF	79.5	17-205
123789-HxCDF	49.5	39-65	13C-1234678-HpCDF	67.2	21-158
1234678-HpCDF	52.0	41-61	13C-1234789-HpCDF	40.1	20-186
1234789-HpCDF	48.5	39-69			
OCDF	99.5	63-170			
			CRS		
			37Cl4-2378-TCDD	98.5	31-191

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr.Suite 1, El Dorado Hills, CA 95762

EPA Method 1613

Client Sample ID: RI-SB-19 17.5-20		
Project ID: 607230	**Ceres Sample ID:** 21301-007	**Date Received:** 7/16/2026
	QC Batch #: 3838	**Date Extracted:** 8/3/2026
Date Collected: 7/14/2026	**Matrix:** Solid	**Date Analyzed:** 8/4/2026
Time Collected: 10:22	**Sample Size:** 11.30 g **% Solid:** 81.1	

Analyte	Conc. (pg/g)	MDL	RL	Qual.	Labeled Standards	% R	LCL-UCL (a)	Qualifiers
2,3,7,8-TCDD	0.306	0.183	0.546	J	13C-2378-TCDD	92.0	25-164	
12378-PeCDD	1.47	1.75	2.73	J	13C-12378-PeCDD	49.9	25-181	
123478-HxCDD	1.48	1.02	2.73	J	13C-123478-HxCDD	79.8	32-141	
123678-HxCDD	4.90	0.881	2.73		13C-123678-HxCDD	92.1	28-130	
123789-HxCDD	2.83	1.10	2.73		13C-1234678-HpCDD	39.2	23-140	
1234678-HpCDD	111	0.736	2.73		13C-OCDD	24.4	17-157	
OCDD	883	3.36	5.46		13C-2378-TCDF	103	24-169	
2,3,7,8-TCDF	0.852	0.272	0.546		13C-12378-PeCDF	76.2	24-185	
12378-PeCDF	0.862	0.696	2.73	J	13C-23478-PeCDF	69.2	21-178	
23478-PeCDF	7.11	0.912	2.73		13C-123478-HxCDF	113	26-152	
123478-HxCDF	4.23	1.35	2.73		13C-123678-HxCDF	118	26-123	
123678-HxCDF	2.09	0.769	2.73	J	13C-234678-HxCDF	108	28-136	
234678-HxCDF	1.75	0.865	2.73	J	13C-123789-HxCDF	80.3	29-147	
123789-HxCDF	1.91	1.12	2.73	J	13C-1234678-HpCDF	55.6	28-143	
1234678-HpCDF	26.8	0.794	2.73		13C-1234789-HpCDF	42.4	26-138	
1234789-HpCDF	1.57	1.22	2.73	J				
OCDF	63.7	3.15	5.46					

Totals	Conc. (pg/g)	EMPC
Total TCDD	11.1	
Total PeCDD	26.5	
Total HxCDD	70.9	
Total HpCDD	324	
Total TCDF	141	
Total PeCDF	94.6	
Total HxCDF	65.4	
Total HpCDF	88.7	

CRS		
37Cl4-2378-TCDD	98.9	35-197

DL - Signifies Non-Detect (ND<) sample specific detection limit.
EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.
(a) - Lower control limit - Upper control limit
(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 7.62 pg/g

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
Ceres	
PROJECT NAME/NO.	PO #
607230	G-344
REMARKS	

Page # 1 of 1

TURNAROUND TIME

☒ Standard

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins and Furans										Notes
RI-SB-19 2.5-5		7/14/2026	1010	soil	1											HOLD
RI-SB-19 5-7.5		7/14/2026	1012	soil	1											HOLD
RI-SB-19 7.5-10		7/14/2026	1014	soil	1											HOLD
RI-SB-19 10-12.5		7/14/2026	1016	soil	1											HOLD
RI-SB-19 12.5-14.5		7/14/2026	1018	soil	1	x										
RI-SB-19 15-17.5		7/14/2026	1020	soil	1											HOLD
RI-SB-19 17.5-20		7/14/2026	1022	soil	1											HOLD

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98109
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	7/15/26	1000
Received by:		James M Hedges	Ceres	7/16/26	10:08
Relinquished by:					
Received by:					

Sample Receipt Check List Logged by: _____ (initials)

Ceres ID: 21301	Date/Time: 7/16/26 10:05
Client Project ID: 607230 PO# G-344	Received Temp: 1.3 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Chain of Custody Received by signed?	(Y) / N
Custody Seals? Present?	Icechest (Y) / N
Intact?	(Y) / N
NA:	NA
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / N / (NA)
Residual Cl?	Y / N / (NA)
Aqueous sample pH: _____	(NA)
List COC discrepancies: 7/16/26	
List Damaged Samples: 7/16/26	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

Appendix B

Boring Logs

CRETE Consulting, Inc.

16300 Christensen Road, Suite 214
Seattle, WA 98188

WELL LOG

BORING/WELL ID: **MW-1**

INSTALLED DEPTH: **20-ft bgs**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Former Bunge Foods R.I.**	DRILLING CO.:	**Holt/John Bennett**
SITE LOCATION:	**6901 Fox Ave S**	DRILLING METHOD:	**Hollow Stem Auger**
	Seattle, WA	EQUIPMENT TYPE:	**CME 85**
LOGGED BY:	**Rusty Jones**	SAMPLING METHOD:	**4.25" ID Hollow Stem Auger**
PROJECT MANAGER:	**G. Hainsworth**		**With 1.5-ft Split-Spoons**
DATES DRILLED/INSTALLED:	**12/16/2021**	DRILLED DEPTH:	**20-ft bgs, Cored to 21.5-ft bgs**
LATITUDE:	**47.5400941° N**	INITIAL WATER DEPTH:	**11.5-ft bgs**
LONGITUDE:	**-122.3300039° W**	SCREENED INTERVAL:	**5 to 20-ft bgs**

DEPTH	SOIL LOG	USCS	DESCRIPTION	SAMPLE ID	SAMPLE DEPTH (ft bgs)	PID (ppm) SPT	WELL CONSTRUCT.	WELL DESC.
0			ASPHALT at surface.				Flush-mount Wellhead Cover	
		SW	SAND with GRAVEL, medium to coarse-grained, medium brown, slightly moist		2.5 - 4 ft	0.8 8-12-13	Cement Collar	
			At 5 ft bgs: CONCRETE RUBBLE, brown to black sand.		5 - 6.5 ft	1.5 9-8-8	Bentonite Seal	
5							2-inch PVC Riser 0 to 5 ft bgs	
		SW	POOR RECOVERY CONCRETE RUBBLE SAND, medium to coarse-grained with concrete aggregate, slightly moist to moist.		7.5 - 9 ft	2.3 6-10-6		
10			At 10 ft bgs: VERY POOR RECOVERY, medium to dark brown, wet to saturated.		10 - 11.5 ft	2.6 50/5"		
▼			At 12.5 ft bgs: Saturated				Filter Pack 12/20 Silica Sand	
			SAND, fine to medium-grained, minor silty pockets, no gravel, medium to dark brown, wet.	MW-1 13-14'	12.5 - 14 ft	2.2 1-3-4		
15			At 15 ft bgs: medium to coarse-grained, subround, dark brown to variable grain colors, saturated.		15 - 16.5 ft	2.1 2-2-2	2-inch PVC Screen 0.010-Slotted 5 to 20 ft bgs	
		SP	At 17.5 ft bgs: No appreciable odors.		17.5 - 19 ft	2.2 1-6-5		
			At 20 ft bgs: Uniform medium-grained, medium to dark brown.					
20					20 - 21.5 ft	2.6 3-4-9	Well bottom at 20 ft bgs	

NOTES: Southwest corner of parcel, adjacent to waterway.
Lithology logged from split spoon core samples. Ecology tag # BNL-604

CRETE Consulting, Inc.

16300 Christensen Road, Suite 214
Seattle, WA 98188

WELL LOG

BORING/WELL ID: **MW-2**

INSTALLED DEPTH: **20-ft bgs**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Former Bunge Foods R.I.**	DRILLING CO.:	**Holt/John Bennett**
SITE LOCATION:	**6901 Fox Ave S**	DRILLING METHOD:	**Hollow Stem Auger**
	Seattle, WA	EQUIPMENT TYPE:	**CME 85**
LOGGED BY:	**Rusty Jones**	SAMPLING METHOD:	**4.25" ID Hollow Stem Auger**
PROJECT MANAGER:	**G. Hainsworth**		**With 1.5-ft Split-Spoons**
DATES DRILLED/INSTALLED:	**12/15/2021**	DRILLED DEPTH:	**20-ft bgs, Cored to 21.5-ft bgs**
LATITUDE:	**47.5404001° N**	INITIAL WATER DEPTH:	**10-ft bgs**
LONGITUDE:	**-122.3304795° W**	SCREENED INTERVAL:	**5 to 20-ft bgs**

DEPTH	SOIL LOG	USCS	DESCRIPTION	SAMPLE ID	SAMPLE DEPTH (ft bgs)	PID (ppm) SPT	WELL CONSTRUCT.	WELL DESC.
0			ASPHALT at surface.				Flush-mount Wellhead Cover	
			FILL: GRAVELLY SAND, medium to coarse-grained, subround to subangular gravel, tan to brown, dry. At 3 ft bgs: COBBLES, debris.		2.5 - 4 ft	2.2 7-10-16	Cement Collar	
5		SW	At 5 ft bgs: Fine to medium-grained, angular to subround, some CONCRETE RUBBLE, slightly moist.		5 - 6.5 ft	2.4 8-6-6	Bentonite Seal	
			At 7.5' ft bgs: Mostly coarse-grained, large subround gravel, dark brown, moist.	MW-2 7.5-9'	7.5 - 9 ft	2.9 4-42-18	2-inch PVC Riser 0 to 5 ft bgs	
10 ▼			At 10 ft bgs: POOR RECOVERY, tan to medium brown, wet.		10 - 11.5 ft	2.3 9-6-3		
			SAND, medium to coarse-grained, subangular to subround, with occasional cobble, gray to black grains, wet to saturated. At 15 ft bgs: Medium to coarse-grained, saturated. At 16-16.5 ft bgs: Very gravelly, saturated. At 17.5 ft bgs: fine-grained to coarse-grained, large WOOD pieces, dark brown to black, saturated, reducing odors. At 20 ft bgs: Fine to medium-grained, soft to loose, minor organic fines, dark brown to gray, saturated, reducing odors.	MW-2 12.5-14'	12.5 - 14 ft	2.1 4-4-28	Filter Pack 12/20 Silica Sand	
15		SP			15 - 16.5 ft	2.4 10-6-50	2-inch PVC Screen 0.010-Slotted 5 to 20 ft bgs	
					17.5 - 19 ft	2.8 10-14-11		
20					20 - 21.5 ft	6.9 0-0-0	Well bottom at 20 ft bgs	

NOTES: Western perimeter of parcel, adjacent to waterway.
Lithology logged from split spoon core samples. Ecology tag # BNL-602

CRETE Consulting, Inc.

16300 Christensen Road, Suite 214
Seattle, WA 98188

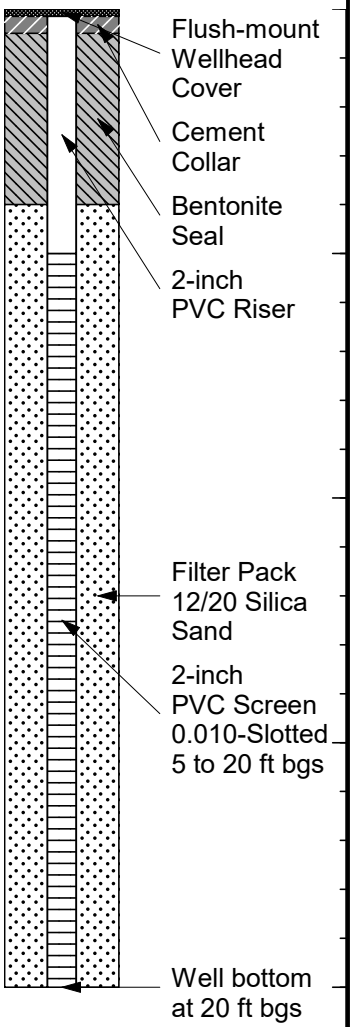
WELL LOG

BORING/WELL ID: **MW-3**

INSTALLED DEPTH: **20-ft bgs**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Former Bunge Foods R.I.**	DRILLING CO.:	**Holt/John Bennett**
SITE LOCATION:	**6901 Fox Ave S**	DRILLING METHOD:	**Hollow Stem Auger**
	Seattle, WA	EQUIPMENT TYPE:	**CME 85**
LOGGED BY:	**Rusty Jones**	SAMPLING METHOD:	**4.25" ID Hollow Stem Auger**
PROJECT MANAGER:	**G. Hainsworth**		**With 1.5-ft Split-Spoons**
DATES DRILLED/INSTALLED:	**12/16/2021**	DRILLED DEPTH:	**20-ft bgs, Cored to 21.5-ft bgs**
LATITUDE:	**47.5407806° N**	INITIAL WATER DEPTH:	**12.5-ft bgs**
LONGITUDE:	**-122.3309709° W**	SCREENED INTERVAL:	**5 to 20-ft bgs**

DEPTH	SOIL LOG	USCS	DESCRIPTION	SAMPLE ID	SAMPLE DEPTH (ft bgs)	PID (ppm) SPT	WELL CONSTRUCT.	WELL DESC.
0			ASPHALT at surface.					
			SAND, fine to medium-grained, minor coarse-grained, dark brown, slightly moist.		2.5 - 4 ft	2.6 3-4-6		
5		SW	At 5 ft bgs: CONCRETE fragments and subround to round gravel aggregate, darkbrown, slightly moist.		5 - 6.5 ft	2.3 6-5-5		
			7.9 ft bgs: ASPHALT, black, sandy weathered asphalt, red aggregate	MW-3 7.5-9'	7.5 - 9 ft	6.1 28-43-15		
10			10-11.5 ft bgs: NO RECOVERY, soft drilling.		10 - 11.5 ft	N/A 2-3-5		
			GRAVELLY SAND, medium to coarse-grained, angular gravel, psosible brick fragments, saturated, dark brown.	MW-3 12.5-14'	12.5 - 14 ft	2.1 4-1-1		
15		SW	At 17.5 ft bgs: Subround to subangular sand, coarse-grained, round to subround gravel (<1-inch), saturated.		15 - 16.5 ft	2.0 2-2-2		
			At 20 ft bgs: Coarse-grained, WOOD in sampler tip, saturated.		17.5 - 19 ft	2.7 3-6-12		
20					20 - 21.5 ft	2.6 5-3-5		



NOTES: Northwestern perimeter of parcel, adjacent to waterway.
Lithology logged from split spoon core samples. Ecology tag # BNL-605

WELL LOG MW-3D

PROJECT DESC. Dawn Foods RIFS
PROJECT NAME Dawn Foods
SITE Bridge Point Seattle 130
ADDRESS 6901 Fox Ave South, Seattle WA
ECOLOGY TAG # BRJ165

DRILLING DATE 2/05/2026
TOTAL DEPTH 21 feet bgs
BORING DIAMETER ~6.5 inches
CASING 2-inch PVC, Schedule 40, 0-10 ft bgs
SCREEN 10-Slot, PVC, Sch. 40, 10-20 ft bgs

COORDINATES N/A
COORD SYSTEM N/A
COMPLETION Flushmount
SURFACE ELEVATION N/A
WELL TOC N/A

COMMENTS Location is in the northwest corner of the site, approximately 30-feet west/northwest from northwest corner of the warehouse building and in-between the railroad tracks. EQUIPMENT: Mobile Drill B-57 (track-mounted); 4.25-inch ID hollow stem augers. Logged from split-spoon cores.

LOGGED BY Rusty Jones (CRETE Consulting)
DRILLER Abraham Causland (Holt Services)

Depth (ft)	Sample Interval SPT (blows/6-inch)	PID (ppm)	USCS	Material Description
0	5/6/9	6.3		CONCRETE
1				0.5-1.5 ft GRAVELLY SAND, fine to coarse-grained (mostly medium to coarse-grained), mixed browns, dry. RAIL TIMBERS.
2	4/8/8	5.9	SP	1.5-8.5 ft SAND, fine to medium-grained (mostly medium-grained), uniform, medium brown, dry.
3	3/3/4	10.2		
4				At 4.5 ft Medium brown, dry to slightly moist.
5	3/5/6	22.9		
6	5/5/6	42.0		
7				Water level gauged at 8.25 ft BTOC after well installation.
8	3/2/1	1.7		
9			ML	8.5-10 ft SILT with SAND and CLAY fines, fine-grained, medium-gray, slightly moist.
10	1/2/4	6.1	SP	10-21 ft SAND, medium-grained, light to medium brown, moist.
11	4/4/3	8.0		
12	2/2/2	9.7		At 12.4 ft Wet. At 12.4-13.2 ft WOOD
13				13.5 ft Trace to minor WOOD, dark brown, saturated. Moderate fetid/reducing odor.
14	2/3/5	8.1		
15	1/2/3	6.3		At 15 ft Medium SAND, trace to no WOOD, medium to dark gray, saturated.
16				
17	0/1/2	6.7		
18	1/3/5	5.9		
19				At 19.5 ft Medium to coarse-grained, dark gray, saturated.
20	2/5/6	3.2		
21				Cored to 21 ft bgs. Augered to 20.5 ft bgs.

Well Diagram (MW-3D)

- 0-1 ft bgs CONCRETE
- 1-6 ft bgs BACKFILL and BENTONITE
- 6-8 ft bgs SEAL, Hydrated Bentonite Chips
- 8-20.5 ft bgs FILTER PACK, 12/20 Silica Sand , 10-20 ft bgs SCREEN

CRETE Consulting, Inc.

16300 Christensen Road, Suite 214
Tukwila, WA 98188

WELL LOG

BORING/WELL ID: **MW-4**

INSTALLED DEPTH: **20-ft bgs**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Former Bunge Foods R.I.**	DRILLING CO.:	**Holt/John Bennett**
SITE LOCATION:	**6901 Fox Ave S**	DRILLING METHOD:	**Hollow Stem Auger**
	Seattle, WA	EQUIPMENT TYPE:	**CME 85**
LOGGED BY:	**Rusty Jones**	SAMPLING METHOD:	**4.25" ID Hollow Stem Auger**
PROJECT MANAGER:	**G. Hainsworth**		**With 1.5-ft Split-Spoons**
DATES DRILLED/INSTALLED:	**12/16/2021**	DRILLED DEPTH:	**20-ft bgs, Cored to 21.5-ft bgs**
LATITUDE:	**47.5401098° N**	INITIAL WATER DEPTH:	**10-ft bgs**
LONGITUDE:	**-122.3295975° W**	SCREENED INTERVAL:	**5 to 20-ft bgs**

DEPTH	SOIL LOG	USCS	DESCRIPTION	SAMPLE ID	SAMPLE DEPTH (ft bgs)	PID (ppm) SPT	WELL CONSTRUCT.	WELL DESC.
0			ASPHALT at surface.				Flush-mount Wellhead Cover	
		SW	GRAVELLY SAND, fine to coarse grained, well-graded, subround to round, slightly moist, medium to dark brown. At 5 ft bgs: Minor GRAVEL.		2.5 - 4 ft	2.2 9-16-12	Cement Collar	
5					5 - 6.5 ft	2.4 4-4-4	Bentonite Seal	
		SP	SAND, medium-grained, subround to round, most to wet, dark brown. At 10 ft bgs: Wet to saturated.	MW-4 7.5-9'	7.5 - 9 ft	3.5 1-1-0	2-inch PVC Riser 0 to 5 ft bgs	
10				MW-4 11-11.5'	10 - 11.5 ft	2.2 1-0-1		
		ML	SILT, with some very fine to fine-grained SAND, minor small ROOTS/WOOD, wet, tan. at 13.2 ft bgs: increasing SAND, very fine to fine-grained, saturated, tan to medium brown. At 15 ft bgs: SANDY SILT, very fine to fine-grained, trace ROOTS, soft/loose, saturated, tan.		12.5 - 14 ft	1.9 1-2-2	Filter Pack 12/20 Silica Sand	
15					15 - 16.5 ft	1.4 1-3-3	2-inch PVC Screen 0.010-Slotted 5 to 20 ft bgs	
		SP-ML	SAND, very fine to medium-grained, with PEAT/WOOD seams, saturated, dark brown. At 17.5-18.1 ft bgs: SANDY SILT layer, very soft, saturated, tan. At 18.1 ft bgs: SAND, mostly medium-grained, some WOOD, saturated, dark brown. At 20 ft bgs: Minor WOOD native debris.		17.5 - 19 ft	1.2 1-3-4		
20					20 - 21.5 ft	1.2 5-4-4	Well bottom at 20 ft bgs	

NOTES: Southern perimeter of parcel, adjacent to waterway.
Lithology logged from split spoon core samples. Ecology tag # BNL-606

CRETE Consulting, Inc.

16300 Christensen Road, Suite 214
Tukwila, WA 98188

WELL LOG

BORING/WELL ID: **MW-5**

INSTALLED DEPTH: **20-ft bgs**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Former Bunge Foods R.I.**	DRILLING CO.:	**Holt/John Bennett**
SITE LOCATION:	**6901 Fox Ave S**	DRILLING METHOD:	**Hollow Stem Auger**
	Seattle, WA	EQUIPMENT TYPE:	**CME 85**
LOGGED BY:	**Rusty Jones**	SAMPLING METHOD:	**4.25" ID Hollow Stem Auger**
PROJECT MANAGER:	**G. Hainsworth**		**With 1.5-ft Split-Spoons**
DATES DRILLED/INSTALLED:	**12/15/2021**	DRILLED DEPTH:	**20-ft bgs, Cored to 21.5-ft bgs**
LATITUDE:	**47.5402510° N**	INITIAL WATER DEPTH:	**10-ft bgs**
LONGITUDE:	**-122.3298528° W**	SCREENED INTERVAL:	**5 to 20-ft bgs**

DEPTH	SOIL LOG	USCS	DESCRIPTION	SAMPLE ID	SAMPLE DEPTH (ft bgs)	PID (ppm) SPT	WELL CONSTRUCT.	WELL DESC.
0			ASPHALT at surface.				Flush-mount Wellhead Cover	
		SW	GRAVELLY SAND, with ASPHALT pieces, medium to coarse-grained, moist, brown.		2.5 - 4 ft	2.6 5-6-6	Cement Collar	
5					5 - 6.5 ft	3.1 3-3-3	Bentonite Seal	
							2-inch PVC Riser 0 to 5 ft bgs	
10		SP	SAND, medium-grained, firm, with some subround to round GRAVEL (approximately 1-cm), moist to wet, dark brown. At 10 ft bgs: GRAVELLY SAND, fine to medium-grained, subround gravel, saturated, brown to dark gray, very faint hydrocarbon odor. At 12.5 ft bgs: SAND, medium-grained, wet to saturated, dark brown with small pockets black WOODY ORGANICS, very faint oil/organic sheen and sweet odor.		7.5 - 9 ft	N/A 1-2-2		
					10 - 11.5 ft	2.9 11-9-6	Filter Pack 12/20 Silica Sand	
				MW-5 12.5-14'	12.5 - 14 ft	4.3 0-1-1	2-inch PVC Screen 0.010-Slotted 5 to 20 ft bgs	
15		SP	SAND, medium to coarse-grained, with trace brick fragments (1.5-cm) and WOOD fibers/pieces, saturated, dark gray, no hydrocarbon odor. At 17.5 to 21.5 ft bgs: WOOD debris, no odor.		15 - 16.5 ft	2.3 1-1-2		
					17.5 - 19 ft	1.9 2-2-3		
20					20 - 21.5 ft	2.1 4-3-3	Well bottom at 20 ft bgs.	

NOTES: South side of building near loading docks.
Lithology logged from split spoon core samples. Ecology tag # BNL-601

CRETE Consulting, Inc.

16300 Christensen Road, Suite 214
Tukwila, WA 98188

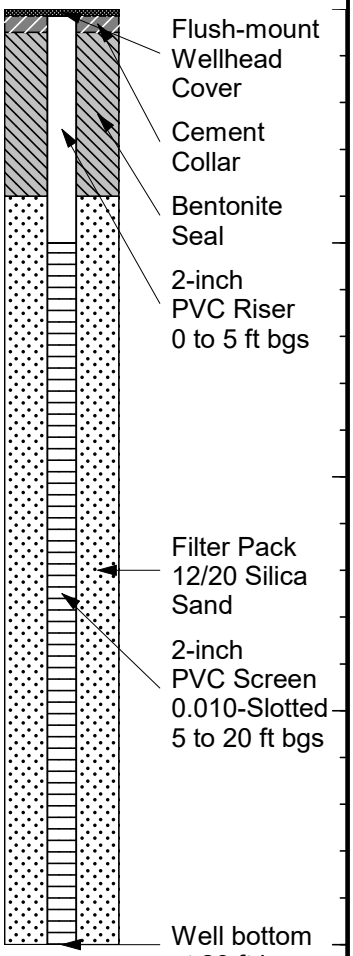
WELL LOG

BORING/WELL ID: **MW-6**

INSTALLED DEPTH: **20-ft bgs**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Former Bunge Foods R.I.**	DRILLING CO.:	**Holt/John Bennett**
SITE LOCATION:	**6901 Fox Ave S**	DRILLING METHOD:	**Hollow Stem Auger**
	Seattle, WA	EQUIPMENT TYPE:	**CME 85**
LOGGED BY:	**Rusty Jones**	SAMPLING METHOD:	**4.25" ID Hollow Stem Auger**
PROJECT MANAGER:	**G. Hainsworth**		**With 1.5-ft Split-Spoons**
DATES DRILLED/INSTALLED:	**12/15/2021**	DRILLED DEPTH:	**20-ft bgs, Cored to 21.5-ft bgs**
LATITUDE:	**47.5405094° N**	INITIAL WATER DEPTH:	**10-ft bgs**
LONGITUDE:	**-122.3302284° W**	SCREENED INTERVAL:	**5 to 20-ft bgs**

DEPTH	SOIL LOG	USCS	DESCRIPTION	SAMPLE ID	SAMPLE DEPTH (ft bgs)	PID (ppm) SPT
0			ASPHALT at surface.			
		SP	SAND, medium to coarse-grained, slightly moist. With ASPHALT pieces.		2.5 - 4 ft	0.9 2-2-2
5			At 5 ft bgs: POOR RECOVERY, moist.		5 - 6.5 ft	N/A 2-1-2
		SP	SAND, coarse to very coarse-grained, wet. At 8 to 8.5 ft bgs: SANDY CLAY, non-plastic, soft, wet, tan. At 8.5 to 9 ft bgs: SAND, medium-grained, uniform, oxidized appearance, wet, rusty red.	MW-6 7.5-9'	7.5 - 9 ft	2.0 1-1-1
10			SILTY SAND, fine to medium-grained, with soft SILT pocket, wet to saturated, tan to brown, strong reducing odors. At 12.5 ft bgs: Variable SILT and SAND, fine-grained, generally soft, trace very small ROOTS, saturated, tan to gray.		10 - 11.5 ft	2.0 0-0-0
					12.5 - 14 ft	2.1 1-1-1
15		SM	At 16 ft bgs: SAND, fine-grained, brown, strong reducing odors. At 17.5 ft bgs: SAND, medium-grained, subround, saturated, dark brown, reducing odors. At 20 to 20.3 ft bgs: CLAYEY SILT, soft, saturated, tan to light gray. At 20.3 ft bgs: SAND, medium to coarse-grained, trace ROOTS/WOOD, saturated, black, mild reducing odors.		15 - 16.5 ft	2.1 5-5-5
					17.5 - 19 ft	2.2 3-4-5
20					20 - 21.5 ft	1.3 3-6-6



NOTES: Southwest of building near walk-through entrance.
Lithology logged from split spoon core samples. Ecology tag # BNL-603

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Tukwila, WA 98188

WELL LOG

BORING/WELL ID: **MW-7**

INSTALLED DEPTH: **19.5-ft bgs**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Former Bunge Foods R.I.**	DRILLING CO.:	**Holt/Abraham Causland**
SITE LOCATION:	**6901 Fox Ave S**	DRILLING METHOD:	**Hollow Stem Auger**
	Seattle, WA	EQUIPMENT TYPE:	**Mobile Drill B-57**
LOGGED BY:	**Rusty Jones**	SAMPLING METHOD:	**4.25" ID Hollow Stem Auger**
PROJECT MANAGER:	**G. Hainsworth**		**Pre-cored with DPT probe.**
DATES DRILLED/INSTALLED:	**3/9/2023**	DRILLED DEPTH:	**19.5-ft bgs**
LATITUDE:	**47.5408164° N**	INITIAL WATER DEPTH:	**8.96-ft bgs**
LONGITUDE:	**-122.3286454° W**	SCREENED INTERVAL:	**0 to 19-ft bgs**

DEPTH	SOIL LOG	USCS	DESCRIPTION	SAMPLE ID	SAMPLE DEPTH (ft bgs)	PID (ppm) DPT	WELL CONSTRUCT.	WELL DESC.
0		GW	SANDY GRAVEL, angular gravel, moist.				Flush-mount Wellhead Cover	
		SP	SAND, medium to coarse-grained, subangular to subround, moist, dark brown.		1 - 3 ft	0.0	Cement Collar	
					3 - 5 ft	0.0	2-inch PVC Riser 0 to 4 ft bgs	
5								
					6 - 8 ft	0.0	Bentonite Seal	
▼		SP	SILTY SAND, very fine to fine-grained, some CLAY content, non-plastic, moist to wet, dark brown. At 10 ft bgs: Fine to medium-grained, saturated, dark brown to dark gray.	MW-7 8-10'	8 - 10 ft	0.2		
10								
		SM	SANDY SILT, very fine to fine-grained, soft, non-plastic, abundant WOODY ORGANICS, wet, tan.		11.5-12.5 ft	0.0	Filter Pack 12/20 Silica Sand	
		SP	SAND, medium-grained, saturated, dark brown.		13.8-15 ft	0.0	2-inch PVC Screen 0.010-Slotted 4 to 19 ft bgs	
15		SM	SANDY SILT, soft, layering, some very small organics, wet, tan.					
		SP	SAND, very fine to medium-grained, some SILT, loose, saturated, dark gray.	MW-7 16-18'	16 - 18 ft	0.1		
20							Well bottom at 19 ft bgs	

NOTES: Along railroad spur north of warehouse building between RR timbers.
Lithology logged from Macrocore samplers. Ecology tag # BPW-457

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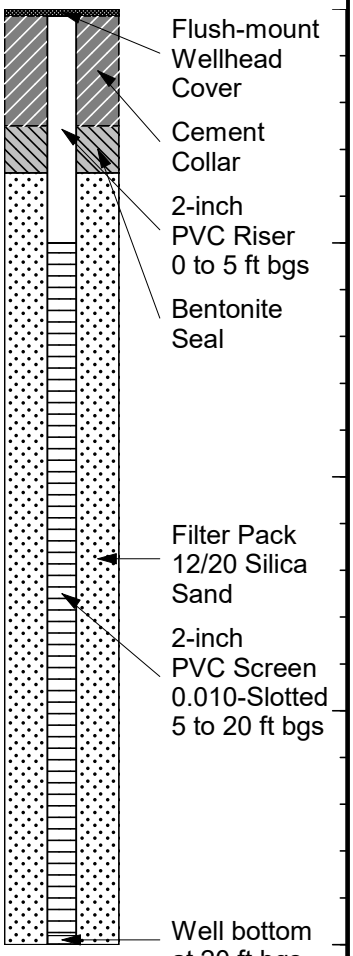
WELL LOG

BORING/WELL ID: **MW-8**

INSTALLED DEPTH: **20-ft bgs**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Former Bunge Foods R.I.**	DRILLING CO.:	**Holt/Abraham Causland**
SITE LOCATION:	**6901 Fox Ave S**	DRILLING METHOD:	**Hollow Stem Auger**
	Seattle, WA	EQUIPMENT TYPE:	**Mobile Drill B-57**
LOGGED BY:	**Rusty Jones**	SAMPLING METHOD:	**4.25" ID Hollow Stem Auger**
PROJECT MANAGER:	**G. Hainsworth**		**Pre-cored with DPT probe.**
DATES DRILLED/INSTALLED:	**3/9/2023**	DRILLED DEPTH:	**20-ft bgs**
LATITUDE:	**47.5402825° N**	INITIAL WATER DEPTH:	**8.18-ft bgs**
LONGITUDE:	**-122.3274993° W**	SCREENED INTERVAL:	**0 to 20-ft bgs**

DEPTH	SOIL LOG	USCS	DESCRIPTION	SAMPLE ID	SAMPLE DEPTH (ft bgs)	PID (ppm) DPT
0			ASPHALT			
		GW	GRAVEL, subround, dry.			
		SP	SAND, fine to medium-grained, red-brown.		1 - 3 ft	0.1
		SM	SILTY SAND, very fine to fine-grained, trace CLAY, gray, slightly moist to moist. At 1.6 ft bgs: Minor GRAVEL, red-brown SAND.		3 - 5 ft	0.1
5						
		SP	SAND, fine to medium-grained, subround, tan to dark brown with trace rusty-orange mottling, moist. Slightly coarsening downward sequence.		6 - 8 ft	0.1
▼			At 10 ft bgs: Medium to coase-grained, dark brown with mixed grain colors, wet to saturated. At 11.3 ft bgs: Medium to very coarse-grained, poorly-sorted.	MW-8 8-10'	8 - 10 ft	0.3
10						
				MW-8 11-13'	11 - 13 ft	17.3
			SAND, medium-coarse-grained, layering well-sorted, saturated, dark tan with rusty brown staining. At 13.7 ft bgs: Subangular to subround, wet but well-drained, dark brown. At 15 ft bgs: Fine to coarse-grained, mostly medium-grained, wet, well-drained, dark brown.	MW-8 13-14.5'	13-14.5 ft	4.6
15		SP			15 - 17 ft	1.6
					18 - 20 ft	0.3
20						



NOTES: In parking lot near main front office door and stairs.
Lithology logged from Macrocore samplers. Ecology tag # BPW-455

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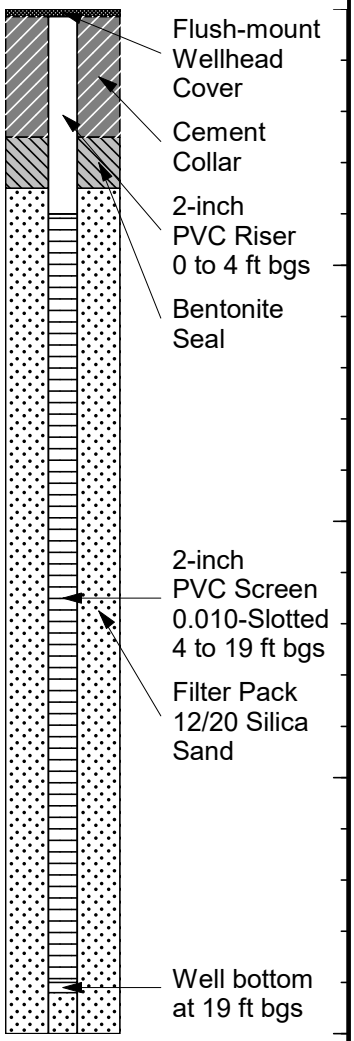
WELL LOG

BORING/WELL ID: **MW-9**

INSTALLED DEPTH: **20-ft bgs**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Former Bunge Foods R.I.**	DRILLING CO.:	**Holt/Abraham Causland**
SITE LOCATION:	**6901 Fox Ave S**	DRILLING METHOD:	**Hollow Stem Auger**
	Seattle, WA	EQUIPMENT TYPE:	**Mobile Drill B-57**
LOGGED BY:	**Rusty Jones**	SAMPLING METHOD:	**4.25" ID Hollow Stem Auger**
PROJECT MANAGER:	**G. Hainsworth**		**Pre-cored with DPT probe.**
DATES DRILLED/INSTALLED:	**3/9/2023**	DRILLED DEPTH:	**20-ft bgs**
LATITUDE:	**47.5405462° N**	INITIAL WATER DEPTH:	**8.85-ft bgs**
LONGITUDE:	**-122.3273549° W**	SCREENED INTERVAL:	**0 to 19-ft bgs**

DEPTH	SOIL LOG	USCS	DESCRIPTION	SAMPLE ID	SAMPLE DEPTH (ft bgs)	PID (ppm) DPT	WELL CONSTRUCT.	WELL DESC.
0			ASPHALT					
		SP	SAND, very fine to medium-grained, slightly moist to moist, reddish tan with rusty orange mottling.		1.5-3 ft	0.0		
					3.5-5 ft	0.0		
5		SP	POOR RECOVERY SAND, medium to coarse-grained, subangular to subround, moist, brown, black, and white grains.		5.5-7 ft	0.0		
▼			At 9 ft bgs: Rusty brown seam, moist to wet below.	MW-9 8.5-10'	8.5-10 ft	0.3		
10		SP	SAND, medium to coarse-grained, abundant coarse-grain, wet and well-drained, dark brown to black.		11 - 13 ft	0.2		
			At 13.8 to 15 ft bgs: Abundant SILTY SAND, very fine to fine-grained, non-plastic, dark gray.	MW-9 14-15'	14 - 15 ft	0.0		
15								
20								



NOTES: Along eastern property line with Fox Ave S, just east of warehouse building.
Lithology logged from Macrocore samplers. Ecology tag # BPW-456

WELL LOG MW-10

PROJECT DESC. Former Bunge Foods R.I.	**DRILLING DATE** 9/19/2024	**COORDINATES** 1271349.191, 200601.6408
PROJECT NAME Dawn Foods	**TOTAL DEPTH** 20 feet bgs	**COORD SYSTEM** State Plane, WA, North
SITE Bridge Point Seattle 130	**BORING DIAMETER** ~8 inches	**COMPLETION** Flushmount
ADDRESS 6901 Fox Ave S	**CASING** 2-inch PVC, Schedule 40, 0-4.5 ft bgs	**SURFACE ELEVATION** ~15 ft NAVD88
ECOLOGY TAG # BQH755	**SCREEN** 10-Slot, PVC, Sch. 40, 4.5-19.5 ft bgs	**WELL TOC** N/A

COMMENTS Location along south end of property south of MW-8. EQUIPMENT: Mobile Drill B-57; 4.25-inch ID hollow stem augers. Logged from split-spoon samplers. Schedule 40 PVC screen 4.5 to 19.5 ft bgs.

LOGGED BY Rusty Jones (CRETE Consulting)
DRILLER Holt Services (C.Spiker, C.Trusty)

Depth (ft)	Samples	PID (ppm)	Graphic Log	USCS	Material Description	Well Diagram (MW-10)
0				SW	0-5 ft ASPHALT at surface. Logged from mixed auger cuttings. Mixed SANDY FILL.	0-1.6 ft bgs CONCRETE
1-4	No Soil Samples Collected					1.6-3.8 ft bgs SEAL, Hydrated Bentonite Chips
5-7				SM	5-8 ft SILTY SAND, very fine-grained, tan to light brown, slightly moist. With minor layers and laminations.	
8		0.1		SW	8-8.9 ft SAND, fine to coarse-grained, mostly medium-grained, subround to round, black to dark brown, well-drained but moist.	
9		0.1		SM	8.9-9 ft SILTY SAND, very fine-grained, non-plastic, medium gray. 9-10 ft NO RECOVERY	
10				SP	10-15.8 ft SAND, medium to coarse-grained, subround to round, black, well-drained, moist to wet.	
11		0.3				3.8-20 ft bgs FILTER PACK, 12/20 Silica Sand. SCREEN 4.5-19.5 ft bgs.
12-15						
15		6.5				
16		9.7		SM	15.8-16.5 ft SILTY SAND, very fine-grained, dark gray, saturated. With decomposing WOODY DEBRIS (friable, peaty).	
17-19					16.5-20 ft NO RECOVERY	
20				SP	20-21.5 ft SAND, medium to coarse-grained, subround to round, very dark gray to black, wet.	
21		0.1				
22						Logged to 21.5 ft bgs. Installed to 19.5 ft bgs.

DRAFT

WELL LOG MW-11

PROJECT DESC. Former Bunge Foods R.I.
PROJECT NAME Dawn Foods
SITE Bridge Point Seattle 130
ADDRESS 6901 Fox Ave S
ECOLOGY TAG # BQH756

DRILLING DATE 9/19/2024
TOTAL DEPTH 20 feet bgs
BORING DIAMETER ~8 inches
CASING 2-inch PVC, Schedule 40, 0-5 ft bgs
SCREEN 10-Slot, PVC, Sch. 40, 5-20 ft bgs

COORDINATES 1270982.132, 200606.0388
COORD SYSTEM State Plane, WA, North
COMPLETION Flushmount
SURFACE ELEVATION ~15 ft NAVD88
WELL TOC N/A

COMMENTS Location along south end of property south of RI-SB-05. EQUIPMENT: Mobile Drill B-57; 4.25-inch ID hollow stem augers. Logged from split-spoon samplers. Schedule 40 PVC screen 5-20 ft bgs.

LOGGED BY Rusty Jones (CRETE Consulting)
DRILLER Holt Services (C.Spiker, C.Trusty)

Depth (ft)	Samples	PID (ppm)	USCS	Material Description
0	No Soil Samples Collected		SW	0-5 ft ASPHALT at surface. Mixed FILL and SAND. Logged from mixed auger cuttings.
5		1.3	SP	5-10.3 ft SAND, medium-grained, dark brown, slightly moist.
10				10.3-10.8 ft SAND, very fine to medium-grained (mostly fine-grained), dark gray to dark brown, moist to wet.
10		1.2	SW	
11			SP	10.8-11.5 ft SAND, fine to medium-grained, dark gray, wet.
11.5				11.5-15 ft NO RECOVERY
15			SP	15-15.4 ft SAND, medium to coarse-grained, very dark brown, saturated.
15.4		1.5	ML	15.4-16.3 ft CLAYEY SILT, with some very fine-grained SAND, low to moderate plasticity, very dark gray to dark brown, moist to wet.
16.3			SP	16.3-16.5 ft SAND, medium-grained, very dark brown, saturated.
16.5				16.5-20 ft NO RECOVERY

Well Diagram (MW-10)

- 0-1.4 ft bgs CONCRETE
- 1.4-4 ft bgs SEAL, Hydrated Bentonite Chips
- 4-20 ft bgs FILTER PACK, 12/20 Silica Sand. SCREEN 5-20 ft bgs.

Installed to 19.5 ft bgs.

DRAFT

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Notice of Intent No. AE 22156

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☒ Water-sampling

Ecology Well ID Tag No. BNL 601

Site Well Name Bunge Foods

Consulting Firm Crete Consulting

Was a variance approved for this well/boring? ☐ Yes ☒ No

If yes, what was the variance for? _____

Property Owner Bridge Point Seattle

Well Street Address 6901 Fox Ave S

City Seattle County King

Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) Bennett, John

Driller/Engineer/Trainee Signature John Bennett

License No. 2933

Company Name Holt Services Inc.

If trainee box is checked, sponsor's license number: _____

Sponsor's signature _____

Location (see instructions): WWM ☐ or EWM ☒

SW ¼-¼ NW ¼, Section 29 Town 24N Range 4

Latitude (Example: 47.12345) 47.5409708

Longitude (Example: -120.12345) 122.3311974

(WGS 84 Coordinate System)

Borehole diameter 8" inches Casing diameter 2 inches

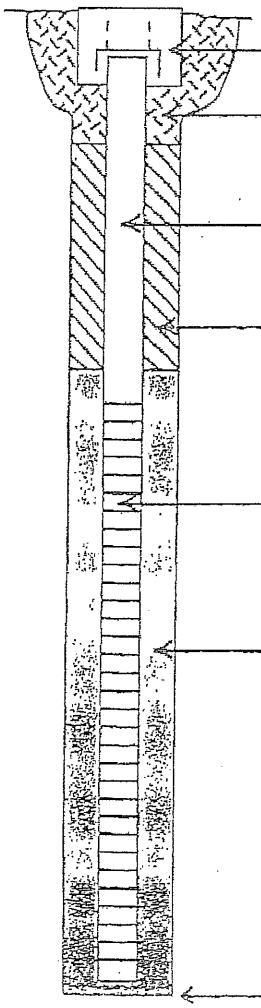
Static water level _____ ft below top of casing Date _____

☐ Above-ground completion with bollards ☒ Flush monument

↳ Stick-up of top of well casing _____ ft above ground surface

Start Date 12-15-21 Completed Date 12-16-21

Construction/Design



MONUMENT TYPE: 8" Flush

CONCRETE SURFACE SEAL: 2 ft.

PVC BLANK: 2" x 5'

BACKFILL: 3 ft.

TYPE: Bentonite Chips

PVC SCREEN: 2" x 15'

SLOT SIZE: .10

TYPE: Schedule 40 PVC

GRAVEL PACK: 17 ft.

MATERIAL: 12-20 Silica Sand

WELL DEPTH: _____

Well Data

Formation Description

0 - 7' ft. brown med sand

7' - 20' ft. olive gray fine to med sand w/20 boulders

- ft.

- ft.

- ft.

REMARKS

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BNL 602
Site Well Name Bunge Foods
Consulting Firm Crete Consultants
Was a variance approved for this well/boring? ☐ Yes ☒ No
If yes, what was the variance for? _____

Notice of Intent No. AE 22156

Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☒ Water-sampling

Property Owner Bridge Point Seattle
Well Street Address 6901 Fox Ave S
City Seattle County King
Tax Parcel No. _____

Location (see instructions): WWM ☐ or EWM ☒
SW ¼-¼ NW ¼, Section 29 Town 24N Range 4
Latitude (Example: 47.12345) 47.5409208
Longitude (Example: -120.12345) 122.3311974
(WGS 84 Coordinate System)

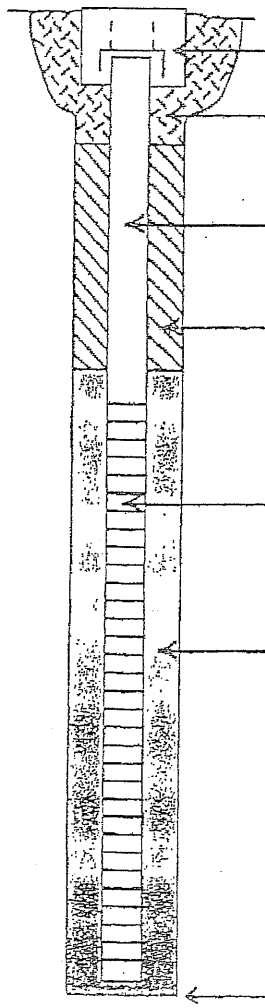
Borehole diameter 8" inches Casing diameter 2 inches
Static water level _____ ft below top of casing Date _____
☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 12-15-21 Completed Date 12-16-21

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) Bennett, John
Driller/Engineer/Trainee Signature John Bennett
License No. 2933
Company Name Holt Services Inc.

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Construction/Design



Well Data

MONUMENT TYPE: 8" Flush
CONCRETE SURFACE SEAL: 2 ft.
PVC BLANK: 2"x 5'
BACKFILL: 3 ft.
TYPE: Bentonite Chips
PVC SCREEN: 2"x 15'
SLOT SIZE: .10
TYPE: Schedule 40 PVC
GRAVEL PACK: 17 ft.
MATERIAL: 12-20 Silica Sand
WELL DEPTH: _____

Formation Description

0 - 7' ft. brown med Sand
7' - 20' ft. blue Gray fine to med Sand +/20 bentonite
_____ - _____ ft.
_____ - _____ ft.
_____ - _____ ft.

REMARKS

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BNL 603
Site Well Name Bunge Foods
Consulting Firm Crete Consultants
Was a variance approved for this well/boring? ☐ Yes ☒ No
If yes, what was the variance for? _____

Notice of Intent No. AE 22156

Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☒ Water-sampling

Property Owner Bridge Point Seattle
Well Street Address 6901 Fox Ave S
City Seattle County King
Tax Parcel No. _____

Location (see instructions): WWM ☐ or EWM ☒
SW ¼-¼ NW ¼, Section 29 Town 24N Range 4
Latitude (Example: 47.12345) 47.5409708
Longitude (Example: -120.12345) 122.3311974
(WGS 84 Coordinate System)

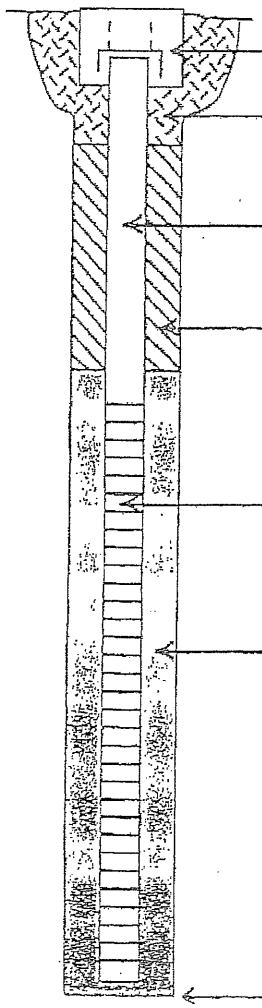
Borehole diameter 8"ø inches Casing diameter 2 inches
Static water level _____ ft below top of casing Date _____
☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 12-15-21 Completed Date 12-16-21

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) Bennett, John
Driller/Engineer/Trainee Signature John Bennett
License No. 2933
Company Name Holt Services Inc.

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Construction/Design



Well Data

MONUMENT TYPE: 8" Flush
CONCRETE SURFACE SEAL: 2 ft.
PVC BLANK: 2"x 5'
BACKFILL: 3 ft.
TYPE: Bentonite Chips
PVC SCREEN: 2"x 15'
SLOT SIZE: .10
TYPE: Schedule 40 PVC
GRAVEL PACK: 17 ft.
MATERIAL: 12-20 Silica Sand
WELL DEPTH: _____

Formation Description

0 - 7' ft. brown med sand
7' - 20' ft. blue gray fine to med sand #120 bent
- ft.
- ft.
- ft.

REMARKS

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BNL 604
Site Well Name Bunge Foods
Consulting Firm Crete Consulting
Was a variance approved for this well/boring? ☐ Yes ☒ No
If yes, what was the variance for? _____

Notice of Intent No. AE 22156

Type of Well:

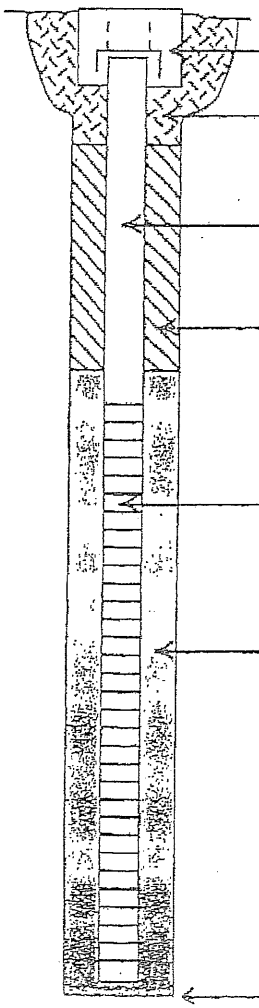
☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☒ Water-sampling

Property Owner Bridge Point Seattle
Well Street Address 6901 Fox Ave S
City Seattle County King
Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) Bennett, John
Driller/Engineer/Trainee Signature John Bennett
License No. 2933
Company Name Holt Services Inc.
If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Location (see instructions): WWM ☐ or EWM ☒
SW ¼-¼ NW ¼, Section 29 Town 24N Range 4
Latitude (Example: 47.12345) 47.5409708
Longitude (Example: -120.12345) 122.3311974
(WGS 84 Coordinate System)
Borehole diameter 8" inches Casing diameter 2 inches
Static water level _____ ft below top of casing Date _____
☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 12-15-21 Completed Date 12-16-21

Construction/Design	Well Data	Formation Description
	MONUMENT TYPE: 8" Flush CONCRETE SURFACE SEAL: 2 ft. PVC BLANK: 2"x 5' BACKFILL: 3 ft. TYPE: Bentonite Chips PVC SCREEN: 2"x 15' SLOT SIZE: .10 TYPE: Schedule 40 PVC GRAVEL PACK: 17 ft. MATERIAL: 12-20 Silica Sand WELL DEPTH:	0 - 7' ft. brown med sand 7' - 20' ft. blue gray fine to med sand +120 boring - ft. - ft. - ft. REMARKS

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. ANL 605
Site Well Name Bunge Foods
Consulting Firm Crete Consultants
Was a variance approved for this well/boring? ☐ Yes ☒ No
If yes, what was the variance for? _____

Notice of Intent No. AE 22156

Type of Well:

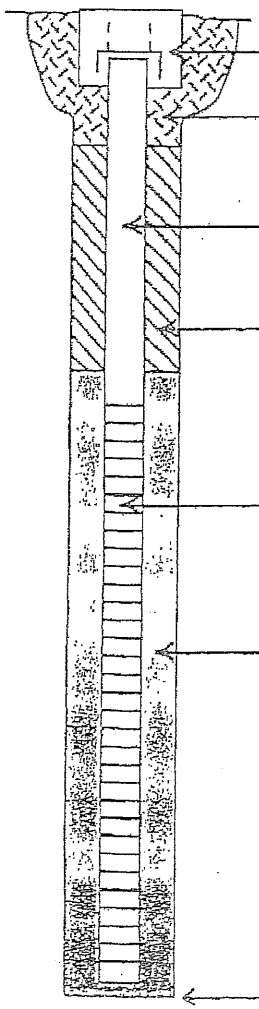
☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☒ Water-sampling

Property Owner Bridge Point Seattle
Well Street Address 6901 Fox Ave S
City Seattle County King
Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) Bennett, John
Driller/Engineer/Trainee Signature John Bennett
License No. 2933
Company Name Holt Services Inc.
If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Location (see instructions): WWM ☐ or EWM ☒
SW ¼-¼ NW ¼, Section 29 Town 24N Range 4
Latitude (Example: 47.12345) 47.5409208
Longitude (Example: -120.12345) 122.3311974
(WGS 84 Coordinate System)
Borehole diameter 8" inches Casing diameter 2 inches
Static water level _____ ft below top of casing Date _____
☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 12-15-21 Completed Date 12-16-21

Construction/Design	Well Data	Formation Description
	MONUMENT TYPE: 8" Flush CONCRETE SURFACE SEAL: 2 ft. PVC BLANK: 2"x 5' BACKFILL: 3 ft. TYPE: Bentonite Chips PVC SCREEN: 2"x 15' SLOT SIZE: .10 TYPE: Schedule 40 PVC GRAVEL PACK: 17 ft. MATERIAL: 12-20 Silica Sand WELL DEPTH:	0 - 7' ft. brown med sand 7' - 20' ft. blue gray fine to med sand w/20 bentonite - ft. - ft. - ft. REMARKS

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BNL 606
Site Well Name Bunge Foods
Consulting Firm Crete Consulting
Was a variance approved for this well/boring? ☐ Yes ☒ No
If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) Bennett, John
Driller/Engineer/Trainee Signature John Bennett
License No. 2933
Company Name Holt Services Inc.

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Notice of Intent No. AE 22156

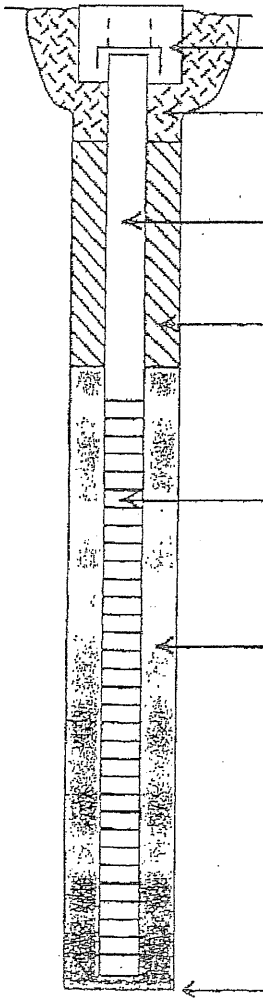
Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☒ Water-sampling

Property Owner Bridge Point Seattle
Well Street Address 6901 Fox Ave S
City Seattle County King
Tax Parcel No. _____

Location (see instructions): WWM ☐ or EWM ☒
SW ¼-¼ NW ¼, Section 29 Town 24N Range 4
Latitude (Example: 47.12345) 47.5409208
Longitude (Example: -120.12345) 122.3311974
(WGS 84 Coordinate System)

Borehole diameter 8" inches Casing diameter 2 inches
Static water level _____ ft below top of casing Date _____
☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 12-15-21 Completed Date 12-16-21

Construction/Design	Well Data	Formation Description
	MONUMENT TYPE: 8" Flush CONCRETE SURFACE SEAL 2 ft. PVC BLANK 2"x 5' BACKFILL 7 ft. TYPE: Bentonite Chips PVC SCREEN 2"x 15' SLOT SIZE: .10 TYPE: Schedule 40 PVC GRAVEL PACK 17 ft. MATERIAL: 12-20 Silica Sand WELL DEPTH _____	0 - 7' ft. brown med sand 7' - 20' ft. blue gray fine to med sand +120 boulder - ft. - ft. - ft. REMARKS

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE24194

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *(select one)*
- [x] Construction
- [ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Consulting Firm CRETE

Unique Ecology Well ID Tag No. BPW-455

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

[x] Driller [ ] Engineer [ ] Trainee Name (Print) Carlsland, Abe

Driller/Engineer/Trainee Signature _____

Driller or Trainee License No. 2861

If trainee, licensed driller's Signature and License No. _____

Type of Well *(select one)*
- [x] Resource Protection
- [ ] Geotech Soil Boring

Property Owner BRIDGE INDUSTRIAL

Site Address 6901 FOX AVE. S.

City SEATTLE County KING

Location NW 1/4-1/4 NW 1/4 Sec 29 Twn 24N R 4E (Select One: [ ] BWM [ ] WWM)

Lat/Long (s, t, r still REQUIRED) 47.5403017 / -122.3275200

Lat Deg _____ Lat Min/Sec _____

Long Deg _____ Long Min/Sec _____

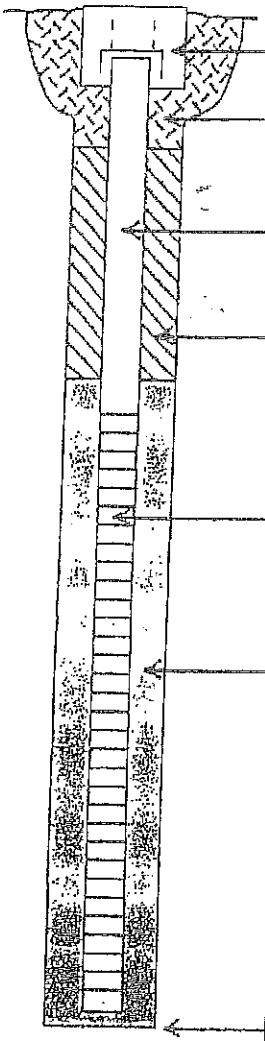
Tax Parcel No. 0001800113

Cased or Uncased Diameter 2" Static Level 10'

Work/Decommission Start Date 03-09-23

Work/Decommission Completed Date 03-09-23

Construction/Design



Well Data

MONUMENT TYPE: 8" FLUSH

CONCRETE SURFACE SEAL 3 ft.

PVC BLANK 2 "x 5'

BACKFILL 1 ft.

TYPE: BARK CHIPS

PVC SCREEN 2 "x 15'

SLOT SIZE: .010

TYPE: PVC

GRAVEL PACK 16 ft.

MATERIAL: 12/20 SAND

WELL DEPTH 20'

Formation Description

0 - 5 ft.
SANDY GRAVEL

5 - 10 ft.
silty sand

10 - 20 ft.
clean medium sand

_____ - _____ ft.

_____ - _____ ft.

REMARKS Drill to depth
install 2" PVC well
@ 20'

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE24194

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *(select one)*
- [X] Construction
- [ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Consulting Firm CRETE

Unique Ecology Well ID Tag No. BPW-456

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

[X] Driller [ ] Engineer [ ] Trainee Name (Print) CAUSLAND, ABE

Driller/Engineer/Trainee Signature [signature]

Driller or Trainee License No. 2861

If trainee, licensed driller's Signature and License No. _____

Type of Well *(select one)*
- [X] Resource Protection
- [ ] Geotech Soil Boring

Property Owner BRIDGE INDUSTRIAL

Site Address 6901 FOX AVE. S.

City SEATTLE County KING

Location NW 1/4-1/4 NW 1/4 Sec 29 Twn 24N R 4E (Select One: [ ] BWAT [ ] WWAT)

47.5405491, -122.3273483

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

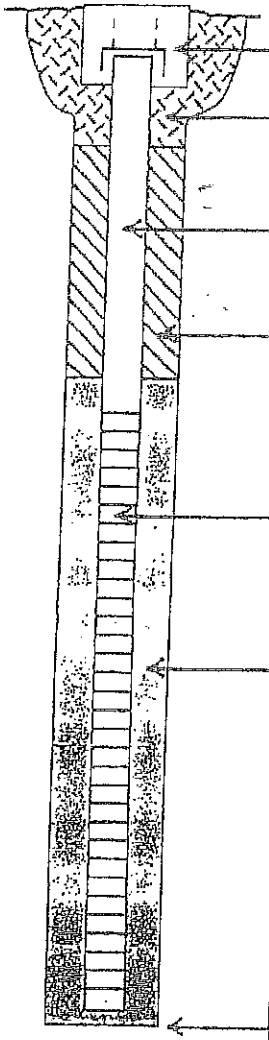
Tax Parcel No. 0001800113

Cased or Uncased Diameter 2" Static Level 10'

Work/Decommission Start Date 03-09-23

Work/Decommission Completed Date 03-09-23

Construction/Design



Well Data

MONUMENT TYPE: 8" FLUSH

CONCRETE SURFACE SEAL: 2 ft.

PVC BLANK: 2" x 5'

BACKFILL: 1 ft.

TYPE: BENT CHIPS

PVC SCREEN: 2" x 15'

SLOT SIZE: .010

TYPE: PVC

GRAVEL PACK: 16 ft.

MATERIAL: 12/20 SAND

WELL DEPTH: 20'

Formation Description

0 - 5 ft.
SANDY GRAVEL

5 - 10 ft.
silty SAND

10 - 20 ft.
Clean medium SAND

_____ ft.

_____ ft.

REMARKS Drill to depth install 2" PVC well @ 20'

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE24194

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *(select one)*
- [X] Construction
- [ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Consulting Firm CRETE

Unique Ecology Well ID Tag No. BPW-457

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

[X] Driller [ ] Engineer [ ] Trainee Name (Print) Caudland, Abe

Driller/Engineer/Trainee Signature [signature]

Driller or Trainee License No. 2861

If trainee, licensed driller's Signature and License No. _____

Type of Well *(select one)*
- [X] Resource Protection
- [ ] Geotech Soil Boring

Property Owner BRIDGE INDUSTRIAL

Site Address 6901 FOX AVE. S.

City SEATTLE County KING

Location NW 1/4-1/4 NW 1/4 Sec 29 Twn 24N R 4E (Select One: [ ] BWN [ ] WWN)

47.5408239, -122.3286488

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

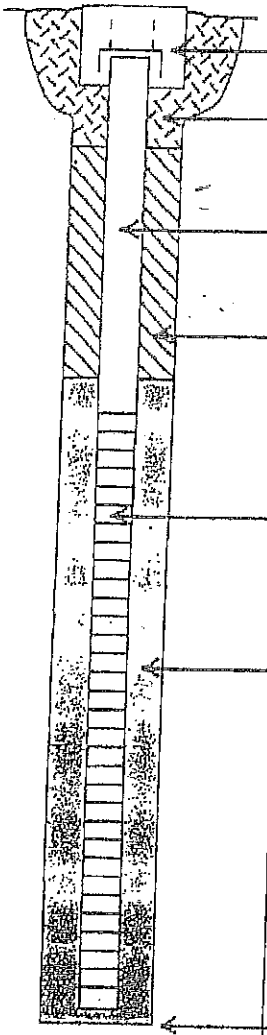
Tax Parcel No. 0001800113

Cased or Uncased Diameter 2" Static Level 10'

Work/Decommission Start Date 03-09-23

Work/Decommission Completed Date 03-09-23

Construction/Design



Well Data

MONUMENT TYPE: 8" FLUSH

CONCRETE SURFACE SEAL: 2 ft.

PVC BLANK: 2" x 5'

BACKFILL: 1 ft.

TYPE: BENT CHIPS

PVC SCREEN: 2" x 15'

SLOT SIZE: .010

TYPE: PVC

GRAVEL PACK: 16 ft.

MATERIAL: 12/20 SAND

WELL DEPTH: 20'

Formation Description

0 - 5 ft.
SANDY GRAVEL

5 - 10 ft.
silty SAND

10 - 20 ft.
Clean medium SAND

_____ ft.

_____ ft.

REMARKS Drill to depth
Install 2" PVC well
@ 20'

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:
☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BQZ 755
Site Well Name MW-10
Consulting Firm Crete
Was a variance approved for this well/boring? ☐ Yes ☑ No
If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☑ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) Rosenberg, Pete
Driller/Engineer/Trainee Signature Pete Rosenberg
License No. 2931
Company Name Holt Services

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Notice of Intent No. RE26732

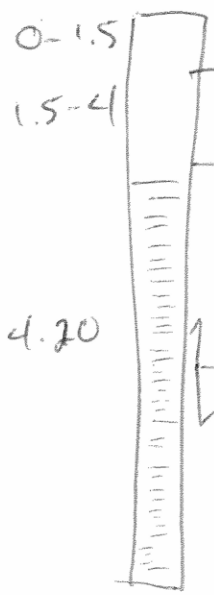
Type of Well:
☑ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner Bridge Point
Well Street Address 6901 Fox Ave
City Seattle County King
Tax Parcel No. 000180-0113

Location (see instructions): WWM ☐ or EWM ☐
SE ¼-¼ NW ¼, Section 29 Town 24N Range 4E
Latitude (Example: 47.12345) 47.540161
Longitude (Example: -120.12345) -122.327652
(WGS 84 Coordinate System)

Borehole diameter 8 inches Casing diameter 2 inches
Static water level _____ ft below top of casing Date _____
☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 9/19/24 Completed Date 9/19/24

Construction Design



Well Data

2" sch 40 PVC MW
CONCRETE & MONUMENT
BENTONITE CHIPS
0-5' 2" Riser
12/20 SAND
2" x .010 screen
5'-20'
TD = 20'

Driller's Log

0-5 Fill
5-20 silty SAND

Received
Department of Ecology
OCT 22 2024
Water Resources Program
NWRO

The Department of Ecology does NOT warranty the Data and/or information on this well report.

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Notice of Intent No. RE26732

Type of Work:
- [x] Construction
- [ ] Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BQH 756
Site Well Name MW 11
Consulting Firm Crete
Was a variance approved for this well/boring? ☐ Yes ☒ No
If yes, what was the variance for? _____

Type of Well:
- [x] Resource Protection Well
- [ ] Remediation Well
- [ ] Geotechnical Soil Boring
- [ ] Environmental Boring
- [ ] Injection Point
- [ ] Grounding Well
- [ ] Ground Source Heat Pump
- [ ] Other _____

↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner Bridge Point
Well Street Address 6901 Fox Ave
City Seattle County King
Tax Parcel No. 000180-0113

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

- [x] Driller ☐ Trainee ☐ Engineer

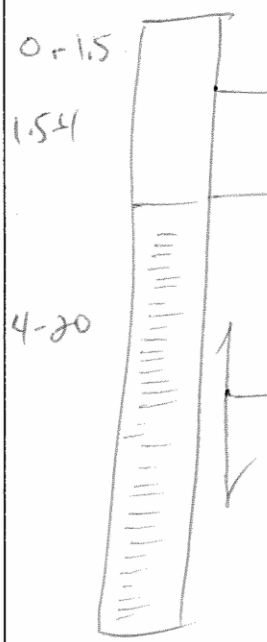
Name (Print Last, First Name) Rosaboy Pete
Driller/Engineer/Trainee Signature Pete Rosaboy
License No. 2931
Company Name Holt Services

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Location (see instructions): WWM ☐ or EWM ☐
SE ¼-¼ NW ¼, Section 29 Town 24N Range 4E
Latitude (Example: 47.12345) 47.540144
Longitude (Example: -120.12345) 122.328948
(WGS 84 Coordinate System)

Borehole diameter 8 inches Casing diameter 2 inches
Static water level _____ ft below top of casing Date _____
☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 9/19/24 Completed Date 9/19/24

Construction Design



Well Data

2" sch 40 PVC mw
CONCRETE/WELL MONUMENT
BENTONITE CHIPS
0-5' 2" Riser
12/20 SAND
5'-20'
2" x .010 screen
TD = 20'

Driller's Log

0-5 Fill
5-20 silty sand

Received
Department of Ecology
OCT 22 2024
Water Resources Program
NWRO

The Department of Ecology does NOT warranty the Data and/or information on this well report.

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Notice of Intent No. RE28683

Type of Work:
☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BRJ 165

Site Well Name MW-

Consulting Firm SCATE

Was a variance approved for this well/boring? ☐ Yes ☒ No

If yes, what was the variance for? _____

Type of Well:
☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner Bridge Ind.

Well Street Address 6901 Fox Ave S.

City Georgetown County King

Tax Parcel No. 0424 18 001 13

Location (see instructions): WWM ☐ or EWM ☐
SW ¼-¼ NW ¼, Section 29 Town 24N Range 4E

Latitude (Example: 47.12345) 47.5408234

Longitude (Example: -120.12345) -122.3306343

(WGS 84 Coordinate System)

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) Cowland, Abe

Driller/Engineer/Trainee Signature Abe Cowland

License No. 2961

Company Name Holt Services Inc

If trainee box is checked, sponsor's license number: _____

Sponsor's signature _____

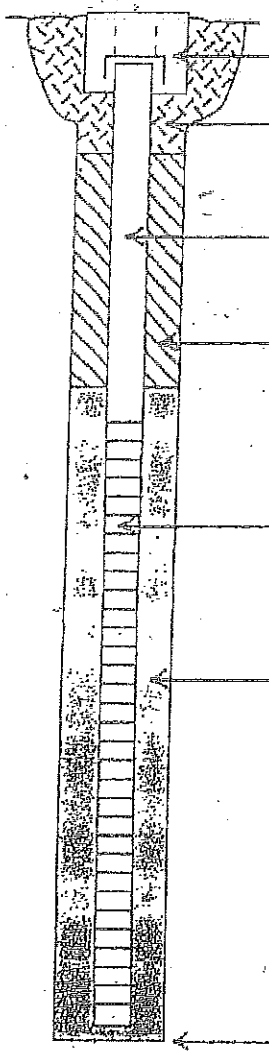
Borehole diameter 10 inches Casing diameter 2 inches

Static water level 12 ft below top of casing Date 02-05-26

☐ Above-ground completion with bollards ☒ Flush monument

↳ Stick-up of top of well casing _____ ft above ground surface

Start Date 02-05-26 Completed Date 02-05-26



MONUMENT TYPE: 8 Flush

CONCRETE SURFACE SEAL 3 ft

PVC BLANK 2 "x 10'

BACKFILL _____ ft.

TYPE: _____

PVC SCREEN 2 "x 10'

SLOT SIZE: .010

TYPE: PVC

GRAVEL PACK 12 ft.

MATERIAL: 12/20 Sand

WELL DEPTH 20

0 - 5 ft. Sandy Gravel

5 - 15 ft. Silty Sand

15 - 20 ft. clean sand

_____ - _____ ft.

_____ - _____ ft.

REMARKS _____

CRETE CONSULTING, INC.

CRETE Consulting, Inc.
16300 Christensen Rd
Suite 214
Tukwila, WA 98188

Boring Log

LOCATION/BORING ID: **GP-SB-1**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**P. Bianco**
DATE(S) DRILLED:	**01/2/2020**
START TIME: **0830**	END TIME: **0910**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**Geoprobe**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,420.492	200,751.4174

INITIAL WATER LEVEL: **9.35**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT and GRAVEL with trace SAND				
		SP	SAND (SP), fine, dry, brown	GP-SB-1-4 4'		0.0	
5		SP	SAND (SP), light brown, no odor	GP-SB-1-9 9'			
10		SP	SAND (SP), dry, dark brown	GP-SB-1 (water)			
			Wet at 14 feet				
15							

These logs should not be used separately from original report

CRETE CONSULTING, INC.

CRETE Consulting, Inc.
16300 Christensen Rd
Suite 214
Tukwila, WA 98188

Boring Log

LOCATION/BORING ID: **GP-SB-2**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**P. Bianco**
DATE(S) DRILLED:	**01/2/2020**
START TIME: **0923**	END TIME: **0950**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**Geoprobe**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,415.767	200,664.2905

INITIAL WATER LEVEL: **9.09**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT and GRAVEL				
		SP	SAND (SP), fine, dry, tan, no odor			0.1	
				GP-SB-2-4 4'			
5		SP	SAND (SP), moist, dark brown, no odor				
	▽						GW encountered - sheen observed
10		SP	SAND (SP), wet, dark brown-black, petroleum odor	GP-SB-2-12 12'		1007	
		CL	Sandy CLAY (CL), moist	GP-SB-2 (water)			
15		SP	SAND (SP), moist, dark brown				

These logs should not be used separately from original report

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Boring Log

LOCATION/BORING ID: **GP-SB-3**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**P. Bianco**
DATE(S) DRILLED:	
START TIME: **1010**	END TIME: **1040**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**Geoprobe**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,993.803	200,641.7557

INITIAL WATER LEVEL: **12.04**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT and GRAVEL, black and gray				
		SP	SAND (SP), fine, tan				
		SP	SAND (SP), dry, black and tan, no odor	GP-SB-3-4 4'		0.6	
5							
		SP	SAND (SP), fine, moist, tan and brown, no odor			0.0	
		CL	Clayey SAND (SC)				
10		SP	SAND with GRAVEL (SP), tan, no odor	GP-SB-3-11 11-12'			
		CL	Sandy CLAY (CL), fine sand, wet, brown	GP-SB-3 (water)		0.1	GW encountered
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-4**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.**
	6901 Fox Ave S
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**P. Bianco**
DATE(S) DRILLED:	
START TIME: **1100**	END TIME: **1140**

REMARKS: First boring hit refusal at 1.5 ft
2nd attempt 1 ft further from building

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**Geoprobe**
BORING DEPTH:	**14 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,905.293	200,643.687

INITIAL WATER LEVEL: **8.22 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, GRAVEL				
		SP	SAND (SP), dry, brown and tan, no odor			0.0	
				GP-SB-4-4 4'			
5		SP	SAND with trace gravel (SP), dry, no odor			0.0	
		SP	SAND (SP), dry, brown and tan, no odor				
		SP	SAND (SP), fine, no odor	GP-SB-4-8 8'		0.0	
10		SC	Clayey SAND with SILT (SC)				
		SP	SAND (SP), fine, brown				
		ML	SILT (ML), moist, brown				
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-5**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.**
	6901 Fox Ave S
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**P. Bianco**
DATE(S) DRILLED:	
START TIME: **1155**	END TIME: **1230**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**ESN**
DRILLING METHOD:	**Geoprobe**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**

GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,856.591	200,679.6232

INITIAL WATER LEVEL: **7.81**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SP	SAND with GRAVEL (SP)				
			CONCRETE			0	
5		SP	SAND (SP)				
			WOODY DEBRIS				
		SP	SAND (SP), petroleum odor	GP-SB-5-7 7'		0.1	
10		GP	GRAVEL (GP) with waste				
		ML	SILT with CLAY (ML), tan-brown	GP-SB-5-12 12'			
		SP	SAND (SP), brown, no odor			0	
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-6**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.**
	6901 Fox Ave S
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**P. Bianco**
DATE(S) DRILLED:	
START TIME: **1245**	END TIME: **1345**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**ESN**
DRILLING METHOD:	**Geoprobe**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,769.365	200,618.5536

INITIAL WATER LEVEL: **8.73**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SW	SAND with GRAVEL, dry, brown, trace brick fragments	GP-SB-6-4 4'		0	
5		SW	SAND with GRAVEL, dry, brown, no odor			0	
10		SW	SAND with GRAVEL, brown, no odor	GP-SB-6-10 10'			
		ML	SILT (ML), brown, no odor			0	
15		SP	SAND (SP), brown, no odor			0	

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Boring Log

LOCATION/BORING ID: **GP-SB-7**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.**
	6901 Fox Ave S
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**P. Bianco**
DATE(S) DRILLED:	
START TIME: **1400**	END TIME: **1500**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**Geoprobe**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,855.046	200,613.5472

INITIAL WATER LEVEL: **8.63 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SP	SAND (SP), dry, tan, no odor	GP-SB-7-4 4'		0.0	
5		SP	SAND (SP), dry, tan, no odor	GP-SB-7-8 8'		0.0	
		ML	SILT (ML), moist, brown, 1" of iron oxide staining above silt				
10		SM	SAND with some SILT, moist, dark brown, no odor	GP-SB-7 (water) GP-SB-99 (duplicate)		0.0	
		CL	CLAY and SILT (ML/CL), brown, no odor			0.0	
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-08**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**6/9/2020**
START TIME: **10:00**	END TIME: **11:00**

REMARKS: Geoprobe 7800

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**MacroCore**
BORING DEPTH:	**20 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,836.805	200,590.0555

INITIAL WATER LEVEL: **9.9**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black				
		GW	SANDY GRAVEL, fine grained to coarse grained, poorly sorted, dry to slightly moist, dark brown. Gravel up to 1.5-inches.			0.9	
						1.6	
		SP	SILTY SAND with GRAVEL, fine to medium grained, medium stiff consistency, slightly moist, dark brown.				
5						1.4	
		SP	GRAVELLY SAND, with increasing SILT, very fine to medium grained, decreasing gravel, slightly moist, brown to dark brown.				
						1.7	
		GW	GRAVEL, pocket of oxidized gravel.				
	▽		SAND, minor SILT, fine to coarse grained (mostly medium grained), subangular to subround, moist, dark brown to black.	GP-SB-08-09 9-10'		1.6	Macrocores to 0 to 20 ft bgs.
10		SW	At 10-10.5 ft bgs: Medium-grained SAND, wet to saturated.		N/A	1.6	
						1.9	
		ML	SANDY SILT, soft/loose consistency, wet to saturated, brown to dark brown.				
						1.8	Temporary well installed
15				GP-SB-08-0620 (water) 10-20' bgs screen			
		SP	SAND, fine to coarse-grained (predominantly medium), saturated, dark brown to black.			2.0	
						1.9	
20						1.8	

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Boring Log

LOCATION/BORING ID: **GP-SB-09**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**6/9/2020**
START TIME: **11:05**	END TIME: **12:00**

REMARKS: Geoprobe 7800

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**MacroCore**
BORING DEPTH:	**20 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,768.138	200,595.0678

INITIAL WATER LEVEL: **10.5**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black				
		SW-SM	GRAVELLY SAND, fine to coarse grained, poorly sorted, dry to slightly moist, medium brown. At 3-4 ft bgs: Increased SILT (SILTY SAND), some subround GRAVEL (1-inch), slightly moist, medium brown.			2.2	
5		GW	GRAVEL, some medium to coarse grained SAND, hard consistency, dry.			2.2	
		SW	GRAVELLY SAND, fine to coarse grained (mostly medium grained), poorly sorted, some gravel (up to 1.5-inches), slightly moist, dark gray to brown.			1.5	
		GW	GRAVEL, coarse, subround to round.	GP-SB-09-09 9-10'		1.5	Macrocores to 0 to 20 ft bgs.
10	▽	SM	SAND, with some SILT, fine to coarse grained (predominantly medium grained), wet, dark gray to brown.		N/A	1.9	
		ML	SILT, minor to some very fine grained SAND, with trace WOOD/ROOTS, soft consistency, wet, reducing odors.	GP-SB-09-0620 (water) 9-19 ft bgs screen GP-SB-0910-0620 (DUPLICATE)		1.9	Temporary well installed 9-19 ft bgs
15		SP	SAND, medium to coarse grained, medium consistency, saturated, dark brown to gray-brown.			2.0	
						1.1	
20						1.6	

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Boring Log

LOCATION/BORING ID: **GP-SB-10**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**6/9/2020**
START TIME: **12:15**	END TIME: **12:55**

REMARKS: Geoprobe 7800

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**MacroCore**
BORING DEPTH:	**20 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,716.446	200,657.546

INITIAL WATER LEVEL: **11.1**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black				
			SAND with GRAVEL, poor recovery, very fine grained to coarse grained, slightly moist, medium brown.			1.8	
5		SW	At 5 ft bgs: Mostly fine to medium grained, slightly moist, medium to dark brown.			2.3	
						2.8	
				GP-SB-10-08 8-10'		2.7	Macrocores to 0 to 20 ft bgs.
10			SAND, trace GRAVEL, fine to coarse grained (mostly fine to medium), saturated, dark gray to brown.		N/A	2.4	
						2.3	
15		SW	at 15 ft bgs: Mostly medium to coarse grained, saturated, dark gray to brown. Slightly coarsening downward sequence.	GP-SB-10-0620 (water) 9-19 ft bgs screen			Temporary well installed 9-19 ft bgs
						2.6	
20						2.1	

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Boring Log

LOCATION/BORING ID: **GP-SB-11**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**6/9/2020**
START TIME: **13:05**	END TIME: **14:15**

REMARKS: Geoprobe 7800

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**MacroCore**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,788.951	200,669.1912

INITIAL WATER LEVEL: **8.9**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black				
		SW	POOR RECOVERY SAND with GRAVEL, WASTE/FILL (plastic, nails), fine to coase grained, subround, dry to moist, brown to black.			5.9	
						9.7	
			At 3 ft bgs: Plastic debris (melted by DPT tooling), slight odor.				
						9.4	
5			At 5 ft bgs: POOR RECOVERY. Mostly fine to medium to coarse grained, dry to moist, reddish brown to dark brown.				
						8.0	
			At 10 ft bgs: GRAVEL, BRICK fragments (up to 1.5-inch), subround, saturated, dark brown to dark gray and black.		N/A		
				GP-SB-11-04 4-5'		2.9	Temporary well installed 5-15 ft bgs
10							
						2.8	
		SM	SILTY SAND, with SILTY CLAY pockets, trace small ROOTS, fine to medium grained, saturated, dark gray to black.	GP-SB-11-0620 (water) 5-15 ft bgs screen			Macrocores to 0 to 15 ft bgs.
			At 14-15 ft bgs: Increasing CLAY and SILT content, ROOTS, wet, tan to dark brown.				
						3.0	
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-12**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**6/9/2020**
START TIME: **14:20**	END TIME: **15:20**

REMARKS: Geoprobe 7800

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**MacroCore**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,876.305	200,587.6577

INITIAL WATER LEVEL: **9.2**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black				
		SW	FILL: SAND with GRAVEL, fine to coarse grained, poorly sorted, subround GRAVEL up to 1-inch, slightly moist, reddish tan to dark brown.				
						1.6	
			SILTY SAND, fine to medium grained, slightly moist, dark gray to brown.				
						3.2	
5		SM	At 5 ft bgs: Mostly medium grained, slightly moist.				
						2.3	
					N/A		
			At 9.5 ft bgs: Increasing SILT fines, very fine to medium grained, wet.				
▽				GP-SB-12-08.5 8.5-9.5'		2.2	Macrocores to 0 to 15 ft bgs.
10			SILTY SAND, medium grained, variable SILT content, saturated, dark gray to black.				
						2.6	
		SM		GP-SB-12-0620 (water) 5-15 ft bgs screen			Temporary well installed 5-15 ft bgs
						2.2	
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-13**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**6/9/2020**
START TIME: **16:45**	END TIME: **17:35**

REMARKS: Geoprobe 7800

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**MacroCore**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,441.813	200,662.346

INITIAL WATER LEVEL: **9.2**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black, with aggregate.				
		SW	FILL: SAND with GRAVEL, medium to coarse grained, poorly sorted, dry.			1.6	
		SP	SAND, fine to medium grained, slightly moist, reddish tan. At 3.2 ft bgs: SHELL fragments, misc organic debris, slightly moist, tan.				
		SP	SANDY SILT, very fine to fine grained, variable consistency, slightly moist to moist, tan to gray. At 4 ft bgs: Moist to wet.			1.7	
5						1.7	
		SP	SAND, medium grained (some fine grained, trace coarse grained), subround, moist, brown to black grains.		N/A	1.6	
			At 8.5 ft bgs: 4-inch SILT layer, gray.				
▽						1.8	Macrocores to 0 to 15 ft bgs.
10		SP	At 10 ft bgs: Wet to saturated.	GP-SB-13-10 10-11'		7.1	
			At 13 to 14.5 ft bgs: SANDY SILT, wet, gray.	GP-SB-13-0620 (water) 10-15 ft bgs screen		2.3	Temporary well installed 5-15 ft bgs
15						2.2	

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Boring Log

LOCATION/BORING ID: **GP-SB-14**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**6/9/2020**
START TIME: **17:38**	END TIME: **18:18**

REMARKS: Geoprobe 7800

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**MacroCore**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,413.043	200,640.1922

INITIAL WATER LEVEL: **8.8**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black, with aggregate.				
		SW	Mixed SAND and GRAVEL, dry to slightly moist.			1.8	
		SM	SANDY SILT, very fine to fine grained, slightly moist, tan to reddish brown.				
			At 3.5 ft bgs: Seam of oxidized very fine to fine grained red sand.			1.7	
			SAND, minor to some SILT, fine to medium grained, trace coarse grained, subround, slightly moist, brown to black.				
5			At 5 ft bgs: Moist, red to dark brown, some grayish brown.			1.5	
						1.0	
			At 7.5-8.5ft bgs: SILTY layer, moist, tan.		N/A	0.8	
	▽	SP					Temporary well installed 5-15 ft bgs
10			At 10 ft bgs: Fine to coarse grained, subround coarse grained, moist to wet.			3.6	
				GP-SB-14-11 11-12'		12.4	
			At 13-14.5 ft bgs: SILTY SAND, wet.	GP-SB-14-0620 (water) 10-15 ft bgs screen			Macrocores to 0 to 15 ft bgs.
			At 14.5 ft bgs: SAND, black.			4.5	
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-15**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**6/9/2020**
START TIME: **18:19**	END TIME: **18:55**

REMARKS: Geoprobe 7800

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**MacroCore**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,374.944	200,662.7358

INITIAL WATER LEVEL: **8.8**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black, with aggregate.				
		GW	FILL: SAND and GRAVEL, dry.				
		ML	SANDY SILT, very fine grained, slightly moist, tan.			1.5	
			At 2 ft bgs: SANDY SILT, very fine to fine grained, slightly moist, tan to grayish brown.				
			At 3.5 ft bgs: Mostly SILT.			1.5	
5		SM	SILTY SAND, trace to minor SILT, fine to medium grained, subround, dry to moist, dark brown to dark gray.				
						1.4	
					N/A		
	▽		At 9.8 ft bgs: 1-inch GRAVEL seam.			1.4	Macrocores to 0 to 15 ft bgs.
10				GP-SB-15-10 10-11' GP-SB-1510-10 (DUPLICATE)		14.9	
		SW	SAND, some SILT, fine to coarse grained, moist to wet, dark gray to black.				Temporary well installed 5-15 ft bgs
			At 13 ft bgs: SILT, wet.	GP-SB-15-0620 (water) 10-15 ft bgs screen		3.7	
15						6.7	

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Boring Log

LOCATION/BORING ID: **GP-SB-16**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/1/2020**
START TIME: **07:50**	END TIME: **08:45**

REMARKS: Geoprobe 7800 (truck-mounted)

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**MacroCore MC5**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,376.409	200,623.7563

INITIAL WATER LEVEL: **9.5**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black.				
		ML-SM	SANDY SILT, very fine grained, moist, brown.				
5			SAND, very fine to medium grained, subround to round, moist, brown to black.	GP-SB-16-07 6-7'	N/A	N/A	
10 ▽		SP	At 10 ft bgs: Loose, wet, tan to brown. At 11 ft bgs: Brown to black.	GP-SB-16-11 10-11'			
15				GP-SB-16-1220 (water) 8.5-12.5 ft bgs screen			Used hydroscreen tool to collect GW sample.

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LOCATION/BORING ID: **GP-SB-17**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/1/2020**
START TIME: **08:50**	END TIME: **09:25**

REMARKS: Geoprobe 7800 (truck-mounted)

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**MacroCore MC5**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,344.99	200,672.0461

INITIAL WATER LEVEL: **8.9**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black.				
		ML-SM	SANDY SILT, very fine grained, moist, brown.				
5		SP	SAND, very fine to medium grained, round, moist, brown and black.	GP-SB-17-05 4-5'	N/A	N/A	
	▽						
10				GP-SB-17-10 9-10'			
		SP	SAND, fine to medium grained, round, wet to saturated, brown to black.	GP-SB-17-1220 (water)			Used hydroscreen tool to collect GW sample
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-18**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/1/2020**
START TIME: **09:33**	END TIME: **10:00**

REMARKS: Geoprobe 7800 (truck-mounted)

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**MacroCore MC5**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,283.282	200,620.1921

INITIAL WATER LEVEL: **10.1**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black.				
		ML-SM	FILL: Mixed soils. SILT. At 1.2-1.5 ft bgs: GRAVEL At 1.5-2 ft bgs: SILTY SAND, dry to slightly moist, black.				
		ML-SM	SANDY SILT, very fine grained, dry to slightly moist. At 2-2.8 ft bgs: Rusty orange color. At 2.8-4.8 ft bgs: Trace shells, tan to brown.	GP-SB-18-03 2-3'			
5		SP	SILTY SAND, very fine to fine grained, rounded, moist.				Macrocores to 0 to 15 ft bgs.
		SP	SAND, very fine to medium grained, rounded, moist, rusty orange banding.		N/A	N/A	
				GP-SB-18-09.5 9-9.5'			
10 ▽		SW	SAND, fine to coarse grained, rounded, wet, rusty orange mottling. At 11 ft bgs: Coarse grained seam.	GP-SB-18-1220 (water)			Hydroscreen used to collect water sample.
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-19**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/1/2020**
START TIME: **10:08**	END TIME: **10:45**

REMARKS: Geoprobe 7800 (truck-mounted)

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**MacroCore MC5**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,076.271	200,617.489

INITIAL WATER LEVEL: **9.25**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black.				
		SP	FILL: SAND and GRAVEL, slightly moist.				
		SP	SAND, fine to medium grained, trace coarse grained, round to subround, slightly moist to moist, brown and black.	GP-SB-19-03.5 3-3.5'			
5		SP	SAND, minor SILT, very fine to medium grained, moist.				Macrocores to 0 to 15 ft bgs.
		SP	At 8.5 ft bgs: Wet.	GP-SB-19-08.5 8-8.5'	N/A	N/A	
10		SP	SAND, fine to medium grained, rounded, saturated, dark brown.	GP-SB-19-1220 (water)			Hydroscreen used to collect water sample.
		ML	SANDY SILT, medium to firm consistency, wet, brown with organic black streaks.				
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-20**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/1/2020**
START TIME: **10:50**	END TIME: **11:59**

REMARKS: Geoprobe 7800 (truck-mounted)

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**MacroCore MC5**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,750.042	200,611.9342

INITIAL WATER LEVEL: **9.3**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black.				
		SM-SW	SILTY SAND, with GRAVEL (up to 1.25-inch), fine to coarse grained, subround to round, slightly moist, browns.				
				GP-SB-20-04.5 3.5-4.5'			
5			POOR CORE RECOVERY				Macrocores to 0 to 15 ft bgs.
			At 8 ft bgs: Moist.	GP-SB-20-09 7-9'	N/A	N/A	
			At 9 ft bgs: Trace ROOTS/WOOD				
10		SW	GRAVELLY SAND, round, moist to wet, black. WOOD in DPT tip.	GP-SB-20-1220 (water) 7-12 ft bgs screen			Hydroscreen used to collect water sample.
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-21**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/1/2020**
START TIME: **12:05**	END TIME: **12:50**

REMARKS: Geoprobe 7800 (truck-mounted)

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**MacroCore MC5**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,702.495	200,751.0451

INITIAL WATER LEVEL: **7.9**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black.				
		SW	POOR RECOVERY GRAVELLY SAND, fine to coarse-grained, round to subround, moist, brown to black.	GP-SB-21-05 3-5'			
5		SW	SAND, some GRAVEL, with FILL (trace BRICK fragment), fine to coarse grained, moist to wet, brown to reddish brown.	GP-SB-21-10 7.5-10'	N/A	N/A	Macrocores to 0 to 15 ft bgs.
10			At 10 ft bgs: Trace WOOD chips, wet to saturated.				
		ML	SANDY SILT, trace WOOD fibers, very fine to medium grained, wet, brown.	GP-SB-21-1220 (water)			Hydroscreen used to collect water sample.
15			At 14 ft bgs: More SAND than SILT, dark gray.				

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Boring Log

LOCATION/BORING ID: **GP-SB-22**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/1/2020**
START TIME: **12:50**	END TIME: **13:01**

REMARKS: Geoprobe 7800 (truck-mounted)

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**MacroCore MC5**
BORING DEPTH:	**13 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,668.453	200,701.0801

INITIAL WATER LEVEL: **9**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black.				
		SW	POOR RECOVERY GRAVELLY SAND, medium to coarse grained, slightly moist, brown to black.				
5		SW	At 5 ft bgs: POOR RECOVERY	GP-SB-22-07 5-7'	N/A	N/A	Macrocores to 0 to 13 ft bgs.
		SW	At 7-9 ft bgs: SAND, black.	GP-SB-22-09 7-9'			
	▽	SW	At 9 ft bgs: Wet, brown.				
10		SP	SAND, medium grained, loose, saturated, dark brown.	GP-SB-22-1220 (water) 8.2-13.2 ft bgs screen			Hydroscreen used to collect water sample.
		SW	GRAVELLY SAND, saturated, dark brown. At 13 ft bgs: REFUSAL.				
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-23**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/1/2020**
START TIME: **14:08**	END TIME: **15:58**

REMARKS: Geoprobe 7800 (truck-mounted)

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**MacroCore MC5**
BORING DEPTH:	**13.5 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,615.229	200,750.2349

INITIAL WATER LEVEL: **8.5**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black.				
		SW	POOR RECOVERY GRAVELLY SAND, medium to coarse-grained, dry to slightly moist.			0.5	
				GP-SB-23-05 3-5'		1.1	
5		SW	At 5 ft bgs: POOR RECOVERY, moist, brown to black.		N/A	0.8	Macrocores to 0 to 13.5 ft bgs.
	▽		At 8 ft bgs: Wet, brown.			0.4	
10		SW	GRAVELLY SAND, trace brick fragments, medium to coarse-grained, wet.	GP-SB-23-11 10-11'		1.4	Hydroscreen used to collect water sample.
			At 13.5 ft bgs: REFUSAL.	GP-SB-23-1220 (water) 8-13 ft bgs screen			
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-24**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/1/2020**
START TIME: **16:40**	END TIME: **17:35**

REMARKS: Geoprobe 7800 (truck-mounted)

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**MacroCore MC5**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,554.166	200,821.2936

INITIAL WATER LEVEL: **~9.0**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, black.				
		SW-GW	POOR RECOVERY GRAVELLY SAND, trace BRICK fragments, fine to coarse-grained, poorly sorted, dry, browns.				
5			At 5 ft bgs: POOR RECOVERY, no brick fragments, mostly fine to medium grained, dry to slightly moist.				Macrocores to 0 to 15 ft bgs.
				GP-SB-24-10 7.5-10'	N/A	N/A	
10			At 10 ft bgs: Pockets of weathered ASPHALT, dense consistency (per driller), wet.	GP-SB-24-12 10-12'			Hydroscreen used to collect water sample.
				GP-SB-24-1220 (water) 7.5-12.5 ft bgs screen			
15							

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Boring Log

LOCATION/BORING ID: **GP-SB-25**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/5/2020**
START TIME: **07:45**	END TIME: **09:30**

REMARKS: AMS Power Probe 9100

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Casey Newman**
DRILLING METHOD:	**4-ft core barrel**
BORING DEPTH:	**20 ft below concrete floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,782.985	200,788.0421

INITIAL WATER LEVEL: **12.25**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE, 4-5-inch, no rebar.				
		SW	POOR RECOVERY FILL: GRAVELLY SAND, minor SILT, very fine to coarse grained, well-graded, slightly moist.			0.7	
5							
		SP	POOR RECOVERY SAND, some GRAVEL, fine to medium grained, well sorted, dry, brown. At 7.5-8 ft: SAND, dark brown to black. At 8-12 ft: NO RECOVERY	GP-SB-25-08 6-8'		7.4	Core barrels 0 to 20 ft below floor
10					N/A		
▽		SM	SILTY SAND, increasing SILT with depth, minor to some WOOD fibers, very fine to medium grained (mostly fine grained), round, moist.	GP-SB-25-13.5 12-13.5'		2.3	
15						1.2	Temporary well, 3/4-inch PVC screen, no filter media
		SP	TRACE RECOVERY, some slough. GRAVELLY SAND, abundant WOOD fibers in SILTY SAND, moist to wet.	GP-SB-25-1220 (water) 10-20 ft bgs screen		1.7	
20							

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Boring Log

LOCATION/BORING ID: **GP-SB-26**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/5/2020**
START TIME: **09:30**	END TIME: **10:30**

REMARKS: AMS Power Probe 9100

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Casey Newman**
DRILLING METHOD:	**4-ft core barrel**
BORING DEPTH:	**16 ft below concrete floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,785.471	200,714.7359

INITIAL WATER LEVEL: **13.43**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		SW	SAND, trace gravel, fine to medium grained, slightly moist, brown. At 1.5 ft: Minor GRAVEL, round sand, tan to green. At 2.5 ft: GRAVELLY SAND, fine to coarse grained, slightly cohesive, slightly moist, tan to brown.			1.8	
5			At 4 ft: Fine to medium grained, subround to round, slightly moist.	GP-SB-26-06 4-6'		2.2	
		ML	SILT, firm, slightly moist to moist, brown with rust red mottling.				
		SP	SAND, some GRAVEL, subround to round, slightly moist. At 7 ft: SAND seam, medium grained, slightly moist, black.			1.3	Core barrels 0 to 16 ft below floor
		SM	SILTY SAND, fine to medium grained, subround, slightly moist, brown. At 9.5 ft: GRAVELLY		N/A		
10		SP	SAND, minor GRAVEL, medium grained, subround to round, slightly moist to moist.	GP-SB-26-12 10-12'		3.0	
	▽						
15		SP	SAND, trace subround black GRAVEL, fine to medium grained, some coarse grained, subround to round, wet, dark brown.			2.5	
20							

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Boring Log

LOCATION/BORING ID: **GP-SB-27**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/5/2020**
START TIME: **11:10**	END TIME: **12:35**

REMARKS: AMS Power Probe 9100
Log to 16 ft below floor, DPT to 20 ft for well install.

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Casey Newman**
DRILLING METHOD:	**4-ft core barrel**
BORING DEPTH:	**20 ft below concrete floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,255.906	200,784.116

INITIAL WATER LEVEL: **12.63**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		SW	GRAVELLY SILTY SAND, very fine to medium grained, subround to round, well graded, slightly moist, tan to gray. At 3 ft: Little to no SILT, fine to coarse grain, dark brown. Trace GLASS.			1.3	
5		SW	SAND, medium to coarse grained (trace very fine grained), subround to round, dry, dark brown to black. At 5.8 ft: 2-cm rust red seam, some cementation.	GP-SB-27-08 6-8'		1.8	Core barrels 0 to 16 ft below floor. 4-ft core barrels
		SP	SAND, medium to coarse grained, loose, slightly moist, dark brown.		N/A		
10		SM	SILTY SAND, fine to medium grain, fining downward, slightly moist to moist, dark brown. At 12 ft : Moist	GP-SB-27-12 11-12'		1.8	
	▽		At 14-14.5 ft: Moist to wet.	GP-SB-27-14.5 12-14.5'		2.0	
15		SP	SAND, minor SILT, medium to very coarse grained, subround, wet.	GP-SB-27-1220 14-19 ft bgs screen			Temporary PVC screen set at 14-19 ft below floor
20							

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LOCATION/BORING ID: **GP-SB-28**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/5/2020**
START TIME: **12:30**	END TIME: **13:15**

REMARKS: AMS Power Probe 9100
Log to 16 ft below floor, DPT to 20 ft for well install.

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Casey Newman**
DRILLING METHOD:	**4-ft core barrel**
BORING DEPTH:	**20 ft below concrete floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,255.906	200,839.1956

INITIAL WATER LEVEL: **12.78**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		SM-SW	SILTY SAND with GRAVEL (up to 1.5-inch, subround to round), trace BRICK fragments, fine to medium grained, slightly moist to moist, tan to brown.	GP-SB-28-04 2-4'		1.7	
5		SP	SAND, medium to coarse grained, loose, slightly moist, dark browns.	GP-SB-28-08 6-8'		1.9	Core barrels 0 to 16 ft below floor
10			At 11.2 ft: Seam of cementation/mineralization, moist, rust orange color.		N/A		
		ML	SILT with SAND, very fine to fine grained, soft to medium consistency, moist, dark brown.	GP-SB-28-12 11.2-12'		2.9	
	▽			GP-SB-28-13 12-13'		NM	
			At 14.7 ft: Increasing SAND, wet.				
15		SM	SILTY SAND to SAND, medium to coarse grained, wet, dark brown to black. At 15.9 ft: Rust red-orange color.	GP-SB-28-1220 15-20 ft bgs screen			Temporary PVC screen set at 15-20 ft below floor
20							

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LOCATION/BORING ID: **GP-SB-29**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/5/2020**
START TIME: **13:20**	END TIME: **14:45**

REMARKS: AMS Power Probe 9100

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Casey Newman**
DRILLING METHOD:	**4-ft core barrel**
BORING DEPTH:	**16 ft below concrete floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,319.27	200,806.1479

INITIAL WATER LEVEL: **12.81**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		SW	FILL: GRAVELLY SAND, trace BRICK fragments, medium to coarse grained, well-graded, subround to round, slightly moist, tan to brown.				
5		SP	SAND, fine to medium grained, dry to slightly moist, tan to light brown.				
		SP	SAND, very fine to fine grained, dry to slightly moist, tan to light brown.	GP-SB-29-06.5 5.2-6.5'	N/A	0.8	Core barrels 0 to 16 ft below floor
			At 8 ft: Slightly moist to wet, rust orange mottling.				
10			At 10.8 ft: Wet. At 11 ft: Increasing to medium to coarse grained.	GP-SB-29-10.5 9.5-10.5'		1.7	
				GP-SB-29-12 11-12'		2.5	
▽		SP	SAND, medium to coarse grained, subround to round, well-drained, wet, dark brown to black. Coarsening downward. At 13 ft: GRAVEL seam (3-inches) At 14.6 ft: Trace GRAVEL (<1.5 cm), coarse to very coarse grained, subround to round.	GP-SB-29-1220 10.6-15.6 ft bgs screen			Temporary PVC well set 10.65-15.65 ft
15							
20							

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LOCATION/BORING ID: **GP-SB-30**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/12/2020**
START TIME: **08:30**	END TIME: **10:40**

REMARKS: AMS Power Probe 9100

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**4-ft core barrel**
BORING DEPTH:	**16 ft below concrete floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,319.52	200,770.8469

INITIAL WATER LEVEL: **~11.8**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		SW	GRAVELLY SAND and SILT, very fine to medium grained, slightly moist, brown to black.			5.2	
5		SM	SANDY SILT, very fine to fine grained, non-cohesive, dry to slightly moist, brown to black.	GP-SB-30-05.5 4-5.5'		6.8	
		SP	SAND, very fine to fine grained, subround to round, subround to round, loose, dry to slightly moist, medium brown.				Core barrels 0 to 16 ft below floor
				GP-SB-30-08 7-8'		5.0	
			At 8 ft: Fine grained, loose to medium consistency, slightly moist.		N/A		
10						3.9	
▽		SP	SAND, medium grained (trace coarse grained), subround to round, moist, dark brown to black.			6.2	
			At 12 ft: Medium to coarse grained, moist. Coarsening downward sequence.	GP-SB-30-13.3 12.5-13.3'		8.2	Hydroscreen tool used 11.5 to 15.5 ft
			At 12.5 ft: Coarse grained (trace very coarse grained), subround to round, well drained, moist to wet.				
15			At 13.3 ft: Coarse grained to very coarse grained, wet.	GP-SB-30-1220 11.5-15.5 ft bgs screen		4.7	
20							

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LOCATION/BORING ID: **GP-SB-31**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/12/2020**
START TIME: **10:30**	END TIME: **11:40**

REMARKS: AMS Power Probe 9100
HydroTool used for water sample

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**4-ft core barrel**
BORING DEPTH:	**16 ft below concrete floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,321.774	200,723.0278

INITIAL WATER LEVEL: **11.97**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		ML-SM	FILL: mixed SANDY SILT, very fine to fine grained (trace medium grained), slightly cohesive, dry, browns to dark browns.			10.8	
			At 3.5-3.8 ft: Pockets of GRAVEL				
5		SM	SILT and SAND, very fine grained (some fine grained), slightly cohesive, browns.	GP-SB-31-06 4.5-6'		11.1	
			At 7 ft: More SAND than SILT, very fine to fine grained (some medium grained), dry to slightly moist.	GP-SB-31-08 7-8'		9.6	Core barrels 0 to 16 ft below floor
		SM	SAND with SILT, fine grained (trace to minor medium grained), firm consistency, slightly moist, tan to medium brown.		N/A	7.2	
10		SP	SAND, medium grained, subround to round, slightly moist to moist, black and brown.			7.7	
		SP	SAND, medium to coarse grained (minor very fine grained), subround to round, moist to wet, dark brown to black. Coarsening downward sequence.	GP-SB-31-14 12.5-14'		9.0	Hydroscreen tool used 12 to 16 ft
15				GP-SB-31-1220 12-16 ft bgs screen		6.8	
20							

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LOCATION/BORING ID: **GP-SB-32**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/12/2020**
START TIME: **11:25**	END TIME: **12:30**

REMARKS: AMS Power Probe 9100
HydroTool used for water sample

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest, Don Harnden**
DRILLING METHOD:	**4-ft core barrel**
BORING DEPTH:	**16 ft below concrete floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,368.358	200,708.7572

INITIAL WATER LEVEL: **11.83**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		ML-SM	SANDY SILT, very fine to medium grained, minor to some GRAVEL pockets, slightly moist, brown to dark brown.	GP-SB-32-04 2-4'		12.7	
5			At 4 ft: SILTY SAND, trace to no gravel, very fine to fine grained, slightly moist, brown to dark brown. At 5 ft: SAND, minor to some SILT, mostly very fine grained.	GP-SB-32-06 5-6'		8.5	Core barrels 0 to 16 ft below floor
			At 8 ft: Coarsening downward, slightly moist to moist.		N/A	7.4 7.8	
10	▽	SW	SAND, no SILT, medium to coarse grained (trace to some very fine grained), subround to round, well drained, moist, dark brown to black. Coarsening downward sequence At 12 ft: Moist to wet	GP-SB-32-12 10.3-12'		5.9	Hydroscreen tool used 11.6 to 15.6 ft
			At 14 ft: Very fine to coarse grained	GP-SB-32-1220 11.6-15.6 ft bgs		5.1 5.0	
15							
20							

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Boring Log

LOCATION/BORING ID: **RI-SB-01**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/18/2021**
START TIME: **10:45**	END TIME: **08:50**

REMARKS: Inside warehouse, perpendicular to Dock #13, 14-ft straight from door.

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**Core Barrels, AMS Power Probe 9100-P**
BORING DEPTH:	**20 ft below floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,045.433	200,704.3813

INITIAL WATER LEVEL: **11.37 ft**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		SW	GRAVELLY SAND, fine-grained to very coarse grained, subround gravel and sand, slightly moist, tan to medium brown.		70	2.5	
						2.5	
5		SP	SAND, medium-grained, trace coarse-grained, loose, mostly dry, dark brown to black.		60	2.8	
						2.4	
			At 8 ft: Dry to slightly moist				
				RI-SB-01-10 8-10'		3.1	Split spoons cores to 0 to 20 ft bgs 4-ft core barrels
10					60		
	▽		At 11.5 ft: Loose to medium consistency, moist			2.2	
				RI-SB-01-14 12.5-14'		2.5	
		SM	SILTY SAND, very fine-grained to medium-grained, minor WOOD ROOTS, firm, wet, dark tan to brown.		100		Temporary well installed 9-19 ft below floor.
15						1.5	
		SP	SAND, fine to medium-grained, uniform, subround, firm, saturated, dark brown to black.	RI-SB-01 (water) 9-19 ft bgs screen		2.7	
					100		
		SM	SILTY SAND, very fine-grained, cohesive, some small WOOD/ROOTS, moist to wet, dark tan.			2.2	
20							

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Boring Log

LOCATION/BORING ID: **RI-SB-02**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**12/18/2021**
START TIME: **1035**	END TIME: **1155**

REMARKS: Near wooden stairs, perpendicular to Dock #17, 47-48-ft straight from draw door and 10.5 ft from pedestrian door

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**Core Barrels, AMS Power Probe 9100-P**
BORING DEPTH:	**20 ft below floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,153.268	200,722.8588

INITIAL WATER LEVEL: **11.4 ft**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		SW	SAND with gravel, fine to coarse subrounded sand, predominantly medium grain sand, fine to coarse subrounded gravel, dry, grading to slightly moist, FILL			2.4	
						1.5	
5		SP	SAND with trace gravel, medium to coarse subrounded sand, fine subrounded gravel, dry to moist, dark brown and black mixed grains.	RI-SB-02-8		1.9	
						2.9	
			At 8 ft: grades to slightly moist			2.9	
10			At 11.5 ft: moist	RI-SB-02-12	N/A		
						3.7	
		SP	SAND, dense, medium to coarse grain, wet, dark brown-black. Poor recovery. Only recovered bottom 1.5 feet of sample. Top portion of sample was slough from above.	RI-SB-02 9-19 ft bgs screen DUP-121821W (duplicate)		3.4	Temporary well, 3/4-inch PVC, 10-slot, installed 9-19 ft below floor.
15		SP	SAND, medium to coarse grain, wet, dark brown-black.	RI-SB-02-16		2.4	
		SM	Silty SAND with trace roots/organics, dense, fine grain sand, tan to medium brown.			2.7	
20							

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Boring Log

LOCATION/BORING ID: **RI-SB-03**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones**
DATE(S) DRILLED:	**12/18/2021**
START TIME: **1200**	END TIME: **1315**

REMARKS: 4-foot core barrels
Refusal at 4-ft below floor

DRILLING INFORMATION

DRILLING COMPANY:	**ESN Northwest**
DRILLING METHOD:	**AMS Power Probe 9100-P**
BORING DEPTH:	**4 ft below floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,828.522	200,828.191

INITIAL WATER LEVEL: **NA**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE, 5-inches.				
		SW	GRAVELLY SAND, fine to very coarse grained (mostly medium to coarse grained), subround, dry, tan to light brown.	RI-SB-03-4	75	2.5	
			At 4 ft: REFUSAL, SAND, trace BRICK and MORTAR in core tip.			3.0	
5							
10							
15							

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LOCATION/BORING ID: **RI-SB-04**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/28/2023**
START TIME: **0755**	END TIME: **0918**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Cody Henderson**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7800**
BORING DEPTH:	**20 ft**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,818.085	200,611.59

INITIAL WATER LEVEL: **8.62 ft**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SW	SAND, minor SILT and minor GRAVEL with pockets of BRICk fragements, fine to medium grained, moist, dark tan to brown. At 1.9 ft: WOOD	RI-SB-04 2-4'	75	264.3	
			At 4.7 ft: Decomposed WOOD, mild sweet indistinct odor.			2.2	
5		SP	SAND, fine to medium grained, round to well-rounded, well-drained, moist, dark brown and black.	RI-SB-04 6-7'	90	1.0	
	▽		At 9.5 ft: Some SILT, moist to wet.			0.6	
10			At 10 ft: Saturated, dark tan to browns.				
		SM	SILTY SAND, fine grained, saturated, light gray and light tan, no appreciable odors.	RI-SB-04 11-12'		0.6	
		OL	SILTY CLAY, with minor fine grained SAND, some ROOTS and decomposed WOODY debris, no to low plasticity, wet, gray.		90	0.3	
15		SP	SAND, medium grained, subangular to subround, wet, medium to dark gray. No appreciable organics.	RI-SB-04 (water) 10-20 ft bgs screen	95	0.1	Temporary well installed 10-20 ft bgs
20							

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Boring Log

LOCATION/BORING ID: **RI-SB-05**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/28/2023**
START TIME: **0925**	END TIME: **1035**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Cody Henderson**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7800**
BORING DEPTH:	**20 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,974.905	200,614.3697

INITIAL WATER LEVEL: **8.85 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT, up to 6-inches.				
		SW	GRAVELLY SAND, some CLAY, medium to coarse grained, dry to moist, dark brown.				
		SP	SAND, medium to coarse grained, subangular to subround, moist, dark brown.		70	0.0	
						0.0	
5							
					80	0.0	
		SP	SAND, some SILT, fine to medium grained, loose to medium dense, moist, dark brown.				
	▽		At 9.9 ft: Moist to wet.	RI-SB-05 9-10'		0.0	
10		SP	SAND, fine to medium grained, loose to medium dense, wet, dark gray.			0.0	
			At 12 ft: Disturbed interface, mixed lithology.		90		
			SILT and SAND, with pockets of WOODY debris, fine grained, wet, dark tan to brown.	RI-SB-05 12.5-14'		0.0	
15			At 15 ft: No WOOD.				Temporary PVC well installed 5-20 ft bgs
		SM	At 17 ft: Mostly SAND, fine grained, wet, dark gray.	RI-SB-14 (water) 5-20 ft bgs screen		0.0	
					90		
			At 19.3-20 ft: SAND, fine to medium grained, wet, dark gray.				
20						0.0	

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LOCATION/BORING ID: **RI-SB-06**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/28/2023**
START TIME: **1245**	END TIME: **1349**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Cody Henderson**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7800**
BORING DEPTH:	**20 ft below floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,634.218	200,877.2969

INITIAL WATER LEVEL: **9.09 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE				
		GP	GRAVEL with SAND (GP), angular to subangular				
		SP	SAND (SP), medium to coarse subangular to subrounded grains, moist, dark brown to black.		65	0.0	
						0.0	
5		SP	At 9.6-9.8 ft: Black layer.	RI-SB-06 6-8'	80	0.0	
						0.1	
10		ML	SILT with SAND (ML), fine grain sand, moist, dark tan to medium brown.				
		ML	Clayey SILT with trace sand (ML), non-plastic, fine grain sand layers, moist grading to wet, dark gray, small pockets organics (<0.5cm). Thin seam of yellow slimy substance, possible algal or bacteria.			0.1	
				RI-SB-06 12.5-13.5'	90		
		SP	SAND (SP), medium grained, wet, dark brown.			0.1	
		SM	Silty SAND (SM), fine grained, wet, dark tan to medium brown.				Temporary well installed 5-20 ft below floor.
15		SP	SAND (SP), medium to coarse subangular to subrounded grains, wet, dark brown to black.	RI-SB-06 (water) 5-20 ft bgs screen	95	0.0	
20							

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LOCATION/BORING ID: **RI-SB-07**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/29/2024**
START TIME: **1239**	END TIME: **1410**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patrick DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,706.664	200,717.1318

INITIAL WATER LEVEL: **9.1 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SW	SAND with GRAVEL (SW), fine to coarse (mostly medium) grain, moist, brown.		26	1.7	
			At 5-10 ft: POOR RECOVERY. Sampler partially congested by treated WOOD.				
5				RI-SB-07 5-6'		1.5	
					20		
10		SP	SAND (SP), medium to coarse grain, wet, red and tan-brown.	RI-SB-07 (water) 5-15 ft bgs screen DUP05-0224 (duplicate)			
		SP	SAND with GRAVEL (SP), medium to coarse grain sand, coarse gravel, up to cobble size, wet, tan-brown.		26	1.5	
15							

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LOCATION/BORING ID: **RI-SB-08**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/29/2024**
START TIME: **1025**	END TIME: **1225**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patric DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,757.188	200,636.4378

INITIAL WATER LEVEL: **8.6 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT (rubbery layer underneath)				
		SW	SAND and GRAVEL with cobbles (SW), fine grain to coarse grain sand, moist, tan-brown (FILL). At 0.5-2.5 ft: WOOD debris		58	1.3	
			At 3-4.5 ft: Increasing COBLLES/ROCK debris			1.0	
5			At 5 to 10 feet: POOR RECOVERY: CONCRETE or COBBLES jammed sampler.	RI-SB-08 5-10'	38	1.4	
10		SW	SAND, medium to very coarse grain, wet to saturated, medium brown to tan.		100		
			SAND with wood pieces, mostly medium and up to coarse grain, wet, dark brown to dark gray	RI-SB-08 10.6-12.5'		1.1	Temporary well installed
		SP	At 12.5 to 14.2 ft: patches of very fine to medium SAND.				
			At 14.2 ft: grading to black and less wet, increasing WOOD content.	RI-SB-08 (water) 5-15 ft bgs screen DUP04-0224 (duplicate)		1.0	
15							

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Boring Log

LOCATION/BORING ID: **RI-SB-09**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/29/2024**
START TIME: **0846**	END TIME: **1020**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patric DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,771.885	200,682.7356

INITIAL WATER LEVEL: **9.0 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SW	SAND, minor to some GRAVEL, fine grain to coarse grain sand (varied layering), dry to moist, medium dark brown.		58		
						2.7	
5			At 5 to 12 ft: Medium to coarse grained				
						3.0	
					58		
			At 10-15' POOR RECOVERY. SAND and GRAVEL, very coarse grained, wet.			2.8	
10				RI-SB-09 10-12.5'		1.5	Temporary well installed, 3/4-inch PVC screen.
		SP	POOR RECOVERY. SAND (SP), little to no gravel, medium grained, saturated, dark gray with brown.	RI-SB-09 (water) 4.5-14.5 ft bgs screen DUP02-0224 (duplicate)	58	1.3	
15							

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Boring Log

LOCATION/BORING ID: **RI-SB-10**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/27/2024**
START TIME: **1425**	END TIME: **1615**

REMARKS: No temporary well at DPT location

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patric DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,838.902	200,681.7088

INITIAL WATER LEVEL: **9.69 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SW	SAND and GRAVEL (SW), fine to coarse grain sand and gravel, dry to moist.		50	9.4	
5		SP	POOR RECOVERY. SANDY WOODY debris; pocket of white asbestos-like material (or gypsum drywall), dry, friable, with metal shavings; CLAY, very soft, wet, reddish tan; WOOD debris (coated with oil or tar)	RI-SB-10 5-8'	38	359.3	
				RI-SB-10 8-10'		504.1	
10		SP	POOR RECOVERY. SAND, medium to coarse grain, wet, black, faint sheen	RI-SB-10 (water) 5-15 ft bgs screen	72	26.4	Set temporary well, 3/4-inch PVC screen.
		SM	POOR RECOVERY. SILTY SAND, with WOODY debris, very fine to fine grained, soft consistency, wet, dark gray to black.			6.0	
15							

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Boring Log

LOCATION/BORING ID: **RI-SB-11**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/27/2024**
START TIME: **1230**	END TIME: **1425**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patric DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,836.848	200,640.8953

INITIAL WATER LEVEL: **8.65 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SM	POOR RECOVERY. SAND and GRAVEL with SILT, very fine to medium grain, slightly moist, gray to green.	RI-SB-11 0.5-2'	44	45.5	
5		SP	POOR RECOVERY. SAND (SP), medium to coarse, subrounded to rounded sand, dry to moist, medium to dark brown.	RI-SB-11 5-7.5'	70	25.9	
		SP	At 9.5 to 10 ft: Very fine grain to fine grain, moist to wet, dark tan to medium brown	RI-SB-11 (water) 5.5-10.5 ft bgs screen		3.8	Set temporary PVC well, 3/4-inch PVC screen.
10		SP	POOR RECOVERY SAND (SP), medium to coarse grain, well drained, moist, medium brown to black.		50		
		SM	SILTY SAND with CLAY, very fine to fine grain, soft to medium consistency, wet. With some decomposed WOODY debris			2.5	
		SP	SAND (SP), fine to medium, subrounded grains, saturated, dark gray.			1.3	
15							

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Boring Log

LOCATION/BORING ID: **RI-SB-12**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/27/2024**
START TIME: **1105**	END TIME: **1230**

REMARKS: Core barrel jammed by cobble on first DPT attempt.

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patric DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,957.807	200,678.0288

INITIAL WATER LEVEL: **7.33 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SW	Silty SAND with GRAVEL, very fine to coarse grain sand, mix and tan/brown and gray/green (FILL).		72	1.3	
			SAND, medium to coarse subrounded to rounded, slightly moist, medium to dark brown.			1.5	
5							
			At 7-8 ft: Medium grained, wet, medium to dark gray			1.4	
		SP			72		
			At 10 ft: Well drained, wet, dark gray	RI-SB-12 8-10'		1.9	
10							Set temporary well,. 3/4-inch PVC screen
				RI-SB-12 11-13'	100	1.7	
		SM	Silty SAND with some CLAY, minor to some PEAT/WOOD debris, very fine grain, wet, dark tan to light gray.	RI-SB-12 (water) 5-15 ft bgs screen		1.6	
15							

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Boring Log

LOCATION/BORING ID: **RI-SB-13**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/27/2024**
START TIME: **1000**	END TIME: **1105**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patric DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,028.921	200,676.2192

INITIAL WATER LEVEL: **7.5 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SW	SAND with GRAVEL (SW), fine to coarse grain sand (predominantly medium), slightly moist, tan (FILL).			2.0	
			SAND (SP), medium to coarse grain sand (predominantly medium), moist, medium to dark brown (FILL).		80		
						2.5	
5							
			At 7.2 ft: Mostly coarse grained, moist.				
		SP	At 7.9 ft: Medium to fine grained, wet, dark tan to dark brown.		86	1.9	
				RI-SB-13 7.9-9'		2.5	
10				RI-SB-13 (water) 5-15 ft bgs screen			
		SP	SAND (SP), medium grain sand, wet, dark black, well-drained, organic rich.		100	3.4	Set temporary well, 3/4-inch PVC screen
		SM	SILTY SAND, some PEAT/WOODY debris, very fine to fine grain, soft to medium consistency, wet, dark tan to medium brown.	RI-SB-13 13.3-15'		3.8	
15							

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LOCATION/BORING ID: **RI-SB-14**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/27/2024**
START TIME: **0840**	END TIME: **1105**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patric DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**15 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,209.429	200,666.7021

INITIAL WATER LEVEL: **7.56 ft bgs**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			ASPHALT				
		SM	Silty SAND with GRAVEL, medium to dark brown.				
			SAND, medium to coarse grain, subrounded to rounded, dry to moist, medium to dark brown.		60	1.5	
5							
			At 7.9 ft: Fine to medium grain, moist to wet, dark tan and dark gray.			0.9	
		SP	At 8.5 ft: Some SILT, fine to medium grain, wet, dark gray.		76		
			At 10 ft: Fine to medium grain with pockets of coarse grain, wet, dak tan to dark brown.	RI-SB-14 7.9-10'		1.1	
10				RI-SB-14 (water) 4-14 ft bgs screen	100	0.7	Set temporary PVC well, 3/4-inch PVC screen.
		SM	SILTY SAND with some CLAY, minor to some PEAT/WOOD debris, very fine to fine grain, soft consistency, wet, dark tan with trace gray.	RI-SB-14 13.5-14.5'		1.4	
15							

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LOCATION/BORING ID: **RI-SB-15**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/28/2024**
START TIME: **1225**	END TIME: **1540**

REMARKS: Concrete slab settling in the area

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patric DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**20 ft below floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,997.123	200,705.8905

INITIAL WATER LEVEL: **11.1 ft**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE, 4-5'" thick				
		SW	Mixed SAND with GRAVEL (SW), fine to coarse grain sand, dry to moist, tan to brown (FILL).		76	2.2	
5							
		SW	SAND, fine to coarse grain (predominantly medium grain), loose, dry, medium to dark brown and black.		76	1.9	
10			At 11.7' ft: Moist to wet At 12.2 ft: Wet				
				RI-SB-15 12-13'	90	2.2	
		SP	SAND, some WOODY debris, very fine to fine grain (pockets of medium grain), wet, dark brown.			2.0	
15				RI-SB-15 (water) 9.5-19.5 ft bgs screen			Set temporary well, 3/4-inch PVC screen
		SP	SAND with some SILT, with pockets of WOOD, very fine to fine grain, wet.		100	1.5	
				RI-SB-15 18-20'		2.1	
20							

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Boring Log

LOCATION/BORING ID: **RI-SB-16**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**2/28/2024**
START TIME: **1115**	END TIME: **1218**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patric DiPiro**
DRILLING METHOD:	**MacroCore MC5/GeoProbe 7822DT**
BORING DEPTH:	**20 ft below floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,044.175	200,763.2383

INITIAL WATER LEVEL: **11.0 ft**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE, floor slab, 6-inch,				
		SW	SAND, minor GRAVEL, with BRICK pieces, fine to coarse grained, dry to moist, tan, brown, and green.		58	3.1	
5		SW	SAND, medium to coarse grain, subround to round, dry, dark brown. At 4-4.5 ft: CONCRETE RUBBLE				
		SW	SAND, fine to coarse grain, (predominantly medium grain), dry to moist, dark brown and black.		64	2.0	
10	▽	SW	At 12 ft: Moist				
					94	2.3	
		SP	SAND, some SILT and mud FINES, minor WOOD debris, very fine to fine grain, firm consistency, moist to wet.	RI-SB-16 13.4-15'		3.6	
15		SP	POOR RECOVERY. SAND, medium grain, wet.	RI-SB-16 15-20'	44	3.3	Set temporary well, 3/4-inch PVC screen.
				RI-SB-16 (water) 7-17 ft bgs screen			
20							

These logs should not be used separately from original report

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Boring Log

LOCATION/BORING ID: **RI-SB-17**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**02/28/2024**
START TIME: **0943**	END TIME: **1115**

REMARKS: Inside warehouse building
28-ft from loading dock door 15

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patrick DiPiro**
DRILLING METHOD:	**MacroCore MC5/Geoprobe 7822DT**
BORING DEPTH:	**20 ft below floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,271,096.512	200,719.9759

INITIAL WATER LEVEL: **11.6 ft**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE, 6.5" thickness				
		SW	SAND, minor to some GRAVEL, fine to coarse grained (predominantly medium grain), dry, tan and brown.		64	1.5	
5			At 4.5 to 5 ft: CONCRETE debris				
		SP	SAND, medium to coarse grain, dry, medium brown and black.		74	2.7	
				RI-SB-17 8-10'		3.1	
10			At 12.6 ft: Moist to wet			2.6	
					92	2.0	
		SM	SILTY SAND, some CLAY fines, very fine to fine grain, moist to wet, tan to medium brown.	RI-SB-17 13.5-15'		2.8	
15		SP	SAND, medium to coarse grain, subround to round, wet, dark brown and black.	RI-SB-17 (water) 10-20 ft bgs screen	100	1.4	Set temporary well, 3/4-inch PVC screen.
20		SP	SAND, very fine to fine grain, wet, dark brown.			2.4	

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LOCATION/BORING ID: **RI-SB-18**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**R. Jones, LG**
DATE(S) DRILLED:	**02/28/2024**
START TIME: **1330**	END TIME: **1539**

REMARKS: Inside warehouse building

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Patrick DiPiro**
DRILLING METHOD:	**MacroCore MC5/Geoprobe 7822DT**
BORING DEPTH:	**20 ft below floor**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
1,270,834.707	200,710.5052

INITIAL WATER LEVEL: **14.0 ft**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0			CONCRETE, 5 to 7-inches				
		SW	Mostly FILL, SAND, some GRAVEL, minor CLAY, fine to coarse grained, dry to moist, tan to brown with gray.		76	2.5	
5			At 6.8 ft: GRAVEL, (up to 1.5-inch size), dry, yellowish tan.				
		SP	SAND, medium grained, minor subround gravel, dry to moist, dark brown. At 7.6 ft: Medium to coarse grained, trace ORGANIC fines, dry to moist, dark brown to black.		72	2.4	
10			At 11 ft: Moist to wet, black.			1.6	
		SP	SAND, medium grained, wet, black with red-brown mottling.		62		
15		SP	SAND, medium grained (minor coarse grained), some weathered WOOD debris, trace ORGANIC fines, saturated, black.	RI-SB-18 13.5-15'	98	3.1 2.9	
20							

These logs should not be used separately from original report

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Boring Log

LOCATION/BORING ID: **RI-SB-19**

PROJECT INFORMATION

PROJECT:	**Bridge Industrial**
SITE NAME:	**Dawn Foods R.I.** **6901 Fox Ave S**
SITE LOCATION:	**Seattle, WA**
JOB NUMBER:	
PROJECT MANAGER:	**G. Hainsworth, PE**
LOGGED BY:	**T. Tremain, LG**
DATE(S) DRILLED:	**07/14/2026**
START TIME: **0829**	END TIME: **1000**

REMARKS:

DRILLING INFORMATION

DRILLING COMPANY:	**Holt Services/Cody Henderson**
DRILLING METHOD:	**Geoprobe 7800**
BORING DEPTH:	**20 ft bgs**
BORING DIAMETER:	
SOIL SCREENING:	**MiniRAE PID**
PLUGGING METHOD:	**Bentonite chips**
GROUND ELEV:	**NM**
ELEV. METHOD:	**NM**
COOR. METHOD:	**State Plane**

NORTHING	EASTING
810,284.783	1,188,185.336

INITIAL WATER LEVEL:

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	REC. %	PID (PPM)	COMMENTS
0		Upper Seal	Asphalt				
		SP	SAND with GRAVEL (SP), fine to coarse, subangular to subrounded sand, fine subangular to subrounded gravel, dry to slightly moist, dark gray to brown, gravel content increasing with depth. No odor or sheen.			1.5	
				RI-SB-19 2.5-5 (2.5 to 5 ft bgs)	47	0.4	
5		SP	SAND with GRAVEL and trace silt (SP), fine to coarse, angular to subrounded sand, fine, subangular to subrounded gravel, dry to slightly moist, dark gray to brown, gravel content increasing with depth. No odor or sheen.	RI-SB-19 5-7.5 (5 to 7.5 ft bgs)		0.9	
				RI-SB-19 7.5-10 (7.5 to 10 ft bgs)	47	2.7	
10		SP	SAND with GRAVEL and trace silt (SP), fine to coarse, angular to subrounded sand, fine, subangular to subrounded gravel, dry to slightly moist, dark gray to brown. No odor or sheen. At 11.5 feet: Soil grades to wet.	RI-SB-19 10-12.5 (10 to 12.5 ft bgs)		2.0	
		SP	SAND with GRAVEL and trace silt (SP), fine to coarse, angular to subrounded sand, fine, subangular to subrounded gravel, wet, black staining. No odor or sheen. WASTE/FILL: some 5-20mm, flat chunks of laminated (<2mm layers), black, glass-like material with conchoidal fracture patterns. Flexible/rubbery. Laminated with black fibrous material.	RI-SB-19 12.5-15 (12.5 to 15 ft bgs)	47	2.6	
15		GW	GRAVEL with SAND and SILT (GP-GM) with 15-25% chunks of preserved wood (2-5cm). Fine gravel. Saturated, dark brown. No odor or sheen.	RI-SB-19 15-17.5 (15 to 17.5 ft bgs)		1.6	
		SW	SAND with GRAVEL and SILT (SP-SM), increased silt content, fine to coarse sand, fine gravel.		63		
				RI-SB-19 17.5-20 (17.5 to 20 ft bgs)		1.9	
20							

These logs should not be used separately from original report

Appendix C

Tidal Study

REMEDIAL INVESTIGATION FEASIBILITY STUDY – TIDAL STUDY

Former Bunge Foods Facility
6901 Fox Ave South

January 7 2025

Prepared for:

Bridge Point Seattle 130, LLC

Prepared by:

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1 INTRODUCTION

The 6901 Fox Avenue South site (the site) is located on the east bank of the Lower Duwamish Waterway (LDW), in a tidally influenced area, between River Mile (RM) 2.2 and RM 2.3 as measured from the southern tip of Harbor Island (see Figure 1). In tidally influenced groundwater monitoring wells, samples are typically collected during a negative low tide. In the LDW, negative low tides occur during two approximately two- to seven-day periods during each month. Groundwater is sampled during the time of low groundwater elevation in each well in order to collect samples that are representative of the aquifer groundwater.

The purpose of the tidal study is to:

1. Estimate tidal lag times for each monitoring well to determine when groundwater sampling should be performed relative to LDW low tide.
2. Define net groundwater flow conditions to support fate and transport analyses and remedial alternative design.

2 DATA COLLECTION AND ANALYSIS

2.1 METHODOLOGY

The tidal study was conducted in accordance with the Remedial Investigation Work Plan (RIWP; CRETE 2021). The study was conducted from October 27 to November 2, 2023 during a time period including non-negative low tides, allowing for observation of the typical tidal response. A subset of this transducer data was used for additional statistical evaluation. This subset data range was 05:00 on October 28 through 04:59 on October 31, 2023. All nine (9) monitoring wells and the nearest NOAA-monitored tidal station (ID# 9447130 in Seattle, WA) were used to measure tidal variations.

2.2 WATER LEVEL ELEVATION CONVERSIONS

In-Situ pressure transducers, called Level Troll 400, were placed in each monitoring well and left undisturbed for the duration of the study. Transducer details are included on Table 1. Water level measurements were collected by hand in all onsite wells using a water level meter at the time of transducer installations and removals as spot checks of the transducer water level calculations (see Table 2). Raw data collected directly from the transducers (water depths as a function of water head pressure) were corrected against barometric pressure recorded concurrently at the site using an In-Situ BaroTroll. The barometric pressure corrections were conducted using the Win-Situ software. Separately, each well was surveyed by a licensed professional surveyor for top of casing elevation measurements to approximately 0.01 feet in NAVD88 datum to establish a reference point for each monitoring well and corresponding transducer. The reference point for each monitoring well is on the approximate north point of the top of well casing. The barometrically-corrected transducer pressure measurements (water head) were then subtracted from the surveyed well casing depth to calculate water level

elevations from the transducer data. The barometrically-corrected transducer data are included throughout this report.

2.3 LAG TIME

Tidally influenced groundwater follows the tidal fluctuations of the adjacent waterway on a delayed cycle. The length of time it takes for water in a well to respond to the tidal cycle is known as the "tidal time lag" (Fetter 1994). The lag time was used to predict groundwater sample timing based on the low tides predicted for the reference station.

Tidal lag time was calculated by averaging the difference in time between the two higher high tides and two lower low tides in each monitoring well relative to the reference tidal station #9447130. Tidal Station 9447130 is at the Seattle Ferry Terminal near the intersection of Columbia Street and Alaskan Way (Figure 1 inset). The gauging station is in Elliot Bay and a straight-line distance of approximately 4.25-miles for the site. Observed tidal lag times are summarized on Table 3 and discussed in Section 3.1.

2.4 TIDAL EFFICIENCY

Tidal efficiency is the magnitude of the tidal fluctuation of a groundwater monitoring well, expressed as a percentage of the tidal fluctuation in the adjacent water body. Tidal efficiency is used to understand the hydrologic characteristics of the aquifer. The amplitude of the groundwater fluctuation is generally much less than the tidal range and is usually greatest nearest the shoreline and diminishes further from shoreline, although other factors may affect the groundwater level response observed in wells. The tidal efficiency was calculated by dividing the tidal range for one-quarter of a tidal cycle (first lower low tide to the corresponding next higher high tide) by the same tidal range for the tidal station. Calculated tidal efficiencies for each monitoring well during each recorded LLW to higher high water (HHW) tidal cycles are summarized on Table 3. No wells went dry during the tidal study.

2.5 NET GROUNDWATER FLOW

Net groundwater elevation and flow direction are used to assess contaminant fate and transport at a site. In a tidally influenced area, groundwater elevations and flow directions may vary through the tidal cycle. As the tides rise and fall, they produce pressure waves in the adjacent aquifers and may cause groundwater levels and hydraulic gradients to fluctuate, resulting in a situation where a single synoptic set of groundwater levels may not adequately characterize groundwater. To evaluate net groundwater flow directions, average elevations are typically estimated using the Serfes (1991) method. Data from this tidal study was used to evaluate average elevations using a simple averaging and filtering from the modified method of Serfes (1991). Serfes developed a method based on the earlier work of Godin (1966) to filter out tidal influences. Serfes method uses hourly water-level readings taken over a three-day period (72 hours). The hourly readings from each well are processed using a moving average technique.

The Serfes moving average values for each well within the tidal study window (10/28/2023 05:00 to 10/31/2023 04:59) are calculated and final Serfes method averaged is summarized on Table 3. The net groundwater flow direction for the site was obtained by interpolating elevation contours from the average, filtered groundwater elevations for each well (Figure 3).

3 TIDAL STUDY RESULTS

3.1 LAG TIME RESULTS

The average tidal lag time for wells at the site during the 72-hour tidal window described in Section 2.6 ranged from 30 minutes (MW-1, MW-4) to 2 hours and 5 minutes (MW-2). Shoreline well MW-1 had the shortest lag time and well MW-2 had the longest lag time. MW-2, MW-3, and MW-6 had longer lag times suggesting this area is hydrogeologically unique for the site. See Table 3 for lag times and tidal efficiency. Due to the relative spatial heterogeneity of the shoreline soils from the various infilling stages during changing shoreline (1917 and 1966), these variable shoreline soils are likely a main factor in tidal lag time variability among the shoreline wells (MW-1 versus MW-2 and MW-3).

3.2 TIDAL RANGE RESULTS

The tidal range on the LDW during the first quarter cycle of tidal study (first lower low water level to the first higher high water level) was 13.42 feet, ranging in elevation from -1.80 feet mean lower low water (MLLW) to 11.62 feet MLLW. Groundwater levels fluctuated from a maximum 10.39 feet (MW-1) near the bank to a minimum of 0.39 feet (MW-9) during the first two tidal quarter cycles (first two LLW to HHW). There was a significant tidal influence in all waterway bank wells (MW-1, MW-2, MW-3) and all near waterway bank wells (MW-4, MW-5, MW-6), with MW-1, MW-3, and MW-4 having tidal efficiencies ranging from 50% to 69% and with MW-2, MW-5, and MW-6 having significant but lesser tidal efficiencies ranging from 38% to 41%. It was expected that tidal influence would be strongest in near-bank wells and diminished further upland, but this was not consistent with tidal study observations. Two bank wells, MW-1 and MW-3, had strong tidal influence, but one bank well, MW-2, had a moderate tidal influence comparable with MW-5 and MW-6 at a greater distance from the bank. Similarly, upland well MW-4 had strong tidal influence and upland wells MW-5 and MW-6 had lesser tidal influence. This variability may be a function of shoreline changes from 1917 to 1966 and composition and compaction of fill materials used during these shoreline changes. Tidal influence from upland wells MW-7, MW-8, and MW-9 were observed at 3% to 15% and are consider to be insignificant. Gaging and potentiometric map data from the adjacent Great Western International Chemical Company (GWCC) site RI/FS (Floyd Snider 2011) suggests that tidal influence may occur to 300 feet inland and others report significant tidal influence within 500 feet of the LDW (Booth and Herman 1998). Table 3 summarizes this data.

3.3 NET GROUNDWATER FLOW

The net flow direction at the site is generally toward the LDW, which had an Serfes average water level elevation of 6.36 feet MLLW at the tidal station (see Figure 3) during the 72-hour tidal study analyses. Serfes average groundwater elevations during the tidal study period ranged from the on-site wells ranged from 6.76 feet MLLW (MW-3) to 7.33 feet MLLW (MW-2), not including monitoring wells MW-7, MW-8, and MW-9 with insignificant tidal efficiencies. Groundwater elevation in shoreline well MW-2 was observed to be slightly higher than the upland wells (MW-4, MW-5, MW-6). Hydraulic gradient calculations for the water level elevations among the monitoring wells in this area on the western end of the site range from 0.0021 to 0.0049 ft/ft.

3.4 GROUNDWATER SAMPLE TIMING

Table 3 also provides a summary of groundwater sample timing for each well at the site based on the logic presented in the introduction to this appendix (Section 1). Suggested sample collection times based on observed tidal lag times are summarized on Table 3 and discussed in Section 3.1. Suggested sample collection times vary from 30-minutes to approximately 125-minutes following the lower low tide of a given tidal diurnal tidal cycle.

REFERENCES

Booth and Herman 1998. Duwamish Industrial Area Hydrogeologic Pathways Project, Duwamish Basin Groundwater Pathways Conceptual model Report. Prepared for City of Seattle Office of Economic Development and King County Office of Budget and Strategic Planning. April 1998.

CRETE Consulting 2021. Remedial Investigation Work Plan, Former Bunge Foods Facility, 6901 Fox Ave South. November 3, 2021.

Floyd Snider 2011. Remedial Investigation Feasibility, Fox Avenue Site, Seattle Washington. Prepared for Fox Avenue Building LLC, 6900 Fox Avenue S, Seattle, Washington, 98108. June 10, 2011

TABLES

Table 1 6901 Fox Ave S - Level Logger Type and Placement

Level Logger ID	Level Logger Serial Number	Level Logger Type	Total Well Depth (ft BTOC)
MW-1	1009391	In-Situ Level Troll 400 (non-vented)	18.90
MW-2	1009227	In-Situ Level Troll 400 (non-vented)	19.20
MW-3	1022217	In-Situ Level Troll 400 (non-vented)	19.43
MW-4	1022645	In-Situ Level Troll 400 (non-vented)	19.28
MW-5	722050	In-Situ Level Troll 400 (non-vented)	19.40
MW-6	1008712	In-Situ Level Troll 400 (non-vented)	19.81
MW-7	1009214	In-Situ Level Troll 400 (non-vented)	19.20
MW-8	756380	In-Situ Level Troll 400 (non-vented)	17.95
MW-9	1009563	In-Situ Level Troll 400 (non-vented)	19.31
Barometer	1020594	In-Situ BaroToll	N/A

NOTES:
TOC - top of casing
BTOC - below top of casing
ft - feet
N/A - not applicable

Table 2 6901 Fox Ave S - Monitoring Well Gauging, Select Transducer Readings

Well ID	Date	Time	Elevation Top of PVC Casing (ft)	Gauged DTW (ft BTOC)	Water Level Elevation (ft)	Transducer Level Reading (Head ft)	Difference in Gauged DTW and Transducer Measured Head (ft)	Notes
MW-1	10/27/2023	1420	15.87	9.55	6.32	9.55	0.00	Calibration data point
	11/3/2023	847	15.87	9.34	6.53	9.53	-0.19	
MW-2	10/27/2023	1504	14.36	8.07	6.29	7.97	0.10	Transducer recording at 1508
	11/3/2023	933	14.36	7.99	6.37	8.05	-0.06	
MW-3	10/27/2023	1436	16.22	10.50	5.72	10.50	0.00	Calibration data point
	11/3/2023	856	16.22	10.49	5.73	10.83	-0.34	
MW-4	10/27/2023	1355	15.51	10.05	5.46	10.05	0.00	Calibration data point
	11/3/2023	830	15.51	9.70	5.81	9.94	-0.24	
MW-5	10/27/2023	1408	14.27	8.98	5.29	8.98	0.00	Calibration data point
	11/3/2023	838	14.27	9.05	5.22	9.11	-0.06	
MW-6	10/27/2023	1520	14.76	8.75	6.01	8.75	0.00	Calibration data point
	11/3/2023	942	14.76	9.05	5.71	9.12	-0.07	
MW-7	10/27/2023	1448	14.79	8.59	6.20	8.59	0.00	Calibration data point
	11/3/2023	923	14.79	8.56	6.23	8.65	-0.09	
MW-8	10/27/2023	1536	14.94	8.38	6.56	8.38	0.00	Calibration data point
	11/3/2023	951	14.94	8.40	6.54	8.49	-0.09	
MW-9	10/27/2023	1556	15.54	9.14	6.40	9.14	0.00	Calibration data point
	11/3/2023	1000	15.54	9.15	6.39	9.21	-0.06	

NOTES:

PVC - polyvinyl chloride

ft - feet

DTW - depth to water

BTOC - below top of casing

Table 3 6901 Fox Ave S - Tidal Lag Time Analysis at Monitoring Wells

Well ID	Elevation		Tidal Range for a Quarter Cycle				Tidal Range for a Quarter Cycle				Lag Time					Sample Collection Time
	Average Elevation (Average from 1st low low to 2nd low low)	Serfes Method Mean Elevation (72-Hour Period)	First Low Low Elevation	First High High Elevation	Tidal Range	Tidal Efficiency (Quarter Cycle)	Second Low Low Elevation	Second High High Elevation	Tidal Range	Tidal Efficiency (Quarter Cycle)	Lag Time (1st Low Low Tides Only)	Lag Time (2nd Low Low Tides Only)	Lag Time (1st High High Tides Only)	Lag Time (2nd High High Tides Only)	Average Lag Time (2 low low tides)	Suggested Sample Collection Time
	MLLW	MLLW	MLLW	MLLW	ft		MLLW	MLLW	ft		hr:min	hr:min	hr:min	hr:min	hr:min	
MW-1	6.93	6.99	2.97	10.34	7.37	55%	2.81	10.39	7.58	55%	0:30	0:32	0:34	0:20	0:31	30 minutes after low low tide
MW-2	7.26	7.33	4.29	9.85	5.56	41%	4.26	9.94	5.68	41%	2:02	2:08	0:58	0:48	2:05	120-125 minutes after low low tide
MW-3	6.70	6.76	1.01	10.33	9.32	69%	0.92	10.41	9.49	69%	1:38	1:36	1:02	0:48	1:37	90-100 minutes after low low tide
MW-4	7.12	7.18	3.34	10.11	6.77	50%	3.15	10.18	7.03	51%	0:25	0:31	0:45	0:32	0.:29	30 minutes after low low tide
MW-5	7.25	7.30	4.57	9.62	5.05	38%	4.40	9.74	5.34	39%	1:18	1:28	0:58	0:48	1:23	80-90 minutes after low low tide
MW-6	7.22	7.27	4.34	9.67	5.33	40%	4.14	9.79	5.65	41%	1:22	1:28	1:22	1:04	1:25	80-90 minutes after low low tide
MW-7	8.33	8.34	7.23	9.17	1.94	14%	7.17	9.22	2.05	15%	1:22	1:28	1:26	1:04	1:25	80-90 minutes after low low tide
MW-8	8.54	8.55	7.90	8.86	0.96	7%	7.86	8.86	1.00	7%	0:46	0:56	1:22	0:48	0:51	50 minutes after low low tide
MW-9	8.47	8.57	8.37	8.76	0.39	3%	8.34	8.75	0.41	3%	1:22	1:20	1:54	0:56	1:21	80-85 minutes after low low tide
Tidal Station #9447130	6.22	6.36	-1.80	11.62	13.42	NA	-2.28	11.55	13.83	NA	16:30	17:12	23:18	0:12	NA	NA

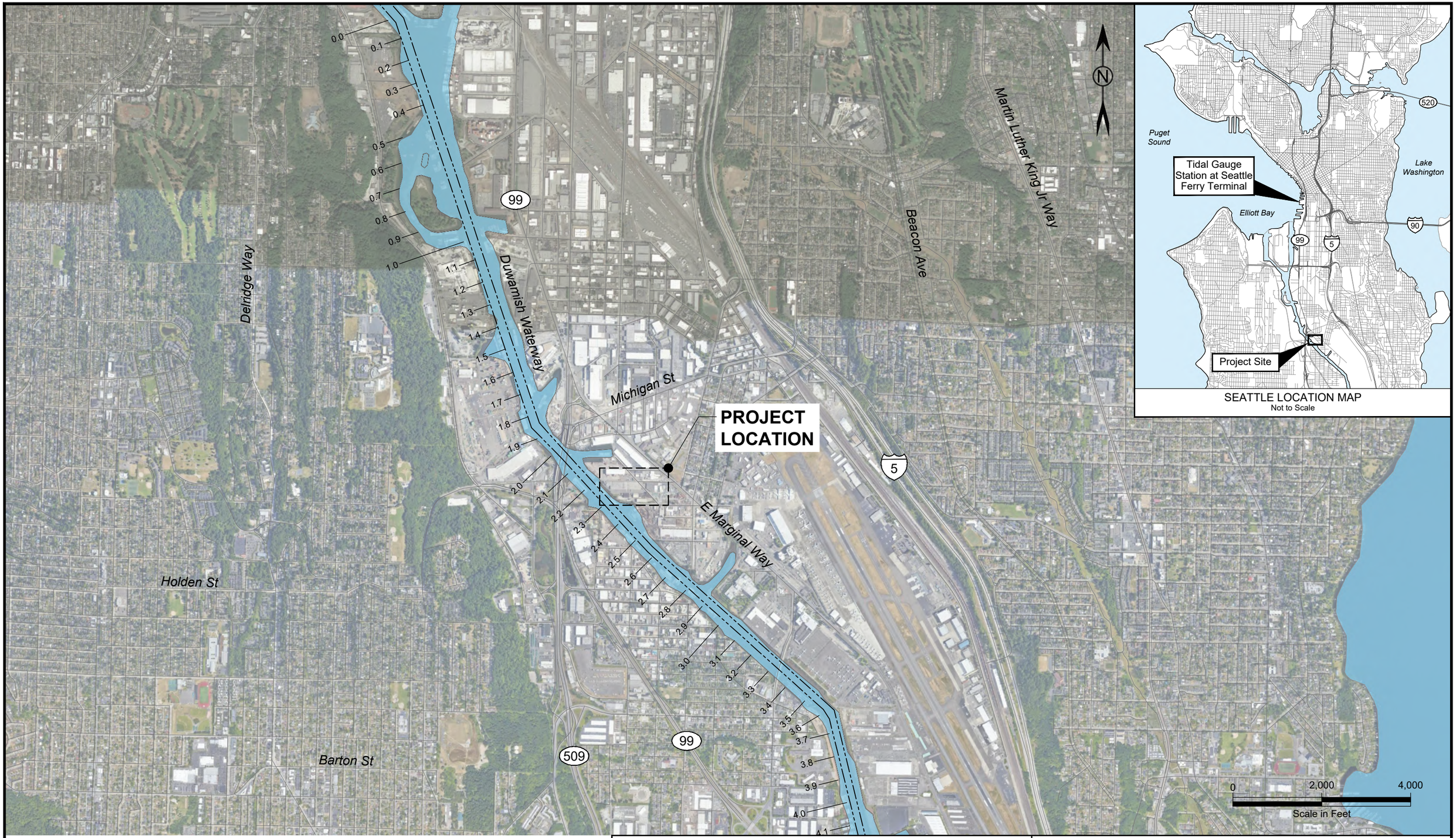
The tidal study window for this analysis and these table values is from 10/28/2023 05:00 (AM) to 10/31/2023 04:59 (AM).

ft - feet

MLLW - mean lower low water

NA - not applicable

FIGURES



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LEGEND

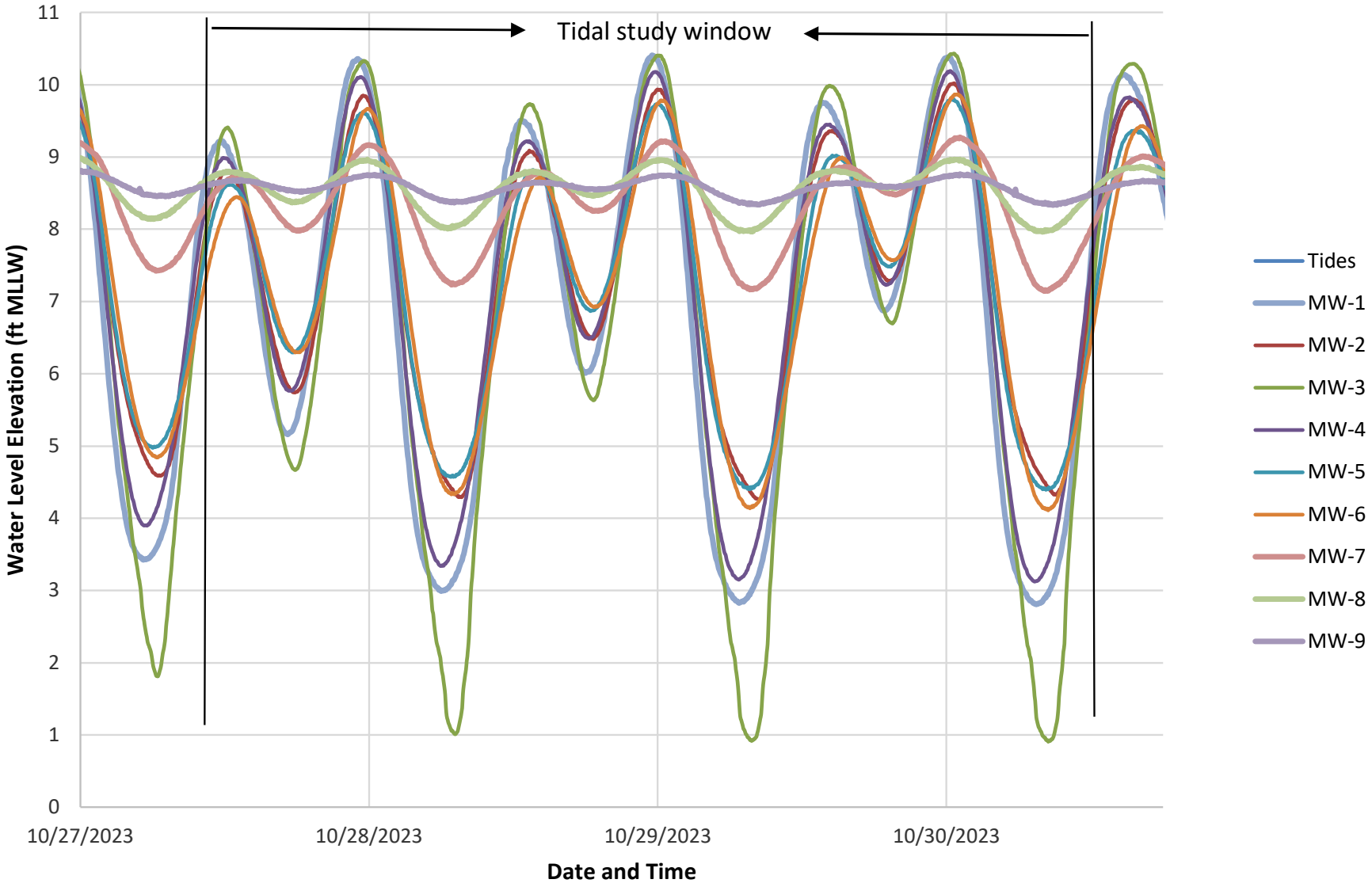
Navigation Channel

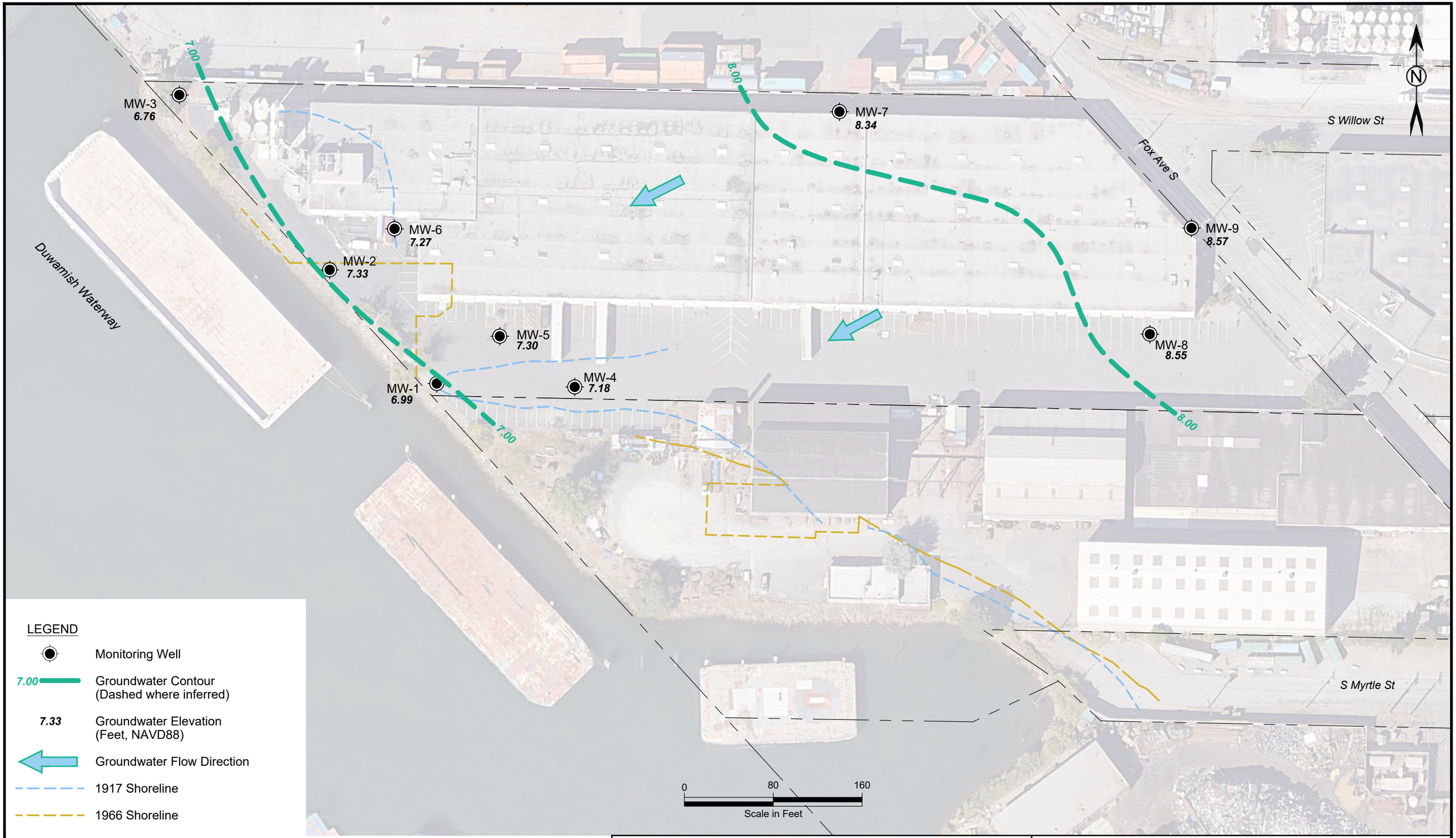
1.0 Approximate Mile Marker

Former Bunge Foods Facility
Bridge Industrial
April 2022

Figure 1
Tidal Study
Site Location Map

Figure 2
Monitoring Well and Tide Water Levels





LEGEND

- Monitoring Well
- 7.00 Groundwater Contour (Dashed where inferred)
- 7.33 Groundwater Elevation (Feet, NAVD88)
- Groundwater Flow Direction
- 1917 Shoreline
- 1966 Shoreline

CRETE CONSULTING, INC.

NOTE

All groundwater elevations averaged using Serfes (1991) method from 10/28/2023 05:00 to 10/31/2023 04:59.

Former Dawn Foods Facility
Bridge Point Seattle 130, LLC
April 12, 2024

Figure 3 Groundwater Flow Map

Appendix D

Cleanup Level Compliance Backup

Appendix D- Summary of 2000-2024 Soil Data - Non Metal Compounds
Bridge - Former Dawn Foods

Sample ID	LOWEST PCUL (mg/kg)	Sample Count	Max Value	Is Max Value above SL (PCUL)?	Number of results above SL (PCUL)?	GP-SB-15	GP-SB-1510 (Duplicate)	GP-SB-16-07	GP-SB-16-11	GP-SB-17-05	GP-SB-17-10	GP-SB-21-05	GP-SB-21-10	GP-SB-22-07	GP-SB-22-09	GP-SB-23-05	GP-SB-23-11	GP-SB-24-10	GP-SB-24-12	GP-SB-25-08	GP-SB-25-13.5	GP-SB-26-06	GP-SB-26-12
Date Sample						6/9/2020	6/9/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/5/2020	12/5/2020	12/5/2020	12/5/2020
Depth ft. bgs						10 to 11	10 to 11	6 to 7	10 to 11	4 to 5	9 to 10	3 to 5	7.5 to 10	5 to 7	9 to 10	3 to 5	10 to 11	7.5 to 10	10 to 12	6 to 8	12 to 13.5	4 to 6	10 to 12
Zone						Saturated	Saturated	Saturated	Saturated	Vadose	Saturated	Vadose	Saturated	Saturated	Saturated	Vadose	Saturated	Saturated	Saturated	Vadose	Saturated	Vadose	Saturated
Units						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BTEX/GRO/DRO													**BTEX/GRO/DRO**										**E**
Benzene	5.60E-04	**50.00**	**0.00**	**No**	**0.00**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	4.40E-02	**50.00**	**0.00**	**No**	**0.00**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00E-02	**50.00**	**0.00**	**No**	**0.00**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	5.50E-02	**50.00**	**0.00**	**No**	**0.00**	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range	100	**50.00**	**200.00**	**Yes**	**1.00**	5 U	6 U	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics (DRO)	2000	**50.00**	**3500.00**	**Yes**	**1.00**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lube Range Oil (ORO)	2000	**50.00**	**7300.00**	**Yes**	**1.00**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DRO/ORO (Diesel + Lube Oil)	2,000	**50.00**	**10800.00**	**Yes**	**1.00**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs														CVOCs									
Vinyl chloride	0.000056	**50.00**	**0.00**	**No**	**0.00**	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	No Criteria	**50.00**	**0.00**	**No**	**0.00**	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	1.4	**50.00**	**0.00**	**No**	**0.00**	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	0.03	**50.00**	**0.00**	**No**	**0.00**	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	0.32	**50.00**	**0.00**	**No**	**0.00**	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	175	**50.00**	**0.00**	**No**	**0.00**	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	160	**50.00**	**0.34**	**No**	**0.00**	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane (EDC)	0.024	**50.00**	**0.00**	**No**	**0.00**	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	21	**50.00**	**0.00**	**No**	**0.00**	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	0.00027	**50.00**	**0.29**	**Yes**	**3.00**	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	0.0016	**50.00**	**4.70**	**Yes**	**4.00**	0.025 U	0.025 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs (only detected compounds)																				SVOCs			
Naphthalene	0.0021	**50.00**	**0.00**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05
2-Methylnaphthalene	0.039	**50.00**	**0.28**	**Yes**	**1.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.28**	<0.01	<0.01	<0.05
1-Methylnaphthalene	20	**50.00**	**1.80**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**1.8**	<0.01	<0.01	<0.05
Acenaphthylene	1.3	**50.00**	**0.00**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05
Acenaphthene	0.3	**50.00**	**0.43**	**Yes**	**1.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.43**	<0.01	<0.01	<0.05
Fluorene	0.029	**50.00**	**0.67**	**Yes**	**1.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.67**	<0.01	<0.01	<0.05
Phenanthrene	1.5	**50.00**	**1.00**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**1.0**	<0.01	<0.01	<0.05
Anthracene	0.051	**50.00**	**0.00**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05
Fluoranthene	0.09	**50.00**	**0.21**	**Yes**	**1.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.21**	<0.01	**0.016**	<0.05
Pyrene	0	**50.00**	**0.24**	**Yes**	**1.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	**0.062**	<0.05	<0.05	<0.05	<0.05	**0.24**	<0.01	**0.017**	<0.05
Benzo(g,h,i)perylene	0.67	**50.00**	**0.10**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	**0.01**	<0.05	<0.05	**0.064**	**0.051**	**0.10**	<0.01	**0.010**	<0.05
Benz(a)anthracene	1.3	**50.00**	**0.11**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.11**	<0.01	<0.01	<0.05
Chrysene	1.4	**50.00**	**0.14**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.14**	<0.01	**0.012**	<0.05
Benzo(a)pyrene	0.00016	**50.00**	**0.15**	**Yes**	**2.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.15**	<0.01	**0.015**	<0.05
Benzo(b)fluoranthene	see total cPAHs	**50.00**	**0.19**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	**0.060**	**0.12**	<0.05	<0.05	**0.064**	**0.06**	**0.19**	<0.01	**0.019**	<0.05
Benzo(k)fluoranthene	see total cPAHs	**50.00**	**0.06**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.063**	<0.01	<0.01	<0.05
Indeno(1,2,3-cd)pyrene	0.6	**50.00**	**0.11**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.11**	<0.01	**0.010**	<0.05
Dibenz(a,h)anthracene	0.23	**50.00**	**0.00**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05
Total cPAHs TEQ	0.00016	**50.00**	**0.19**	**Yes**	**6.00**	NA	NA	NA	NA	NA	NA	<0.05	<0.01	**0.006**	**0.012**	<0.05	<0.05	**0.0064**	**0.006**	**0.188**	<0.01	**0.018**	<0.05
PCBs														**PCBs**									
Aroclor 1221	see total	see total	see total	see total	see total	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1232	see total	see total	see total	see total	see total	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1016	see total	see total	see total	see total	see total	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1242	see total	see total	see total	see total	see total	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1248	see total	see total	see total	see total	see total	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1254	see total	see total	see total	see total	see total	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1260	see total	see total	see total	see total	see total	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1262	see total	see total	see total	see total	see total	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1268	see total	see total	see total	see total	see total	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Total Aroclors	0.03	**50.00**	**0.06**	**Yes**	**1.00**	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Tributyltin	PQL = 0.004	**50.00**	**0.00**	**No**	**0.00**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix D- Summary of 2000-2024 Soil Data - Non Metal Compounds
Bridge - Former Dawn Foods

Sample ID	LOWEST PCUL (mg/kg)	GP-SB-27-08	GP-SB-27-12	GP-SB-28-08	GP-SB-28-13	GP-SB-29-10.5	GP-SB-30-05.5	GP-SB-30-13.3	GP-SB-31-06	GP-SB-31-14	GP-SB-32-04	GP-SB-32-12	MW-1	MW-2	MW-2	MW-3	MW-3	MW-4 11-11.5'	MW-5 12.5-14'	MW-6 7.5-9'	RI-SB-01-10	RI-SB-01-14	RI-SB-02-08	RI-SB-02-12 / Duplicate
Date Sample		12/5/2020	12/5/2020	12/5/2020	12/5/2020	12/5/2020	12/12/2020	12/12/2020	12/12/2020	12/12/2020	12/12/2020	12/12/2020	12/16/2021	12/15/2021	12/15/2021	12/16/2021	12/16/2021	12/16/2021	12/15/2021	12/15/2021	12/18/2021	12/18/2021	12/18/2021	12/18/2021
Depth ft. bgs		6 to 8	11 to 12	6 to 8	12 to 13	9.5 to 10.5	4 to 5.5	12.5 to 13.3	4.5 to 6	12.5 to 14	2 to 4	10.3 to 12	13 to 14	7.5 to 9	12.5 to 14	7.5 to 9	12.5 to 14	11 to 11.5	12.5 to 14	7.5 to 9	8 to 10	12.5 to 14	6 to 8	10 to 12
Zone		Saturated	Saturated	Saturated	Saturated	Saturated	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated	Saturated
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BTEX/GRO/DRO		**BTEX/GRO/DRO**					**BTEX/GRO/DRO**						**BTEX/GRO/DRO**											
Benzene	5.60E-04	NA	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	4.40E-02	NA	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00E-02	NA	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	5.50E-02	NA	NA	NA	NA	NA	NA	NA	0.06 U	0.06 U	0.06 U	0.06 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range	100	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	**5.6**	5 U	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	5 U	5 U	5 U
Diesel Range Organics (DRO)	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**470**	NA	50 U	50 U	50 U	50 U
Lube Range Oil (ORO)	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1,200**	NA	250 U	250 U	250 U	250 U
DRO/ORO (Diesel + Lube Oil)	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1,200**	NA	250 U	250 U	250 U	250 U
VOCs		CVOCs					CVOCs												CVOCs					
Vinyl chloride	0.000056	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
Chloroethane	No Criteria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA
1,1-Dichloroethene	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
Methylene chloride	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA
trans-1,2-Dichloroethene	0.32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
1,1-Dichloroethane	175	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
1,2-Dichloroethane (EDC)	0.024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
1,1,1-Trichloroethane	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
Trichloroethene	0.00027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
Tetrachloroethene	0.0016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.025 U	0.025 U	0.025 U	NA	NA	NA	NA
SVOCs (only detected compounds)		SVOCs					SVOCs												SVOCs					
Naphthalene	0.0021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	0.039	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	0.029	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	0.051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	0.09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.00016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	see total cPAHs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	see total cPAHs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total cPAHs TEQ	0.00016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs		**PCBs**					**PCBs**												**PCBs**					
Aroclor 1221	see total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	see total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1016	see total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	see total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	see total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	see total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	see total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.057**	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1262	see total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1268	see total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Aroclors	0.03	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.057**	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tributyltin	PQL = 0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix D- Summary of 2000-2024 Soil Data - Non Metal Compounds
Bridge - Former Dawn Foods

Sample ID	LOWEST PCUL (mg/kg)	RI-SB-04 2-4' / DUP-022823	MW-8 11-13'	RI-SB08 5-10' DUP03-0224	RI-SB-09 10-12.5'	RI-SB-10 8-10'	RI-SB-11 0.5-2'	RI-SB-11 5-7.5'	RI-SB-13 7.9-9'	RI-SB-13 13.3-15'
Date Sample		2/28/2023	2/28/2023	2/29/2024	2/29/2024	2/27/2024	2/27/2024	2/27/2024	2/27/2024	2/27/2024
Depth ft. bgs		2 to 4	11 to 13	5 to 10	10 to 12.5	8 to 10	0.5 to 2	5 to 7.5	7.9 to 9	13.3 to 15
Zone		Vadose	Saturated	Saturated	Saturated	Saturated	Vadose	Vadose	Saturated	Saturated
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BTEX/GRO/DRO										
Benzene	5.60E-04	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	4.40E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	5.50E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range	100	**11**	5 U	NA	NA	**200**	NA	NA	NA	NA
Diesel Range Organics (DRO)	2000	**90**	50 U	NA	NA	**3,500**	NA	NA	NA	NA
Lube Range Oil (ORO)	2000	250 U	250 U	NA	NA	**7,300**	NA	NA	NA	NA
DRO/ORO (Diesel + Lube Oil)	2,000	**90**	250 U	NA	NA	**10,800**	NA	NA	NA	NA
VOCs										
Vinyl chloride	0.000056	NA	NA	NA	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroethane	No Criteria	NA	NA	NA	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	1.4	NA	NA	NA	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methylene chloride	0.03	NA	NA	NA	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.32	NA	NA	NA	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloroethane	175	NA	NA	NA	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	160	NA	NA	NA	0.1 U	0.05 U	**0.34**	**0.061**	0.05 U	0.05 U
1,2-Dichloroethane (EDC)	0.024	NA	NA	NA	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1,1-Trichloroethane	21	NA	NA	NA	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Trichloroethene	0.00027	NA	NA	NA	**0.088**	0.02 U	**0.29**	**0.092**	0.02 U	0.02 U
Tetrachloroethene	0.0016	NA	NA	NA	**3.6**	0.025 U	**4.7**	**2.7**	**0.14**	0.025 U
SVOCs (only detected compounds)										
Naphthalene	0.0021	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	0.039	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	20	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	0.029	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	0.051	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	0.09	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.67	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.00016	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	see total cPAHs	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	see total cPAHs	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.23	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total cPAHs TEQ	0.00016	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs										
Aroclor 1221	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1016	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1262	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1268	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Aroclors	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tributyltin	PQL = 0.004	NA	NA	0.00372 U /0.00385 U	0.00384 U	0.0021 U	NA	0.0013 U	NA	NA

Appendix D- Summary of 2000-2024 Soil Data - Non Metal Compounds
Bridge - Former Dawn Foods

Notes:
Bold = detection
Shading denotes a detected exceedance of a screening level
Preliminary Cleanup Levels (PCUL) for Lower Duwamish Waterway workbook, these have been developed by Ecology specifically for the LDW. These are based on the February 5, 2025 version. Source: https://apps.ecology.wa.gov/cleanupsearch/site/1643#site-documents.

[A] - No benzene present in soil
feet bgs = feet below ground surface
mg/kg = milligrams per kilograms
U = laboratory detection limit
J = reported concentration is an estimate.
NA = Not analyzed
ND = Not detected
MTCA - Model Toxics Control Act
PQL for tributyltin is based on Analytical Resources confirmation on April 2024
All non U qaulifers have been removed for this summary table.
blank cells = no result
For duplicates - highest value used.

TPH GRO - Total Petroleum Hydrocarbons Gasoline Range Organics
TPH DRO - Total Petroleum Hydrocarbons Diesel Range Organics
BTEX - Benzene, toluene, ethylbenzene, xylenes
CVOCs - Chlorinated Volatile Organic Compounds
SVOCs - Semi Volatile Organic Compounds
PCBs - Polychlorinated biphenyls
cPAHs - carcinogenic polycyclic aromatic hydrocarbons
x = Sample chromatographic pattern does not resemble the fuel standard used for quantitation.
ht - The re-run analysis was performed outside the method holding time requirement.

Appendix D- Summary Direct Push Borehole Groundwater Samples - Detected Compounds Only
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	Sample Count	Max Value	Is Max Value above SL (PCUL)?	Number of results above SL (PCUL)?	GP-SB-1	GP-SB-2	GP-SB-3	GP-SB-5	GP-SB-6	GP-SB-7	GP-SB-08	GP-SB-09	Dup (GP-SB-09)	GP-SB-10	GP-SB-11	GP-SB-12	GP-SB-13	GP-SB-14
Date Sampled						1/2/20	1/2/20	1/2/20	1/2/20	1/2/20	1/2/20	6/9/20	6/9/20	6/9/20	6/9/20	6/9/20	6/9/20	6/9/20	6/9/20
Within 75ft of the Shoreline? (See Note 1)						no	no	no	no	yes	no	yes	yes	yes	yes	no	no	no	no
Metals Total/Dissolved																			
Arsenic - dissolved	8	38.00	29.70	Yes	5.00	NA	NA	**6.92**	1 U		**29.7**					**4.61 ca**	1 Uca	NA	NA
Cadmium - dissolved	1.2	38.00	0.00	No	0.00	NA	NA	1 U	1 U		1 U					1 U	1 U	NA	NA
Chromium - dissolved	27.40	38.00	1.81	No	0.00	NA	NA	NA	NA		NA					NA	NA	NA	NA
Chromium VI - dissolved	1.60	38.00	0.00	No	0.00	NA	NA	NA	NA		NA					NA	NA	NA	NA
Copper - dissolved	3.1	38.00	2.73	No	0.00	NA	NA	25 U	25 U		5 U					**2.73**	2.4 UJ	NA	NA
Lead - dissolved	8.1	38.00	0.26	No	0.00	NA	NA	1 U	1 U		1 U					1 U	1 U	NA	NA
Mercury - dissolved	0.03	38.00	0.00	No	0.00	NA	NA	1 U	1 U		1 U					1 U	1 U	NA	NA
Nickel - dissolved	8.2	38.00	22.70	Yes	2.00	NA	NA	5 U	5 U		**22.7**					**10.9**	**2.37 J**	NA	NA
Zinc - dissolved	81	38.00	22300.00	Yes	4.00	NA	NA	25 U	25 U		**22,300**					**18.8**	**16.5 J**	NA	NA
TPH GRO/DRO																			
Gasoline Range Organics	1000	48.00	3300.00	Yes	1.00	100 U	**800**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**100**	**380**
Diesel Range Organics	see total	48.00	3100.00	see total	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Motor Oil Organics (ORO)	see total	48.00	490.00	see total	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics w/ SGC	see total	48.00	96.00	see total	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Motor Oil Organics (ORO) w/ SGC	see total	48.00	290.00	see total	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dx (DRO + ORO)	See TPH Dx difference	48.00	3100.00	see total	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dx (DRO + ORO) w/ SGC	500	48.00	290.00	No	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dx Difference (DRO + ORO - SGC)	500	48.00	3004.00	Yes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs																			
Benzene	1.6	48.00	0.00	No	0.00	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	NA	NA	0.35 U	0.35 U	NA	NA	NA	1 U	1 U
Ethylbenzene	21	48.00	5.10	No	0.00	1 U	1 U	1 U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	NA	1 U	**3.1**
Toluene	102	48.00	8.10	No	0.00	1 U	1 U	1U	1 U	1 U	NA	1 U	1 U	1 U	NA	NA	NA	NA	NA
Xylenes, Total	106	48.00	8.30	No	0.00	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	NA	NA	NA	1 U	**5.6**
Chloroethane	14666	48.00	0.00	No	0.00	1U	10 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
cis-1,2-Dichloroethene	182	48.00	400.00	Yes	1.00	**16**	**400**	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
1,2-Dichloroethane (EDC)	3.5	48.00	0.00	No	0.00	1U	10 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
1,1-Dichloroethane	11	48.00	0.00	No	0.00	1U	10 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
1,1-Dichloroethene	130	48.00	0.00	No	0.00	1U	10 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
trans-1,2-Dichloroethene	77	48.00	0.00	No	0.00	1U	10 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
Phenanthrene	No Criteria	48.00	0.04	No	0.00	NA	NA	NA	NA	0.04 U	NA	NA	0.02 U	**0.039**	NA	NA	NA	NA	NA
Methyl t-butyl ether	857	48.00	1.10	No	0.00	**1.1**	10 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
Methylene chloride	100	48.00	11.00	No	0.00	5U	10 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	5U	NA	NA
Tetrachloroethene	2.9	48.00	21.00	Yes	2.00	1 U	10 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
1,1,1-Trichloroethane	5440	48.00	0.00	No	0.00	1U	10 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
Trichloroethene	0.7	48.00	2.10	Yes	2.00	1 U	1 U	1U	1U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	1U	1U
Vinyl chloride	0.18	48.00	72.00	Yes	13.00	**44**	**72**	**0.31**	0.2 U	0.2 U	NA	0.1 U	1 U	1 U	NA	NA	**0.21**	NA	NA
Tributyltin	0.0052	48.00	0.00	No	0.00	NA	NA	NA	NA	NA	NA	NA	0.31U	0.36U	NA	NA	NA	NA	NA

Appendix D- Summary Direct Push Borehole Groundwater Samples - Detected Compounds Only
Bridge - Former Dawn Foods

Sample ID		GP-SB-15	GP-SB-16	GP-SB-17	GP-SB-18	GP-SB-19	GP-SB-20	GP-SB-21	GP-SB-22	GP-SB-23	GP-SB-24	GP-SB-25	GP-SB-27	GP-SB-28	GP-SB-29	GP-SB-30	GP-SB-31	GP-SB-32	RI-SB-01	RI-SB-02 / Duplicate	RI-SB-04	RI-SB-05	RI-SB-06
Date Sampled	PCUL (ug/L)	6/9/20	12/1/20	12/1/20	12/1/20	12/1/20	12/1/20	12/1/20	12/1/20	12/1/20	12/1/20	12/5/20	12/5/20	12/5/20	12/5/20	12/12/20	12/12/20	12/12/20	12/18/21	12/18/21	2/28/23	2/28/23	2/28/23
Within 75ft of the Shoreline? (See Note 1)		no	no	no	no	no	yes	yes	yes	yes	yes	no	no	no	no	no	no	no	no	no	yes	no	no
Sample results are in ug/L																							
Metals Total/Dissolved																							
Arsenic - dissolved	8	NA	NA	NA	**14.8**	**1.85**						**5.05**	1 U	1 U	1 U	**11.3**	**16.4**	NA	1 U	**1.29 / 1.20**	0.162 U	**0.766**	**11.1**
Cadmium - dissolved	1.2	NA	NA	NA	1 U	1 U						1U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U / 1 U	0.061 U	0.061 U	0.061 U
Chromium - dissolved	27.40	NA	NA	NA	**1.72**	10 U						1 U	1 U	1 U	1 U	1 U	**1.19**	NA	**1.39**	**2.12 / 2.06**	1.72 U	1.72 U	**3.48 J**
Chromium VI - dissolved	1.60	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper - dissolved	3.1	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA	NA	NA	NA	0.505 U	0.505 U	0.505 U
Lead - dissolved	8.1	NA	NA	NA	1 U	1 U						1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U / 1 U	0.061 U	0.061 U	0.061 U
Mercury - dissolved	0.03	NA	NA	NA	1 U	1 U						1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U / 1 U	NA	NA	NA
Nickel - dissolved	8.2	NA	NA	NA	**5.30**	10 U						**1.62**	**2.33**	**3.28**	**3.41**	**2.96**	**4.49**	NA	**1.95**	**1.66 / 1.62**	1.21 U	**1.41 J**	**2.17 J**
Zinc - dissolved	81	NA	NA	NA	**7.01**	50U						**14.6**	5 U	**6.36**	**209**	**33.0**	**12.3**	NA	**5.49**	**10.7 / 9.96**	7.07 U	**123**	**8.80 J**
TPH GRO/DRO																							
Gasoline Range Organics	1000	**3,300**	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U / 100 U	NA	NA	NA
Diesel Range Organics	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0:00**	**65 / 710**	NA	NA	NA
Motor Oil Organics (ORO)	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0:00**	**250 U / 290**	NA	NA	NA
Diesel Range Organics w/ SGC	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U / 50 U	NA	NA	NA
Motor Oil Organics (ORO) w/ SGC	see total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**290**	250 U / 250 U	NA	NA	NA
Total Dx (DRO + ORO)	See TPH Dx difference	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**640**	**65 / 1,000**	NA	NA	NA
Total Dx (DRO + ORO) w/ SGC	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**290**	250 U / 250 U	NA	NA	NA
Total Dx Difference (DRO + ORO - SGC)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**350**	**65/ 750**	NA	NA	NA
VOCs																							
Benzene	1.6	1U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA
Ethylbenzene	21	**5.1**	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA
Toluene	102	**8.1**	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA
Xylenes, Total	106	**8.3**	3 U	3 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3 U	3 U	NA	NA	NA	NA	NA
Chloroethane	14666	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U / 1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	182	**11**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U / 1 U	1 U	1 U	1 U
1,2-Dichloroethane (EDC)	3.5	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2 U	0.2 U / 0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethane	11	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U / 1 U	1 U	1 U	1 U
1,1-Dichloroethene	130	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U / 1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	77	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U / 1 U	1 U	1 U	1 U
Phenanthrene	No Criteria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl t-butyl ether	857	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	100	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.20**	**0:00**	5 U	5 U	5 U
Tetrachloroethene	2.9	**2.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.6**	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5440	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U
Trichloroethene	0.7	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.18	**1.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.21**	**0.3**	**0.50**	**0.55**	**0.40**
Tributyltin	0.0052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix D- Summary Direct Push Borehole Groundwater Samples - Detected Compounds Only
Bridge - Former Dawn Foods

Sample ID		RI-SB-07 DUP05-0224	RI-SB-08 DUP04-0224	RI-SB-09 DUP02-0224	RI-SB-10	RI-SB-11	RI-SB-12	RI-SB-13	RI-SB-14	RI-SB-15	RI-SB-16	RI-SB-17	RI-SB-18
Date Sampled	PCUL (ug/L)	**2/29/24**	**2/29/24**	**2/29/24**	**2/27/24**	**2/27/24**	**2/27/24**	**2/27/24**	**2/27/24**	**2/28/24**	**2/28/24**	**2/28/24**	**2/28/24**
Within 75ft of the Shoreline? (See Note 1)		**yes**	**yes**	**no**	**no**	**no**	**no**	**no**	**no**	**no**	**no**	**no**	**no**
Metals Total/Dissolved													
Arsenic - dissolved	8	NA	**4.30**	**1.93**	**1.13**	**0.996**	NA	NA	NA	NA	NA	NA	NA
Cadmium - dissolved	1.2	NA	0.061 U	0.061 U	0.061 U	0.061 U	NA	NA	NA	NA	NA	NA	NA
Chromium - dissolved	27.40	NA	1.72 U	4.29 U	**1.92 J**	**1.81**	NA	NA	NA	NA	NA	NA	NA
Chromium VI - dissolved	1.60	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper - dissolved	3.1	NA	0.505 U	0.505 U	0.505 U	**1.14**	NA	NA	NA	NA	NA	NA	NA
Lead - dissolved	8.1	NA	0.061 U	0.061 U	0.061 U	**0.257**	NA	NA	NA	NA	NA	NA	NA
Mercury - dissolved	0.03	NA	0.00014 U	**0.00019**	**0.00249**	**0.00373**	NA	NA	NA	NA	NA	NA	NA
Nickel - dissolved	8.2	NA	1.21 U	1.21 U	1.21 U	**2.3**	NA	NA	NA	NA	NA	NA	NA
Zinc - dissolved	81	NA	**21.7 J**	17.7 U	**7.29 J**	**102**	NA	NA	NA	NA	NA	NA	NA
TPH GRO/DRO													
Gasoline Range Organics	1000	NA	NA	NA	**720**	NA	NA	NA	NA	NA	NA	NA	100 U
Diesel Range Organics	see total	NA	NA	NA	**0:00**	NA	NA	NA	NA	NA	NA	NA	NA
Motor Oil Organics (ORO)	see total	NA	NA	NA	250 U	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Organics w/ SGC	see total	NA	NA	NA	**0:00**	NA	NA	NA	NA	NA	NA	NA	NA
Motor Oil Organics (ORO) w/ SGC	see total	NA	NA	NA	250 U	NA	NA	NA	NA	NA	NA	NA	NA
Total Dx (DRO + ORO)	See TPH Dx difference	NA	NA	NA	**3100**	NA	NA	NA	NA	NA	NA	NA	NA
Total Dx (DRO + ORO) w/ SGC	500	NA	NA	NA	**0:00**	NA	NA	NA	NA	NA	NA	NA	NA
Total Dx Difference (DRO + ORO - SGC)	500	NA	NA	NA	**3004**	NA	NA	NA	NA	NA	NA	NA	NA
VOCs													
Benzene	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	102	0.5 U / 0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	106	0.02 U / 0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	14666	1 U / 1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	182	1 U / 1 U	1 U	**1.4**	**1.2**	**11**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane (EDC)	3.5	0.2 U / 0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethane	11	1 U / 1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	130	1 U / 1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	77	1 U / 1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Phenanthrene	No Criteria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl t-butyl ether	857	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	100	5 U / 5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	2.9	1 U / 1 U	1 U	**2.9**	1 U	**21**	1 U	**4.1**	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5440	1 U / 1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	0.7	0.5 U / 0.5 U	0.5 U	**0.76**	1 U	**2.1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.18	0.02 U / 0.02 U	**0.10**	**0.022**	**0.11**	**0.70**	**0.14**	**0.13**	0.02 U	**0.57**	**0.90**	**0.44**	0.02 U
Tributyltin	0.0052	NA	0.0052 U	0.0052 U	0.0052 U	0.0052 U	NA	NA	NA	NA	NA	NA	NA

Appendix D- Summary of Direct Push Borehole Groundwater Samples - Detected Compounds Only
Bridge - Former Dawn Foods

Notes:
Bold = detection
All qualifers other than "U" removed for stats analysis
For sample points within 75 feet of the shoreline, which are known to have high conductivity, dissolved metals are excluded. These are shown as blank results (non metal compounds from these locations is
Preliminary Cleanup Levels (PCUL) for Lower Duwamish Waterway workbook, these have been developed by Ecology specifically for the LDW. These are based on the Feb 2026 version. Source:
https://apps.ecology.wa.gov/cleanupsearch/site/1643#site-documents.
Cr Vi = Chromium VI (hexavalent chromium); Cr III = Chromium trivalent.
TEq - Toxicity Equivalency to cPAHs, calculated by multiplying result by appropriate TEF.
Ca = The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
x = Sample chromatographic pattern does not resemble the fuel standard used for quantitation.
ug/L = micrograms per liters
U = laboratory detection limit
J = reported concentration is an estimate.
NC - No Criterion
NA = Not analyzed
PQL for tributyltin is based on Analytical Resources confirmation on April 2024

TPH GRO - Total Petroleum Hydrocarbons Gasoline Range Organics
TPH DRO - Total Petroleum Hydrocarbons Diesel Range Organics
VOCs -Volatile Organic Compounds
ND = Not detected

Appendix D- Summary of Monitoring Well Groundwater Samples
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	Sample Count	Max Value	Is Max Value above SL (PCUL)?	Number of results above SL (PCUL)?	MW-1															
											MW-1 / D P01-0623 (d plicate)	MW-1 / D P03-0823 (d plicate)									
Date Sampled						2/1/22	4/19/22	8/8/22	12/21/22	3/25/23	6/21/23	8/29/23	10/19/23	1/10/24	4/26/24	6/6/24	9/24/24	2/26/25	5/27/25	9/15/25	1/4/26
Sample results are in ug/L																					
Metals Total/Dissolved																					
Arsenic - total	8.00	80.00	13.10	Yes	6.00	**1.70**	**1.62**	**1.38**	**1.19**	**1.35**	**1.42**	**1.25**	**1.47**	**1.65**	**1.38**	**1.32**					
Cadmium - total	1.20	78.00	1.14	No	0.00	**0.179**	**0.154**	**0.289**	**0.550**	**0.252**	**0.158**	**0.482**	**1.14**	**0.482**	**0.164**	**0.17**					
Chromium - total	27.40	97.00	16.40	No	0.00	**2.27**	1.72	1.72	1.72	1.72	1.72	1.72	4.29	1.72	1.72	1.72	1.72	1.72	1.72	1.72	
Copper - total	3.10	79.00	10.90	Yes	7.00	**4.12**	**2.16**	**1.46**	**2.25**	**1.91**	**1.49**	**1.70**	**2.39**	**2.38**	**1.60**	**1.64**					
Mercury - total	0.03	25.00	0.01	No	0.00									**0.00108**	**0.00073**	**0.00051**					
Nickel - total	8.20	72.00	8.88	Yes	1.00		1.21	1.21	**2.05**	1.21	1.21	**1.77**	**3.45**	**1.29**	1.21	1.21					
Lead - total	8.10	78.00	3.64	No	0.00	**0.332**	**0.053**	0.061	0.061	0.061	0.061	**0.107**	0.152	0.061	0.091	0.091					
Zinc - total	81	101.00	3110.00	Yes	40.00	**278**	**292**	**225**	**652**	**388**	**237**	**398**	**949**	**496**	**289**	**282**	**487**	**319**	**227**	**198**	**116**
Arsenic - dissolved	8.00	80.00	13.40	Yes	6.00	**1.23**	**1.58**	**1.37**	**1.14**	**1.41**	**1.56**	**1.26**	**1.52**	**1.58**	**1.40**	**1.24**					
Cadmium - dissolved	1.20	78.00	1.13	No	0.00	**0.175**	**0.159**	**0.235**	**0.532**	**0.215**	**0.146**	**0.502**	**1.13**	**0.523**	**0.162**	**0.17**					
Chromium - dissolved	27.40	91.00	4.31	No	0.00	1.72	1.72	1.72	1.72	1.72	1.72	1.72	4.29	1.72	1.72	1.72			1.72	1.72	
Chromium VI - dissolved	1.60	24.00	0.89	No	0.00										**1.49**	**0.265**	**0.204**	**0.25**	**0.194**	**0.283**	
Copper - dissolved [b]	3.10	78.00	6.18	Yes	1.00	**2.30**	**2.07**	**1.56**	**2.14**	**2.91**	**1.44**	**1.81**	**1.94**	**2.02**	**1.63**	**1.67**					
Mercury - dissolved	0.03	25.00	0.00	No	0.00									**0.00101**	**0.00072**	**0.00055**					
Nickel - dissolved	8.20	72.00	4.70	No	0.00		1.21	**1.37**	**1.85**	1.21	1.21	**1.57**	**3.7**	1.22	1.21	1.21					
Lead - dissolved	8.10	78.00	1.52	No	0.00	0.04	0.04	0.061	0.061	0.061	0.061	**0.102**	1.52	0.061	0.091	0.09					
Zinc - dissolved	81	101.00	2660.00	Yes	37.00	**260**	**282**	**209**	**637**	**380**	**235**	**386**	**956**	**528**	**290**	**261**	**508**	**289**	**219**	**212**	**87.4**
GRO/DRO - NWTPH-Dx/-Gx																					
Gasoline Range Organics	1000	28.00	2900.00	Yes	8.00			100						100							
Diesel Range Organics	see total	26.00	2100.00	see total	see total			50						50							
Diesel Range Organics w/ SGC	see total	18.00	1100.00	see total	see total									50							
Motor Oil Organics (ORO)	see total	26.00	590.00	see total	see total			250						250							
Motor Oil Organics (ORO) w/ SGC	see total	18.00	250.00	see total	see total									250							
Total Dx (DRO + ORO)	See TPH Dx difference	24.00	2640.00	see total	see total			250						250							
Total Dx (DRO + ORO) w/ SGC	500	18.00	1100.00	Yes	6.00									250							
Total Dx Difference*	500	21.00	2390.00	Yes	2.00									250							
VOCs																					
Benzene	1.6	11.00	1.00	No	0.00									1							
Toluene	102	11.00	6.50	No	0.00									1							
Ethylbenzene	21	11.00	2.50	No	0.00									1							
Xylenes, Total	106	11.00	6.10	No	0.00									3							
Chloroethane	14666	87.00	1.00	No	0.00		1		1	1	1	1		1	1	1	1	1	1	1	1
1,1,1-Trichloroethane	5440	87.00	1.00	No	0.00		1		1	1	1	1		1	1	1	1	1	1	1	1
1,1-Dichloroethane	11	86.00	1.00	No	0.00		1		1	1	1	1		1	1	1	1	1	1	1	1
1,1-Dichloroethene	130	87.00	1.00	No	0.00		1		1	1	1	1		1	1	1	1	1	1	1	1
1,2-Dichloroethane (EDC)	3.5	87.00	0.20	No	0.00		0.2		0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
trans-1,2-Dichloroethene	77	87.00	1.90	No	0.00		1		1	1	1	1		1	1	1	1	1	1	1	1
cis-1,2-Dichloroethene	182	87.00	48.00	No	0.00		1		1	1	1	1		1	1	1	1	1	1	1	1
Methylene chloride	100	87.00	7.10	No	0.00		5		5	5	5	5		5	5	5	5	5	5	5	5
Trichloroethane	No critiera	36.00	1.00	No	0.00		1		1	1	1				1						
Tetrachloroethene	2.9	87.00	20.00	Yes	22.00		1		1	1	1	1		1	1	1	1	1	0.5	0.5	0.5
Trichloroethene	0.70	87.00	1.80	Yes	17.00		0.5		0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05
Vinyl chloride	0.18	87.00	47.00	Yes	48.00		**0.021**		0.02	0.02	0.02	0.02		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Appendix D- Summary of Monitoring Well Groundwater Samples
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	MW-2																	
Date Sampled		1/31/22	4/19/22	8/9/22	12/22/22	3/26/23	6/19/23	8/29/23	1/22/24	4/24/24	6/5/24	9/23/24	5/28/25	9/16/25	11/4/25	11/4/25	11/4/25	11/4/25	11/5/25
Sample results are in ug/L																			
Metals Total/Dissolved																			
Arsenic - total	8.00	**3.14**	**3.97**	**3.32**	**4.46**	**2.86**	**3.72**	**3.62**	**3.48**	**3.56**	**3.64**								
Cadmium - total	1.20	0.061	0.061	**0.225**	**0.178**	0.152	**0.137**	**0.311**	**0.067**	0.061	**0.09**								
Chromium - total	27.40	1.72	1.72	1.72	**5.06**	4.29	1.72	**2.39**	**2.21**	1.72	1.72	4.29	**5.24**	4.29	1.72	1.72	1.72	**2.06**	1.72
Copper - total	3.10	**1.10**	**3.10**	**1.51**	**9.56**	1.26	**2.87**	**2.80**	**1.17**	**1.33**	**1.08**								
Mercury - total	0.03								**0.00032**	**0.00043**	**0.00044**								
Nickel - total	8.20		**1.31**	**1.64**	**4.35**	3.03	1.21	**3.54**	1.21	1.21	1.21								
Lead - total	8.10	**0.081**	**0.725**	**0.194**	**2.55**	0.152	**0.589**	**0.229**	0.061	**0.137**	0.091								
Zinc - total	81	7.07	7.07	7.07	**11**	17.7	7.07	**14.3**	7.07	12.1	12.1								
Arsenic - dissolved	8.00	**3.37**	**3.48**	**3.29**	**2.94**	**2.82**	**3.42**	**3.21**	**3.64**	**3.58**	**3.42**								
Cadmium - dissolved	1.20	**0.071**	0.061	**0.214**	**0.131**	0.152	**0.154**	**0.270**	**0.077**	**0.077**	**0.087**								
Chromium - dissolved	27.40	1.72	1.72	1.72	1.72	4.29	1.72	1.72	1.72	1.72	1.72		4.29	4.29	1.72	1.72	1.72	1.72	1.72
Chromium VI - dissolved	1.60									**1.51**	**0.522**	**0.645**	**0.398**	**0.145**	**0.594**	**0.505**	**0.517**	**0.658**	**0.658**
Copper - dissolved [b]	3.10	**1.13**	**1.02**	**1.13**	**1.30**	1.26	**1.44**	**1.38**	**1.02**	**0.94**	**1.22**								
Mercury - dissolved	0.03								**0.00022**	**0.00031**	**0.00022**								
Nickel - dissolved	8.20		1.21	1.21	1.21	3.03	1.21	**1.68**	1.21	1.21	1.21								
Lead - dissolved	8.10	0.04	0.04	0.061	0.061	0.152	0.061	**0.089**	0.061	0.091	**0.06**								
Zinc - dissolved	81	7.07	7.07	7.07	7.07	17.7	7.07	**10.9**	7.07	12.1	12.10								
GRO/DRO - NWTPH-Dx/-Gx																			
Gasoline Range Organics	1000			**1,000**	**100**				100										
Diesel Range Organics	see total			50					50										
Diesel Range Organics w/ SGC	see total								50										
Motor Oil Organics (ORO)	see total			250					250										
Motor Oil Organics (ORO) w/ SGC	see total								250										
Total Dx (DRO + ORO)	See TPH Dx difference			250					250										
Total Dx (DRO + ORO) w/ SGC	500								250										
Total Dx Difference*	500								250										
VOCs																			
Benzene	1.6								1										
Toluene	102								1										
Ethylbenzene	21								1										
Xylenes, Total	106								3										
Chloroethane	14666			1		1			1										
1,1,1-Trichloroethane	5440			1		1			1										
1,1-Dichloroethane	11			1		1			1										
1,1-Dichloroethene	130			1		1			1										
1,2-Dichloroethane (EDC)	3.5			0.2		0.2			0.2										
trans-1,2-Dichloroethene	77			1		1			1										
cis-1,2-Dichloroethene	182			1		1			1										
Methylene chloride	100			5		5			5										
Trichloroethane	No critiera			1		1													
Tetrachloroethene	2.9			1		1			1										
Trichloroethene	0.70			0.5		0.5			0.5										
Vinyl chloride	0.18			0.02		0.02			0.02										

Appendix D- Summary of Monitoring Well Groundwater Samples
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	MW-3													MW-4												
															MW-4 / D P-0124 (duplicate)									D P01-0525			
Date Sampled		1/30/22	4/20/22	8/8/22	12/22/22	3/26/23	6/21/23	8/29/23	1/12/24	4/25/24	6/5/24	5/28/25	9/17/25	1/5/26	2/2/22	4/20/22	8/9/22	12/22/22	3/26/23	6/19/23	8/30/23	1/11/24	4/24/24	6/7/24	9/25/24	2/25/25	5/29/25	9/16/25
Sample results are in ug/L																											
Metals Total/Dissolved																											
Arsenic - total	8.00	**3.06**	**3.66**	**3.08**	**2.74**	**3.37**	**2.80**	**3.32**	**4.39**	**2.95**					**0.586**	**0.41**	**0.204**	**0.162**	**0.163**	**0.204**	**0.276**	0.162	**0.288**	0.222				
Cadmium - total	1.20	**0.168**	**0.293**	**0.254**	**0.148**	0.152	**0.246**	**0.297**	0.152	0.152					0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061				
Chromium - total	27.40	4.29	4.29	4.29	**16.4**	4.29	1.72	**3.58**	**4.73**	4.29		**5.24**	4.29		1.72	1.72	1.72	1.72	1.72	1.72	1.72	**1.82**	1.72	1.72				
Copper - total	3.10	**1.09**	**3.30**	**2.20**	**2.60**	4.64	**2.65**	**4.91**	**10.9**	2.3				**5.98**	0	**0**	1	**1**	**1**	1	**1**	**1**	**1**	0.909				
Mercury - total	0.03								**0.00820**	**0.00062**												**0.00019**	0.00013	0.00014				
Nickel - total	8.20		3.03	**3.35**	**8.88**	3.03	**1.34**	**4.17**	**4.81**	3.03						**2.11**	1.21	**1.23**	**1.94**	1.21	1.21	1.21	1.21	1.21				
Lead - total	8.10	0.101	**0.595**	**0.292**	**0.351**	**0.920**	**0.558**	**1.59**	**3.64**	0.23					0.04	0.04	0.061	0.061	0.061	0.061	**0.1**	0.061	0.091	0.091				
Zinc - total	81	17.7	17.7	17.7	7.07	17.7	7.07	**17**	17.7	30.3					**535**	**446**	**106**	**534**	**1,380**	**285**	**212**	**687 / 764**	**1,170**	**368**	**145**	**256**	12.1	12.1
Arsenic - dissolved	8.00	**4.10**	**3.07**	**3.10**	**2.54**	**2.59**	**2.28**	**2.33**	**1.95**	**2.45**					**0.645**	**0.323**	**0.165**	**0.162**	0.162	0.162	0.162	0.162	0.222	0.222				
Cadmium - dissolved	1.20	**0.221**	**0.247**	**0.296**	**0.175**	0.152	**0.18**	**0.258**	0.152	0.152					0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061				
Chromium - dissolved	27.40	4.29	4.29	4.29	**2.49**	4.29	1.72	**1.83**	4.29	4.29		4.29	4.29		1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72				
Chromium VI - dissolved	1.60											**0.398**	**0.145**															
Copper - dissolved [b]	3.10	**6.18**	**1.59**	**1.43**	**1.70**	**1.37**	**1.33**	**1.28**	1.26	2.27				**3.01**	**0.635**	**0.514**	**1.66**	**0.553**	**1.33**	0.505	0.505	0.505	0.909	0.909				
Mercury - dissolved	0.03								**0.00031**	0.00013												0.00014	0.00013	0.00014				
Nickel - dissolved	8.20		3.03	**4.7**	**4.36**	3.03	1.21	**2.48**	3.03	3.03						**2.02**	**1.76**	**1.45**	**2.04**	1.21	1.21	1.21	1.21	1.21				
Lead - dissolved	8.10	**1.49**	0.101	0.152	0.061	0.152	0.061	**0.089**	0.152	0.227					0.04	0.04	0.061	0.061	0.061	0.061	0.061	0.061	0.091	0.091				
Zinc - dissolved	81	17.7	17.7	17.7	7.07	17.7	7.07	**11.5**	17.7	30.3					**516**	**399**	**99.4**	**533**	**1310**	**278**	**167**	**664**	**1080**	**332**	**136**	12.1	12.1	12.1 / 12.1
GRO/DRO - NWTPH-Dx/-Gx																												
Gasoline Range Organics	1000								100								100					100						
Diesel Range Organics	see total								50								50					50						
Diesel Range Organics w/ SGC	see total								50													50						
Motor Oil Organics (ORO)	see total								250								250					250						
Motor Oil Organics (ORO) w/ SGC	see total								250													250						
Total Dx (DRO + ORO)	See TPH Dx difference								250								250					250						
Total Dx (DRO + ORO) w/ SGC	500								250													250						
Total Dx Difference*	500								250								250					250						
VOCs																												
Benzene	1.6								1													1						
Toluene	102								1													1						
Ethylbenzene	21								1													1						
Xylenes, Total	106								3													3						
Chloroethane	14666					1	1	1	1							1		1	1	1	1	1	1	1	1	1	1	1
1,1,1-Trichloroethane	5440					1	1	1	1							1		1	1	1	1	1	1	1	1	1	1	1
1,1-Dichloroethane	11					1	1	1	1							1		1	1	1	1	1	1	1	1	1	1	1
1,1-Dichloroethene	130					1	1	1	1							1		1	1	1	1	1	1	1	1	1	1	1
1,2-Dichloroethane (EDC)	3.5					0.2	0.2	0.2	0.2							0.2		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
trans-1,2-Dichloroethene	77					1	1	1	1							1		1	1	1	1	1	1	1	1	1	1	1
cis-1,2-Dichloroethene	182					1	1	1	1							**2.5**		**1.8**	1	**1.5**	**1.5**	1	1	**1.3**	**2.1**	**1**	**2.3**	**5.1**
Methylene chloride	100					5	5	5	5							5		5	5	5	5	5	5	5	5	5	5	5
Trichloroethane	No critiera					1	1									0.5		1	1									
Tetrachloroethene	2.9					1	1	1	1							1		**1.2**	**1.9**	**2.4**	**4.8**	1	**3.1**	**3.1**	**5.8**	**0.94**	**1.9**	**1.6**
Trichloroethene	0.70					0.5	0.5	0.5	0.5							0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	**0.16**	**0.44**	**1.3**
Vinyl chloride	0.18					0.02	0.02	0.02	0.02							**0.59**		**0.53**	**0.11**	**0.35**	**0.41**	**0.3**	**0.19**	**0.39**	**0.26**	**0.57**	**1.2**	**1.9**

Appendix D- Summary of Monitoring Well Groundwater Samples
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	D P01-0126	MW-5	MW-5 / D P-0422 (d plicate)	MW-5 / D P-0822 (d plicate)						D P01-0624		D P01-0225			
Date Sampled		1/6/26	1/31/22	4/21/22	8/9/22	12/21/22	3/25/23	6/19/23	8/28/23	1/22/24	4/25/24	6/6/24	9/25/24	2/26/2025	5/27/25	9/15/25	1/7/26
Sample results are in ug/L																	
Metals Total/Dissolved																	
Arsenic - total	8.00		**2.08**	**0.681**	0.182	**0.297**	**0.555**	**0.980**	**0.719**	0.162	**0.434**	**0.43**					
Cadmium - total	1.20		0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061					
Chromium - total	27.40		1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72		1.72	1.72		
Copper - total	3.10		**1.3**	0.404	0.505	0.505	**0.595**	0.505	0.505	0.505	0.909	0.909					
Mercury - total	0.03									**0.00016**	0.00014	0.00014					
Nickel - total	8.20			1.21	1.21	1.21	**1.86**	1.21	1.21	1.21	1.21	1.21					
Lead - total	8.10		**2.09**	**0.142**	0.061	**0.063**	**0.074**	0.061	**0.075**	0.061	0.091	0.091					
Zinc - total	81	12.1	**1,930**	**268**	**36.9**	**240**	**684**	**638**	**286**	**108**	**56.3**	**178**	**69.2**	**3010**	**3,110**	**1,070**	**567**
Arsenic - dissolved	8.00		**1.98**	**0.568**	0.182	**0.309**	**0.443**	**0.860**	**0.584**	0.162	**0.408**	**0.427**					
Cadmium - dissolved	1.20		0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061					
Chromium - dissolved	27.40		1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72			1.72		
Chromium VI - dissolved	1.60													0.025	0.025		
Copper - dissolved [b]	3.10		0.404	0.404	1.26	**1.46**	0.505	0.505	0.505	0.505	0.909	0.909					
Mercury - dissolved	0.03									0.00013	0.00014	0.00014					
Nickel - dissolved	8.20			1.21	3.03	**1.52**	1.21	1.21	1.21	1.21	1.21	1.21					
Lead - dissolved	8.10		**0.147**	**0.093**	0.061	**0.116**	0.061	0.061	**0.093**	0.061	0.091	0.091					
Zinc - dissolved	81	12.1	**1,880**	**122**	**34.9**	**241**	**700**	**633**	**202**	**76.0**	**37.0**	**48.2**	**12.3**	**2660**	**2,050**	**987**	**456**
GRO/DRO - NWTPH-Dx/-Gx																	
Gasoline Range Organics	1000			100	100					100							
Diesel Range Organics	see total			**2,100**	**330**	**120**				**69**							**150**
Diesel Range Organics w/ SGC	see total			50						50							50
Motor Oil Organics (ORO)	see total			**540**	250	250				250							50
Motor Oil Organics (ORO) w/ SGC	see total			250						250							200
Total Dx (DRO + ORO)	See TPH Dx difference			**2,640**	**330**	**120**				**69**							**150**
Total Dx (DRO + ORO) w/ SGC	500			250						250							200
Total Dx Difference*	500			**2,390**		**120**				**19**							**100**
VOCs																	
Benzene	1.6			1						1							
Toluene	102			1						1							
Ethylbenzene	21			1						1							
Xylenes, Total	106			3						3							
Chloroethane	14666	1		1		1	1	1	1	1	1	1	1	1	1	1	1
1,1,1-Trichloroethane	5440	1		1		1	1	1	1	1	1	1	1	1	1	1	1
1,1-Dichloroethane	11	1		1		1	1	1	1	1	1	1	1	1	1	1	1
1,1-Dichloroethene	130	1		1		1	1	1	1	1	1	1	1	1	1	1	1
1,2-Dichloroethane (EDC)	3.5	0.2		0.2		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
trans-1,2-Dichloroethene	77	1		**1.9**		1	1	1	1	1	1	1	1	1	1	1	1
cis-1,2-Dichloroethene	182	1		**5**		**10**	**6.3**	**4.1**	**2.8**	**1.6**	1	1	1	**13**	**2.3**	**1.0**	1
Methylene chloride	100	5		5		5	5	5	5	5	5	5	5	5	5	5	5
Trichloroethane	No critiera			1		1	1				1						
Tetrachloroethene	2.9	**0.91**		**6.1**		**5.9**	**9.8**	**9.1**	**20**	**1.0**	**8.4**	**11.0**	**11**	**3.8**	**1.6**	**4.3**	**5.9**
Trichloroethene	0.70	**0.32**		**1.7**		0.5	**0.53**	0.5	**0.58**	0.5	0.5	0.5	0.5	**0.98**	**0.10**	**0.26**	**1.2**
Vinyl chloride	0.18	**0.32**		**2.1**		**6.9**	**5.0**	**6.8**	**8.2**	**4.9**	**2.3**	**5.8**	**5.5**	**1.9**	**0.66**	**0.30**	**0.16**

Appendix D- Summary of Monitoring Well Groundwater Samples
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	MW-6										
					D P02-1222 (d plicate)							
Date Sampled		1/30/22	4/21/22	8/8/22	12/21/22	3/25/23	6/21/23	8/30/23	1/10/24	4/24/24	6/7/24	5/29/25
Sample results are in ug/L												
Metals Total/Dissolved												
Arsenic - total	8.00	**0.5**	**1.04**	**0.416**	**0.336**	0.404	0.404	**0.223**	**0.195**	**0.248**		
Cadmium - total	1.20	0.152	0.152	0.061	0.061	0.152	0.152	0.061	0.061	0.061		
Chromium - total	27.40	4.29	4.29	**2.29**	1.72	4.29	4.29	**1.85**	1.72	1.72		1.72
Copper - total	3.10	1.01	**1.3**	0.505	**0.99**	1.26	1.26	0.505	0.505	0.909		
Mercury - total	0.03								**0.00031**	**0.0003**		
Nickel - total	8.20		3.03	1.21	1.21	3.03	3.03	**1.32**	1.21	1.21		
Lead - total	8.10	0.101	**0.414**	**0.062**	0.061	**0.599**	0.152	0.061	0.061	0.091		
Zinc - total	81	17.7	17.7	7.07	7.07	17.7	17.7	7.07	7.07	12.1		
Arsenic - dissolved	8.00	**0.286**	**0.241**	**0.367**	**0.216**	0.404	0.404	**0.251**	0.162	0.222		
Cadmium - dissolved	1.20	0.152	0.152	0.061	0.061	0.152	0.152	0.061	0.061	0.061		
Chromium - dissolved	27.40	4.29	4.29	**1.9**	1.72	4.29	4.29	1.72	1.72	1.72		1.72
Chromium VI - dissolved	1.60											0.025
Copper - dissolved [b]	3.10	1.01	1.01	0.505	**0.707**	1.26	1.26	0.505	0.505	0.909		
Mercury - dissolved	0.03								0.00013	0.00013		
Nickel - dissolved	8.20		3.03	1.21	1.21	3.03	3.03	**1.23**	1.21	1.21		
Lead - dissolved	8.10	0.101	0.101	0.061	0.061	0.152	0.152	0.061	0.061	0.091		
Zinc - dissolved	81	17.7	17.7	7.07	7.07	17.7	17.7	7.07	7.07	12.1		
GRO/DRO - NWTPH-Dx/-Gx												
Gasoline Range Organics	1000								100			
Diesel Range Organics	see total								50			
Diesel Range Organics w/ SGC	see total								50			
Motor Oil Organics (ORO)	see total								250			
Motor Oil Organics (ORO) w/ SGC	see total								250			
Total Dx (DRO + ORO)	See TPH Dx difference								250			
Total Dx (DRO + ORO) w/ SGC	500								250			
Total Dx Difference*	500								250			
VOCs												
Benzene	1.6								1			
Toluene	102								1			
Ethylbenzene	21								1			
Xylenes, Total	106								3			
Chloroethane	14666			1	1	1		1	1	1	1	
1,1,1-Trichloroethane	5440			1	1	1		1	1	1	1	
1,1-Dichloroethane	11			1	1	1		1	1	1	1	
1,1-Dichloroethene	130			1	1	1		1	1	1	1	
1,2-Dichloroethane (EDC)	3.5			0.2	0.2	0.2		0.2	0.2	0.2	0.2	
trans-1,2-Dichloroethene	77			1	1	1		1	1	1	1	
cis-1,2-Dichloroethene	182			1	1	1		1	1	1	1	
Methylene chloride	100			**7.1**	5	5		5	5	5	5	
Trichloroethane	No critiera			1	1	1			1	1		
Tetrachloroethene	2.9			1	1	1		1	1	1	1	
Trichloroethene	0.70			0.5	0.5	0.5		0.5	0.5	0.5	0.5	
Vinyl chloride	0.18			**0.12**	**0.057**	0.02		**0.094**	0.02	**0.020**	0.020	

Appendix D- Summary of Monitoring Well Groundwater Samples
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	MW-7					
		D P03-0323 (d plicate)		D P01-0823		D P-0424	
Date Sampled		3/28/23	6/21/23	8/28/23	1/12/24	4/26/24	6/6/24
Sample results are in ug/L							
Metals Total/Dissolved							
Arsenic - total	8.00	**0.448**	**0.439**	**0.669**	**0.497**	**0.772**	**0.628**
Cadmium - total	1.20	0.061	0.061	0.061	0.061	0.061	0.061
Chromium - total	27.40	1.72	**1.97**	**4.82**	1.72	1.72	1.72
Copper - total	3.10	**0.655**	0.505	**0.506**	**0.57**	**1.21**	**0.926**
Mercury - total	0.03				0.00014	**0.0004**	0.00014
Nickel - total	8.20	1.21	**1.21**	**1.21**	1.12	1.21	1.21
Lead - total	8.10	0.061	0.061	**0.113**	0.061	**0.105**	0.091
Zinc - total	81	7.07	7.07	**9.39**	7.07	12.1	12.1
Arsenic - dissolved	8.00	**0.415**	**0.311**	**0.562**	0.162	0.222	0.222
Cadmium - dissolved	1.20	0.061	0.061	0.061	0.061	0.061	0.061
Chromium - dissolved	27.40	1.72	1.72	**4.31**	1.72	1.72	1.72
Chromium VI - dissolved	1.60						
Copper - dissolved [b]	3.10	**0.521**	**0.505**	0.505	0.505	0.909	0.909
Mercury - dissolved	0.03				**0.00019**	0.00013	0.00014
Nickel - dissolved	8.20	**1.4**	**1.21**	**1.21**	1.21	1.21	1.21
Lead - dissolved	8.10	0.061	0.061	**0.225**	0.061	0.091	0.091
Zinc - dissolved	81	7.07	7.07	**10.6**	7.07	12.1	12.1
GRO/DRO - NWTPH-Dx/-Gx							
Gasoline Range Organics	1000				100		
Diesel Range Organics	see total				50		
Diesel Range Organics w/ SGC	see total				50		
Motor Oil Organics (ORO)	see total				250		
Motor Oil Organics (ORO) w/ SGC	see total				250		
Total Dx (DRO + ORO)	See TPH Dx difference				250		
Total Dx (DRO + ORO) w/ SGC	500				250		
Total Dx Difference*	500				250		
VOCs							
Benzene	1.6				1		
Toluene	102				1		
Ethylbenzene	21				1		
Xylenes, Total	106				3		
Chloroethane	14666	1		1	1	1	1
1,1,1-Trichloroethane	5440	1		1	1	1	1
1,1-Dichloroethane	11	1		1	1	1	1
1,1-Dichloroethene	130	1		1	1	1	1
1,2-Dichloroethane (EDC)	3.5	0.2		0.2	0.2	0.2	0.2
trans-1,2-Dichloroethene	77	1		1	1	1	1
cis-1,2-Dichloroethene	182	1		1	1	1	1
Methylene chloride	100	5		5	5	5	5
Trichloroethane	No critiera			1	1		
Tetrachloroethene	2.9	1		1	1	1	1
Trichloroethene	0.70	0.5		0.5	0.5	0.5	0.5
Vinyl chloride	0.18	**0.15**		**0.61**	0.02	0.02	0.02

Appendix D- Summary of Monitoring Well Groundwater Samples
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	MW-8											MW-9						
		D P01-0323 (d plicate)											D P02-0323 (d plicate)						
Date Sampled		3/25/23	6/19/23	8/28/23	1/10/24	4/24/24	6/5/24	9/23/24	2/25/25	5/28/25	9/17/25	1/5/26	3/28/23	6/19/23	8/28/23	1/9/24	4/25/24	6/7/24	1/5/26
Sample results are in ug/L																			
Metals Total/Dissolved																			
Arsenic - total	8.00	**8.55**	**4.94**	**9.72**	**5.08**	**2.99**	**4.12**						**3.59**	**8.83**	**13.1**	**9.05**	**10.4**	**6.66**	**5.09**
Cadmium - total	1.20	0.061	0.061	0.061	0.061	0.061	0.061						0.061	0.061	0.061	0.061	0.061	0.061	
Chromium - total	27.40	1.72	1.72	1.72	1.72	1.72	1.72						1.72	1.72	1.72	1.72	1.72	1.72	
Copper - total	3.10	**1.04**	0.505	0.505	0.505	**1.15**	**0.96**						**0.556**	**2.58**	0.505	**0.699**	0.909	0.909	
Mercury - total	0.03				**0.00080**	**0.00016**	0.00014									**0.00036**	0.00014	**0.00029**	
Nickel - total	8.20	**2.17**	**1.84**	**1.87**	**1.72**	**1.94**	1.21						**1.23**	1.21	1.21	1.21	**1.59**	**1.26**	
Lead - total	8.10	0.061	0.061	**0.098**	0.061	0.091	0.091						0.061	**0.132**	**0.081**	**0.099**	0.091	0.091	
Zinc - total	81	7.07	7.07	**10.8**	7.07	12.1	12.1						7.07	**9.03**	**8.84**	7.07	12.1	12.1	
Arsenic - dissolved	8.00	**8.4**	**4.61**	**9.07**	**5.61**	**2.74**	**4.25**						**3.31**	**9.62**	**13.4**	**8.50**	**10.6**	**6.6**	**4.84**
Cadmium - dissolved	1.20	0.061	0.061	0.061	0.061	0.061	0.061						0.061	0.061	0.061	0.061	0.061	0.061	
Chromium - dissolved	27.40	1.72	1.72	1.72	1.72	1.72	1.72						1.72	1.72	1.72	1.72	1.72	1.72	
Chromium VI - dissolved	1.60																		
Copper - dissolved [b]	3.10	**0.907**	**0.505**	0.505	0.505	0.909	0.909						0.505	0.505	0.505	0.505	0.909	0.909	
Mercury - dissolved	0.03				**0.00039**	0.00014	0.00014									0.00014	0.00014	0.00014	
Nickel - dissolved	8.20	**2.31**	**1.88**	**1.71**	**1.59**	**1.91**	1.21						1.21	1.21	1.21	1.21	**1.59**	1.21	
Lead - dissolved	8.10	0.061	0.061	**0.112**	0.061	0.091	0.091						0.061	0.061	**0.102**	0.061	0.091	0.091	
Zinc - dissolved	81	7.07	7.07	**10.1**	7.07	12.1	12.1						7.07	7.07	**9.71**	7.07	12.1	12.1	
GRO/DRO - NWTPH-Dx/-Gx																			
Gasoline Range Organics	1000	**2,300**	**1,500**	**1,300**	**1,900**	**2,900**	**2,900**				**2400**	**2100**	0:00		100	100	100	100	
Diesel Range Organics	see total		**380**		**650**	**760**	**1200**			**1200**	**980**	**780**				50	50	50	
Diesel Range Organics w/ SGC	see total				**550**	**810**	**1000**			**1100**	**810**	**670**				50			
Motor Oil Organics (ORO)	see total		**590**		250	250	250			200	200	200				250	250	250	
Motor Oil Organics (ORO) w/ SGC	see total				250	250	250			200	200	200				250			
Total Dx (DRO + ORO)	See TPH Dx difference		**590**		**650**	**760**	**1200**			**1200**	**980**	**780**				250			
Total Dx (DRO + ORO) w/ SGC	500				**550**	**810**	**1000**			**1100**	**810**	**670**				250			
Total Dx Difference*	500		**590**		**100**	**50**	**200**			**100**	**170**	**110**				250			
VOCs																			
Benzene	1.6				1											1			
Toluene	102				**6.5**											1			
Ethylbenzene	21				**2.5**											1			
Xylenes, Total	106				**6.1**											3			
Chloroethane	14666	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1,1,1-Trichloroethane	5440	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1,1-Dichloroethane	11	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1
1,1-Dichloroethene	130	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1,2-Dichloroethane (EDC)	3.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
trans-1,2-Dichloroethene	77	1	**1.5**	1	**1.4**	1	1	1	1	1	1	1	1	1	1	1	1	1	1
cis-1,2-Dichloroethene	182	**9.0**	**14**	**4.4**	**30**	**3.6**	**3.8**	**4.6**	**3.4**	**2.9**	**4.5**	**3.2**	**6.1**	**12**	**6.1**	**11**	**18**	**41**	**12**
Methylene chloride	100	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Trichloroethane	No critiera	1	1	1	1	1							1	1	1	1	1		
Tetrachloroethene	2.9	**2.6**	**2.2**	**5.6**	1	**3.6**	**2.6**	**4.3**	**1.8**	**1.4**	**2.7**	**2.4**	1	1	1	1	1	1	0.5
Trichloroethene	0.70	**0.98**	**1.8**	**1.1**	**1.2**	**1.0**	**1.0**	**0.9**	0.1	**0.43**	**0.78**	**1.2**	0.5	0.5	0.5	0.5	0.5	0.5	**0.20**
Vinyl chloride	0.18	**1.5**	**5.0**	**1.4**	**22**	**5.2**	**2.7**	**0.95**	**4**	**6**	**4.5**	**2.3**	**12**	**26**	**19**	**19**	**36**	**47**	**41**

Appendix D- Summary of Monitoring Well Groundwater Samples
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	MW-10					MW-11				D P02-0126	PD/PD1					SEEP (Vicinity of MW-1)		SEEP-MW1	SEEP-MW2	LDW
Date Sampled		9/23/24	2/25/25	5/28/25	9/15/25	1/5/26	9/23/24	2/25/25	5/29/25	9/15/25	1/6/26	10/19/23	1/10/24	4/26/24	6/6/24	9/24/24	4/26/24	6/6/24	9/24/24	9/23/24	6/6/24
Sample results are in ug/L																					
Metals Total/Dissolved																					
Arsenic - total	8.00					0:00						**0.29**									
Cadmium - total	1.20											0.061									
Chromium - total	27.40											1.72							1.72	4.29	
Copper - total	3.10											0.505									
Mercury - total	0.03																				
Nickel - total	8.20											1.21									
Lead - total	8.10											0.061									
Zinc - total	81						12.1	12.1	12.1	12.1		7.07	7.07		12.1	1.72	**28.3**	**242**			
Arsenic - dissolved	8.00					0:00						**0.226**									
Cadmium - dissolved	1.20											0.061									
Chromium - dissolved	27.40											1.72									
Chromium VI - dissolved	1.60														**0.113**	**0.057**		0.051	**0.89**	**0.642**	**0.129**
Copper - dissolved [b]	3.10											0.505									
Mercury - dissolved	0.03																				
Nickel - dissolved	8.20											1.21									
Lead - dissolved	8.10											0.061									
Zinc - dissolved	81						12.1	12.1	12.1	12.1		7.07	7.07	12.1	12.1		**26.6**	12.1			
GRO/DRO - NWTPH-Dx/-Gx																					
Gasoline Range Organics	1000					100							100								
Diesel Range Organics	see total					50							50								
Diesel Range Organics w/ SGC	see total					50							50								
Motor Oil Organics (ORO)	see total					200							250								
Motor Oil Organics (ORO) w/ SGC	see total					200							250								
Total Dx (DRO + ORO)	See TPH Dx difference					200							250								
Total Dx (DRO + ORO) w/ SGC	500					200							250								
Total Dx Difference*	500					200							250								
VOCs																					
Benzene	1.6												1								
Toluene	102												1								
Ethylbenzene	21												1								
Xylenes, Total	106												3								
Chloroethane	14666	1	1	1	1	1	1	1	1	1	1		1								
1,1,1-Trichloroethane	5440	1	1	1	1	1	1	1	1	1	1		1								
1,1-Dichloroethane	11	1	1	1	1	1	1	1	1	1	1		1								
1,1-Dichloroethene	130	1	1	1	1	1	1	1	1	1	1		1								
1,2-Dichloroethane (EDC)	3.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2		0.2								
trans-1,2-Dichloroethene	77	1	1	1	1	1	1	1	1	1	1		1								
cis-1,2-Dichloroethene	182	**48**	**11**	**1.1**	**13**	**2.0**	1	1	1	1	1		1								
Methylene chloride	100	5	5	5	5	5	5	5	5	5	5		5								
Trichloroethane	No critiera						1	1					1								
Tetrachloroethene	2.9	**1.7**	**7.6**	**7.5**	**6.1**	**8.7**	1	1	**0.71**	**0.91**	**0.67**		1								
Trichloroethene	0.70	**0.56**	**1.6**	**0.93**	**1.2**	**1.4**	0.5	**0.12**	**0.17**	**0.18**	**0.10**		0.5								
Vinyl chloride	0.18	**24**	**4.6**	**0.075**	**0.81**	**0.076**	**0.54**	**0.18**	**0.18**	**0.23**	**0.042**		**0.037**								

Appendix D- Summary of Monitoring Well Groundwater Samples
Bridge - Former Dawn Foods

Notes:
All qualifers have been removed for this summary table.
blank cells = no result
For duplicates - highest value used.
All results in ug/L (micrograms per liter)
Bold = detection
Cr Vi = Chromium VI (hexavalent chromium); Cr III = Chromium trivalent. Both screening levels are presented, the lowest is used for shading.
* Indicates duplicate value with associated normal sample.
[b] - Filter blank results from February 2022 sampling included dissolved copper results greater than the method reporting limit.
g - The presence of the analyte may be due to carryover from previous sample injections.
Preliminary Cleanup Levels (PCUL) for Lower Duwamish Waterway workbook, these have been developed by Ecology specifically for the LDW. These are based on the Feb 2026 version. Source: https://apps.ecology.wa.gov/cleanupsearch/site/1643#site-documents.
MTCA - Model Toxics Control Act
NC - No Criterion
Total Dx - Total Diesel; SGC - Silica Gel Cleanup
TPH GRO - Total Petroleum Hydrocarbons Gasoline Range Organics; TPH DRO - Total Petroleum Hydrocarbons Diesel Range Organics
TPH Dx difference is the difference of total Dx with and without SGC. If no SGC value is avaiable, zero is assumed for that component.
VOCs -Volatile Organic Compounds

Table 11 SVOC Monitoring Well Groundwater Sample Results
Bridge - Former Dawn Foods

Sample ID	PCUL (ug/L)	Sample Count	Max Value	Is Max Value above SL (PCUL)?	Number of results above SL (PCUL)?	MW-1	MW-2	MW-3	MW-3	MW-4	MW4 (DUP-0124)	MW-5	MW-5	MW-6	MW-7	MW-8	MW-9	PD-1
Date Sampled						1/10/2024	1/22/2024	1/12/2024	2/26/2025	1/11/2024	1/11/2024	1/22/2024	4/21/2022	1/10/2024	1/12/2024	1/10/2024	1/9/2024	1/10/2024
SVOCs - PAHs																		
Acenaphthene	5.3	13.00	0.03	No	0.00	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.03**	**0.034**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Acenaphthylene	No criteria	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Anthracene	2.1	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(ghi)perylene	No criteria	13.00	0.00	No	0.00	0.04 U	0.04 U	0.04 UJ	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Dibenzofuran	3.1	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Fluoranthene	1.8	13.00	0.03	No	0.00	0.02 U	0.02 U	**0.026**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Fluorene	3.7	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
1-Methylnaphthalene	0.17	13.00	5.90	Yes	1.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**5.9**	0.2 U	0.2 U
2-Methylnaphthalene	14.0	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Naphthalene	1.4	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Phenanthrene	No criteria	13.00	0.02	No	0.00	0.02 U	0.02 U	**0.023**	0.05 U	0.02 U	0.02 U	**0.024**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Pyrene	2.0	13.00	0.02	No	0.00	0.02 U	0.02 U	**0.024**	0.02 U	0.02 U	0.02 U	**0.02**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(a)pyrene	0.000016	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(a)anthracene	0.000160	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(b)fluoranthene	0.000160	13.00	0.02	Yes	1.00	0.02 U	0.02 U	**0.024**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(k)fluoranthene	0.001300	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Chrysene	0.016000	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dibenzo(a,h)anthracene	0.000016	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Indeno(1,2,3-cd)pyrene	0.000160	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Total cPAH TEQ	PQL = 0.02	13.00	0.00	No	1.00	ND	ND	**0.0024**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other SVOCs																		
Benzoic acid	589.3	13.00	0.00	No	0.00	10 U	10 U	10 Uk	10 Uk	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U
Benzyl alcohol	56.4	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
Bis(2-chloroethoxy)methane	No criteria	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bis(2-chloroethyl) ether	0.06	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bis(2-ethylhexyl) phthalate	0.046	13.00	0.00	No	0.00	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	NA	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U
4-Bromophenyl phenyl ether	No criteria	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Butylbenzyl phthalate	0.013	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
Carbazole	No criteria	13.00	0.00	No	0.00	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
4-Chloroaniline	No criteria	13.00	0.00	No	0.00	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NA	20 U	20 U	20 U	20 U	20 U
4-Chloro-3-methylphenol	36.0	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
2-Chloronaphthalene	100.0	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Chlorophenol	17.0	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
4-Chlorophenyl phenyl ether	No criteria	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichlorobenzene	4.5	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-Dichlorobenzene	2.0	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene	5.0	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,4-Dichlorophenol	10.0	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
Diethyl phthalate	92.6	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
Dimethyl phthalate	59.0	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
2,4-Dimethylphenol	No criteria	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
2,4-Dinitrophenol	100.0	13.00	0.00	No	0.00	6 U	6 U	6 Uk	6 Uk	6 U	6 U	6 U	NA	6 U	6 U	6 U	6 U	6 U
2,4-Dinitrotoluene	0.2	13.00	0.00	No	0.00	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U
2,6-Dinitrotoluene	No criteria	13.00	0.00	No	0.00	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U
Di-n-butyl phthalate	No criteria	13.00	0.00	No	0.00	2 U	2 U	2 UJ	2 UJ	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
Di-n-octyl phthalate	2.3	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
Hexachlorobenzene	0.000005	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Hexachlorobutadiene	0.01	13.00	0.00	No	0.00	0.2 UjI	0.2 U	0.2 UjI	0.2 UjI	0.2 UjI	0.4 U	0.2 U	NA	0.2 UjI	0.2 UjI	0.2 UjI	0.2 UjI	0.2 UjI
Hexachlorocyclopentadiene	1.00	13.00	0.00	No	0.00	0.6 Uk	0.6 U	0.6 Uk	0.6 Uk	0.6 Uk	1.2 U	0.6 U	NA	0.6 Uk	0.6 Uk	0.6 Uk	0.6 Uk	0.6 Uk
Hexachloroethane	0.020	13.00	0.00	No	0.00	0.2 UjI	0.2 U	0.2 UjI	0.2 UjI	0.2 UjI	0.4 U	0.2 U	NA	0.2 UjI	0.2 UjI	0.2 UjI	0.2 UjI	0.2 UjI
Isophorone	110.0	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Methylphenol	9.8	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
3-Methylphenol + 4-Methylphenol	No criteria	13.00	0.00	No	0.00	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NA	4 U	4 U	4 U	4 U	4 U
2-Nitroaniline	No criteria	13.00	0.00	No	0.00	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U
3-Nitroaniline	No criteria	13.00	0.00	No	0.00	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NA	20 U	20 U	20 U	20 U	20 U
4-Nitroaniline	No criteria	13.00	0.00	No	0.00	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NA	20 U	20 U	20 U	20 U	20 U
Nitrobenzene	100.0	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Nitrophenol	No criteria	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
4-Nitrophenol	No criteria	13.00	0.00	No	0.00	6 U	6 U	6 U	6 U	6 U	6 U	6 U	NA	6 U	6 U	6 U	6 U	6 U
N-Nitrosodiphenylamine	0.6	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
N-Nitroso-di-n-propylamine	0.058	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4,6-Dinitro-2-methylphenol	No criteria	13.00	0.00	No	0.00	6 U	6 U	6 U	6 U	6 U	6 U	6 U	NA	6 U	6 U	6 U	6 U	6 U
Pentachlorophenol	0.002	13.00	0.00	No	0.00	1 U	1 U	1 Uk	1 Uk	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U
Phenol	101.1	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
2,2'-Oxybis(1-chloropropane)	No criteria	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,4,5-Trichlorophenol	600.0	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
2,4,6-Trichlorophenol	0.28	13.00	0.00	No	0.00	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U
1,2,4-Trichlorobenzene	0.037	13.00	0.00	No	0.00	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Notes:
All results in ug/L.
Bold = detection
Shading denotes a detected exceedance of a screening level
Preliminary Cleanup Levels (PCUL) for
Lower Duwamish Waterway workbook,
MTCA - Model Toxics Control Act
ug/L = micrograms per liters
U = laboratory detection limit
J = reported concentration is an estimate.

SVOCs -Semi Volatile Organic Compounds
NA = Not analyzed
ND = Not detected

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation	ProUCL 5.2 2/26/2025 2:09:32 PM										
5	From File	WorkSheet.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	Number of Bootstrap Operations	2000										
9												
10	As											
11												
12	General Statistics											
13	Total Number of Observations	61					Number of Distinct Observations	56				
14	Number of Detects	56					Number of Non-Detects	5				
15	Number of Distinct Detects	53					Number of Distinct Non-Detects	3				
16	Minimum Detect	1.08					Minimum Non-Detect	1				
17	Maximum Detect	13.6					Maximum Non-Detect	7				
18	Variance Detects	5.926					Percent Non-Detects	8.197%				
19	Mean Detects	4.025					SD Detects	2.434				
20	Median Detects	3.52					CV Detects	0.605				
21	Skewness Detects	1.67					Kurtosis Detects	3.729				
22	Mean of Logged Detects	1.236					SD of Logged Detects	0.56				
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic	0.865					Normal GOF Test on Detected Observations Only					
26	1% Shapiro Wilk P Value	1.2217E-6					Detected Data Not Normal at 1% Significance Level					
27	Lilliefors Test Statistic	0.132					Lilliefors GOF Test					
28	1% Lilliefors Critical Value	0.136					Detected Data appear Normal at 1% Significance Level					
29	Detected Data appear Approximate Normal at 1% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	KM Mean	3.876					KM Standard Error of Mean	0.312				
33	90KM SD	2.398					95% KM (BCA) UCL	4.393				
34	95% KM (t) UCL	4.398					95% KM (Percentile Bootstrap) UCL	4.397				
35	95% KM (z) UCL	4.39					95% KM Bootstrap t UCL	4.471				
36	90% KM Chebyshev UCL	4.813					95% KM Chebyshev UCL	5.237				
37	97.5% KM Chebyshev UCL	5.825					99% KM Chebyshev UCL	6.982				
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic	0.377					Anderson-Darling GOF Test					
41	5% A-D Critical Value	0.756					Detected data appear Gamma Distributed at 5% Significance Level					
42	K-S Test Statistic	0.0874					Kolmogorov-Smirnov GOF					
43	5% K-S Critical Value	0.12					Detected data appear Gamma Distributed at 5% Significance Level					
44	Detected data appear Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)	3.362					k star (bias corrected MLE)	3.194				
48	Theta hat (MLE)	1.197					Theta star (bias corrected MLE)	1.26				
49	nu hat (MLE)	376.6					nu star (bias corrected)	357.7				
50	Mean (detects)	4.025										
51												
52	Gamma ROS Statistics using Imputed Non-Detects											
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											

54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)										
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs										
56	This is especially true when the sample size is small.										
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates										
58					Minimum	0.0782			Mean	3.845	
59					Maximum	13.6			Median	3.41	
60					SD	2.443			CV	0.635	
61					k hat (MLE)	2.412			k star (bias corrected MLE)	2.304	
62					Theta hat (MLE)	1.594			Theta star (bias corrected MLE)	1.669	
63					nu hat (MLE)	294.2			nu star (bias corrected)	281.1	
64					Adjusted Level of Significance (β)	0.0461					
65					Approximate Chi Square Value (281.10, α)	243.3			Adjusted Chi Square Value (281.10, β)	242.4	
66					95% Gamma Approximate UCL	4.443			95% Gamma Adjusted UCL	4.459	
67											
68	Estimates of Gamma Parameters using KM Estimates										
69					Mean (KM)	3.876			SD (KM)	2.398	
70					Variance (KM)	5.752			SE of Mean (KM)	0.312	
71					k hat (KM)	2.612			k star (KM)	2.495	
72					nu hat (KM)	318.7			nu star (KM)	304.4	
73					theta hat (KM)	1.484			theta star (KM)	1.554	
74					80% gamma percentile (KM)	5.652			90% gamma percentile (KM)	7.164	
75					95% gamma percentile (KM)	8.588			99% gamma percentile (KM)	11.71	
76											
77	Gamma Kaplan-Meier (KM) Statistics										
78					Approximate Chi Square Value (304.37, α)	265			Adjusted Chi Square Value (304.37, β)	264.1	
79					95% KM Approximate Gamma UCL	4.453			95% KM Adjusted Gamma UCL	4.468	
80											
81	Lognormal GOF Test on Detected Observations Only										
82					Shapiro Wilk Approximate Test Statistic	0.984			Shapiro Wilk GOF Test		
83					10% Shapiro Wilk P Value	0.837			Detected Data appear Lognormal at 10% Significance Level		
84					Lilliefors Test Statistic	0.0709			Lilliefors GOF Test		
85					10% Lilliefors Critical Value	0.108			Detected Data appear Lognormal at 10% Significance Level		
86	Detected Data appear Lognormal at 10% Significance Level										
87											
88	Lognormal ROS Statistics Using Imputed Non-Detects										
89					Mean in Original Scale	3.864			Mean in Log Scale	1.182	
90					SD in Original Scale	2.412			SD in Log Scale	0.592	
91					95% t UCL (assumes normality of ROS data)	4.38			95% Percentile Bootstrap UCL	4.381	
92					95% BCA Bootstrap UCL	4.416			95% Bootstrap t UCL	4.487	
93					95% H-UCL (Log ROS)	4.501					
94											
95	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution										
96					KM Mean (logged)	1.184			KM Geo Mean	3.269	
97					KM SD (logged)	0.586			95% Critical H Value (KM-Log)	1.919	
98					KM Standard Error of Mean (logged)	0.077			95% H-UCL (KM -Log)	4.489	
99					KM SD (logged)	0.586			95% Critical H Value (KM-Log)	1.919	
100					KM Standard Error of Mean (logged)	0.077					
101											
102	DL/2 Statistics										
103					DL/2 Normal				DL/2 Log-Transformed		
104					Mean in Original Scale	3.851			Mean in Log Scale	1.163	
105					SD in Original Scale	2.428			SD in Log Scale	0.64	
106					95% t UCL (Assumes normality)	4.37			95% H-Stat UCL	4.617	

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	4.398

When a data set follows an approximate distribution passing only one of the GOF tests,

it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Cd

General Statistics

Total Number of Observations	61	Number of Distinct Observations	4
Number of Detects	2	Number of Non-Detects	59
Number of Distinct Detects	2	Number of Distinct Non-Detects	2
Minimum Detect	0.04	Minimum Non-Detect	0.051
Maximum Detect	0.076	Maximum Non-Detect	0.5
Variance Detects	6.4800E-4	Percent Non-Detects	96.72%
Mean Detects	0.058	SD Detects	0.0255
Median Detects	0.058	CV Detects	0.439
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-2.898	SD of Logged Detects	0.454

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0406	KM Standard Error of Mean	8.4143E-4
90KM SD	0.00461	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.042	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.042	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	0.0431	95% KM Chebyshev UCL	0.0443
97.5% KM Chebyshev UCL	0.0459	99% KM Chebyshev UCL	0.049

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	10.04	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.00578	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	40.15	nu star (bias corrected)	N/A
Mean (detects)	0.058		

160	Estimates of Gamma Parameters using KM Estimates										
161					Mean (KM)	0.0406			SD (KM)	0.00461	
162					Variance (KM)	2.1240E-5			SE of Mean (KM)	8.4143E-4	
163					k hat (KM)	77.61			k star (KM)	73.8	
164					nu hat (KM)	9468			nu star (KM)	9004	
165					theta hat (KM)	5.2315E-4			theta star (KM)	5.5013E-4	
166					80% gamma percentile (KM)	0.0445			90% gamma percentile (KM)	0.0468	
167					95% gamma percentile (KM)	0.0487			99% gamma percentile (KM)	0.0524	
168											
169	Gamma Kaplan-Meier (KM) Statistics										
170									Adjusted Level of Significance (β)	0.0461	
171					Approximate Chi Square Value (N/A, α)	8784			Adjusted Chi Square Value (N/A, β)	8779	
172					95% KM Approximate Gamma UCL	0.0416			95% KM Adjusted Gamma UCL	0.0416	
173											
174	Lognormal GOF Test on Detected Observations Only										
175	Not Enough Data to Perform GOF Test										
176											
177	Lognormal ROS Statistics Using Imputed Non-Detects										
178					Mean in Original Scale	0.0415			Mean in Log Scale	-3.212	
179					SD in Original Scale	0.0106			SD in Log Scale	0.251	
180					95% t UCL (assumes normality of ROS data)	0.0438			95% Percentile Bootstrap UCL	0.0438	
181					95% BCA Bootstrap UCL	0.0439			95% Bootstrap t UCL	0.0441	
182					95% H-UCL (Log ROS)	0.0439					
183											
184	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution										
185					KM Mean (logged)	-3.208			KM Geo Mean	0.0404	
186					KM SD (logged)	0.0822			95% Critical H Value (KM-Log)	N/A	
187					KM Standard Error of Mean (logged)	0.015			95% H-UCL (KM -Log)	N/A	
188					KM SD (logged)	0.0822			95% Critical H Value (KM-Log)	N/A	
189					KM Standard Error of Mean (logged)	0.015					
190											
191	DL/2 Statistics										
192					DL/2 Normal				DL/2 Log-Transformed		
193					Mean in Original Scale	0.0302			Mean in Log Scale	-3.606	
194					SD in Original Scale	0.0294			SD in Log Scale	0.326	
195					95% t UCL (Assumes normality)	0.0365			95% H-Stat UCL	0.0308	
196	DL/2 is not a recommended method, provided for comparisons and historical reasons										
197											
198	Nonparametric Distribution Free UCL Statistics										
199	Data do not follow a Discernible Distribution										
200											
201	Suggested UCL to Use										
202					95% KM (t) UCL	0.042					
203											
204	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.										
205	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.										
206	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.										
207											
208											
209	Cr										
210											
211	General Statistics										
212					Total Number of Observations	56			Number of Distinct Observations	49	

213											Number of Missing Observations	5
214					Minimum	5.23					Mean	12.14
215					Maximum	98.4					Median	9.8
216					SD	12.11					Std. Error of Mean	1.618
217					Coefficient of Variation	0.997					Skewness	6.809
218												
219						Normal GOF Test						
220					Shapiro Wilk Test Statistic	0.324					Shapiro Wilk GOF Test	
221					1% Shapiro Wilk P Value	0					Data Not Normal at 1% Significance Level	
222					Lilliefors Test Statistic	0.329					Lilliefors GOF Test	
223					1% Lilliefors Critical Value	0.136					Data Not Normal at 1% Significance Level	
224						Data Not Normal at 1% Significance Level						
225												
226						Assuming Normal Distribution						
227					95% Normal UCL						95% UCLs (Adjusted for Skewness)	
228					95% Student's-t UCL	14.85					95% Adjusted-CLT UCL (Chen-1995)	16.37
229											95% Modified-t UCL (Johnson-1978)	15.09
230												
231						Gamma GOF Test						
232					A-D Test Statistic	5.749					Anderson-Darling Gamma GOF Test	
233					5% A-D Critical Value	0.754					Data Not Gamma Distributed at 5% Significance Level	
234					K-S Test Statistic	0.25					Kolmogorov-Smirnov Gamma GOF Test	
235					5% K-S Critical Value	0.119					Data Not Gamma Distributed at 5% Significance Level	
236						Data Not Gamma Distributed at 5% Significance Level						
237												
238						Gamma Statistics						
239					k hat (MLE)	3.893					k star (bias corrected MLE)	3.696
240					Theta hat (MLE)	3.119					Theta star (bias corrected MLE)	3.285
241					nu hat (MLE)	436					nu star (bias corrected)	414
242					MLE Mean (bias corrected)	12.14					MLE Sd (bias corrected)	6.314
243											Approximate Chi Square Value (0.05)	367.8
244					Adjusted Level of Significance	0.0457					Adjusted Chi Square Value	366.6
245												
246						Assuming Gamma Distribution						
247					95% Approximate Gamma UCL	13.66					95% Adjusted Gamma UCL	13.71
248												
249						Lognormal GOF Test						
250					Shapiro Wilk Test Statistic	0.765					Shapiro Wilk Lognormal GOF Test	
251					10% Shapiro Wilk P Value	1.503E-11					Data Not Lognormal at 10% Significance Level	
252					Lilliefors Test Statistic	0.186					Lilliefors Lognormal GOF Test	
253					10% Lilliefors Critical Value	0.108					Data Not Lognormal at 10% Significance Level	
254						Data Not Lognormal at 10% Significance Level						
255												
256						Lognormal Statistics						
257					Minimum of Logged Data	1.654					Mean of logged Data	2.363
258					Maximum of Logged Data	4.589					SD of logged Data	0.403
259												
260						Assuming Lognormal Distribution						
261					95% H-UCL	12.71					90% Chebyshev (MVUE) UCL	13.41
262					95% Chebyshev (MVUE) UCL	14.28					97.5% Chebyshev (MVUE) UCL	15.49
263					99% Chebyshev (MVUE) UCL	17.86						
264												
265						Nonparametric Distribution Free UCL Statistics						

266	Data do not follow a Discernible Distribution											
267												
268	Nonparametric Distribution Free UCLs											
269					95% CLT UCL	14.8			95% BCA Bootstrap UCL	16.89		
270					95% Standard Bootstrap UCL	14.74			95% Bootstrap-t UCL	21		
271					95% Hall's Bootstrap UCL	25.03			95% Percentile Bootstrap UCL	15.27		
272					90% Chebyshev(Mean, Sd) UCL	16.99			95% Chebyshev(Mean, Sd) UCL	19.19		
273					97.5% Chebyshev(Mean, Sd) UCL	22.24			99% Chebyshev(Mean, Sd) UCL	28.24		
274												
275	Suggested UCL to Use											
276					95% Student's-t UCL	14.85						
277												
278	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
279	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
280	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
281												
282	Cu											
283												
284	General Statistics											
285					Total Number of Observations	15			Number of Distinct Observations	14		
286									Number of Missing Observations	38		
287					Number of Detects	13			Number of Non-Detects	2		
288					Number of Distinct Detects	13			Number of Distinct Non-Detects	1		
289					Minimum Detect	7.76			Minimum Non-Detect	25		
290					Maximum Detect	35			Maximum Non-Detect	25		
291					Variance Detects	65.99			Percent Non-Detects	13.33%		
292					Mean Detects	18.29			SD Detects	8.123		
293					Median Detects	18.1			CV Detects	0.444		
294					Skewness Detects	0.443			Kurtosis Detects	-0.162		
295					Mean of Logged Detects	2.806			SD of Logged Detects	0.482		
296												
297	Normal GOF Test on Detects Only											
298					Shapiro Wilk Test Statistic	0.948			Shapiro Wilk GOF Test			
299					1% Shapiro Wilk Critical Value	0.814			Detected Data appear Normal at 1% Significance Level			
300					Lilliefors Test Statistic	0.12			Lilliefors GOF Test			
301					1% Lilliefors Critical Value	0.271			Detected Data appear Normal at 1% Significance Level			
302	Detected Data appear Normal at 1% Significance Level											
303												
304	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
305					KM Mean	17.98			KM Standard Error of Mean	2.141		
306					90KM SD	7.616			95% KM (BCA) UCL	21.41		
307					95% KM (t) UCL	21.75			95% KM (Percentile Bootstrap) UCL	21.38		
308					95% KM (z) UCL	21.5			95% KM Bootstrap t UCL	21.85		
309					90% KM Chebyshev UCL	24.4			95% KM Chebyshev UCL	27.31		
310					97.5% KM Chebyshev UCL	31.35			99% KM Chebyshev UCL	39.28		
311												
312	Gamma GOF Tests on Detected Observations Only											
313					A-D Test Statistic	0.323			Anderson-Darling GOF Test			
314					5% A-D Critical Value	0.736			Detected data appear Gamma Distributed at 5% Significance Level			
315					K-S Test Statistic	0.15			Kolmogorov-Smirnov GOF			
316					5% K-S Critical Value	0.237			Detected data appear Gamma Distributed at 5% Significance Level			
317	Detected data appear Gamma Distributed at 5% Significance Level											
318												

	A	B	C	D	E	F	G	H	I	J	K	L
319	Gamma Statistics on Detected Data Only											
320					k hat (MLE)	5.153			k star (bias corrected MLE)			4.015
321					Theta hat (MLE)	3.549			Theta star (bias corrected MLE)			4.555
322					nu hat (MLE)	134			nu star (bias corrected)			104.4
323					Mean (detects)	18.29						
324												
325	Gamma ROS Statistics using Imputed Non-Detects											
326	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
327	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
328	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
329	This is especially true when the sample size is small.											
330	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
331					Minimum	7.76			Mean			17.93
332					Maximum	35			Median			18.1
333					SD	7.657			CV			0.427
334					k hat (MLE)	5.687			k star (bias corrected MLE)			4.594
335					Theta hat (MLE)	3.154			Theta star (bias corrected MLE)			3.904
336					nu hat (MLE)	170.6			nu star (bias corrected)			137.8
337					Adjusted Level of Significance (β)	0.0324						
338					Approximate Chi Square Value (137.82, α)	111.7			Adjusted Chi Square Value (137.82, β)			108.8
339					95% Gamma Approximate UCL	22.13			95% Gamma Adjusted UCL			22.72
340												
341	Estimates of Gamma Parameters using KM Estimates											
342					Mean (KM)	17.98			SD (KM)			7.616
343					Variance (KM)	58.01			SE of Mean (KM)			2.141
344					k hat (KM)	5.573			k star (KM)			4.503
345					nu hat (KM)	167.2			nu star (KM)			135.1
346					theta hat (KM)	3.226			theta star (KM)			3.993
347					80% gamma percentile (KM)	24.46			90% gamma percentile (KM)			29.33
348					95% gamma percentile (KM)	33.8			99% gamma percentile (KM)			43.27
349												
350	Gamma Kaplan-Meier (KM) Statistics											
351					Approximate Chi Square Value (135.09, α)	109.2			Adjusted Chi Square Value (135.09, β)			106.4
352					95% KM Approximate Gamma UCL	22.24			95% KM Adjusted Gamma UCL			22.83
353												
354	Lognormal GOF Test on Detected Observations Only											
355					Shapiro Wilk Test Statistic	0.932			Shapiro Wilk GOF Test			
356					10% Shapiro Wilk Critical Value	0.889			Detected Data appear Lognormal at 10% Significance Level			
357					Lilliefors Test Statistic	0.15			Lilliefors GOF Test			
358					10% Lilliefors Critical Value	0.215			Detected Data appear Lognormal at 10% Significance Level			
359	Detected Data appear Lognormal at 10% Significance Level											
360												
361	Lognormal ROS Statistics Using Imputed Non-Detects											
362					Mean in Original Scale	17.85			Mean in Log Scale			2.79
363					SD in Original Scale	7.683			SD in Log Scale			0.454
364					95% t UCL (assumes normality of ROS data)	21.34			95% Percentile Bootstrap UCL			20.95
365					95% BCA Bootstrap UCL	20.95			95% Bootstrap t UCL			21.95
366					95% H-UCL (Log ROS)	23.06						
367												
368	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
369					KM Mean (logged)	2.791			KM Geo Mean			16.3
370					KM SD (logged)	0.458			95% Critical H Value (KM-Log)			2.024
371					KM Standard Error of Mean (logged)	0.131			95% H-UCL (KM -Log)			23.18

372				KM SD (logged)	0.458			95% Critical H Value (KM-Log)			2.024	
373				KM Standard Error of Mean (logged)	0.131							
374												
375	DL/2 Statistics											
376	DL/2 Normal					DL/2 Log-Transformed						
377				Mean in Original Scale	17.52			Mean in Log Scale			2.769	
378				SD in Original Scale	7.792			SD in Log Scale			0.457	
379				95% t UCL (Assumes normality)	21.06			95% H-Stat UCL			22.64	
380	DL/2 is not a recommended method, provided for comparisons and historical reasons											
381												
382	Nonparametric Distribution Free UCL Statistics											
383	Detected Data appear Normal Distributed at 1% Significance Level											
384												
385	Suggested UCL to Use											
386				95% KM (t) UCL	21.75							
387												
388	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
389	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
390	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
391												
392	Hg											
393												
394	General Statistics											
395				Total Number of Observations	61			Number of Distinct Observations			4	
396				Number of Detects	2			Number of Non-Detects			59	
397				Number of Distinct Detects	2			Number of Distinct Non-Detects			2	
398				Minimum Detect	0.0552			Minimum Non-Detect			0.041	
399				Maximum Detect	0.065			Maximum Non-Detect			0.05	
400				Variance Detects	4.8020E-5			Percent Non-Detects			96.72%	
401				Mean Detects	0.0601			SD Detects			0.00693	
402				Median Detects	0.0601			CV Detects			0.115	
403				Skewness Detects	N/A			Kurtosis Detects			N/A	
404				Mean of Logged Detects	-2.815			SD of Logged Detects			0.116	
405												
406	Warning: Data set has only 2 Detected Values.											
407	This is not enough to compute meaningful or reliable statistics and estimates.											
408												
409												
410	Normal GOF Test on Detects Only											
411	Not Enough Data to Perform GOF Test											
412												
413	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
414				KM Mean	0.0416			KM Standard Error of Mean			6.3649E-4	
415				90KM SD	0.00352			95% KM (BCA) UCL			N/A	
416				95% KM (t) UCL	0.0427			95% KM (Percentile Bootstrap) UCL			N/A	
417				95% KM (z) UCL	0.0427			95% KM Bootstrap t UCL			N/A	
418				90% KM Chebyshev UCL	0.0435			95% KM Chebyshev UCL			0.0444	
419				97.5% KM Chebyshev UCL	0.0456			99% KM Chebyshev UCL			0.048	
420												
421	Gamma GOF Tests on Detected Observations Only											
422	Not Enough Data to Perform GOF Test											
423												
424	Gamma Statistics on Detected Data Only											

425					k hat (MLE)	150.1				k star (bias corrected MLE)		N/A
426					Theta hat (MLE)	4.0039E-4				Theta star (bias corrected MLE)		N/A
427					nu hat (MLE)	600.4				nu star (bias corrected)		N/A
428					Mean (detects)	0.0601						
429												
430					Estimates of Gamma Parameters using KM Estimates							
431					Mean (KM)	0.0416				SD (KM)		0.00352
432					Variance (KM)	1.2356E-5				SE of Mean (KM)		6.3649E-4
433					k hat (KM)	140.2				k star (KM)		133.3
434					nu hat (KM)	17109				nu star (KM)		16269
435					theta hat (KM)	2.9683E-4				theta star (KM)		3.1216E-4
436					80% gamma percentile (KM)	0.0446				90% gamma percentile (KM)		0.0463
437					95% gamma percentile (KM)	0.0477				99% gamma percentile (KM)		0.0505
438												
439					Gamma Kaplan-Meier (KM) Statistics							
440										Adjusted Level of Significance (β)		0.0461
441					Approximate Chi Square Value (N/A, α)	15973				Adjusted Chi Square Value (N/A, β)		15966
442					95% KM Approximate Gamma UCL	0.0424				95% KM Adjusted Gamma UCL		0.0424
443												
444					Lognormal GOF Test on Detected Observations Only							
445					Not Enough Data to Perform GOF Test							
446												
447					Lognormal ROS Statistics Using Imputed Non-Detects							
448					Mean in Original Scale	0.0196				Mean in Log Scale		-4.088
449					SD in Original Scale	0.0119				SD in Log Scale		0.565
450					95% t UCL (assumes normality of ROS data)	0.0222				95% Percentile Bootstrap UCL		0.0222
451					95% BCA Bootstrap UCL	0.0225				95% Bootstrap t UCL		0.0226
452					95% H-UCL (Log ROS)	0.0226						
453												
454					Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution							
455					KM Mean (logged)	-3.182				KM Geo Mean		0.0415
456					KM SD (logged)	0.0691				95% Critical H Value (KM-Log)		N/A
457					KM Standard Error of Mean (logged)	0.0125				95% H-UCL (KM -Log)		N/A
458					KM SD (logged)	0.0691				95% Critical H Value (KM-Log)		N/A
459					KM Standard Error of Mean (logged)	0.0125						
460												
461					DL/2 Statistics							
462					DL/2 Normal					DL/2 Log-Transformed		
463					Mean in Original Scale	0.0219				Mean in Log Scale		-3.849
464					SD in Original Scale	0.00718				SD in Log Scale		0.194
465					95% t UCL (Assumes normality)	0.0234				95% H-Stat UCL		0.0227
466					DL/2 is not a recommended method, provided for comparisons and historical reasons							
467												
468					Nonparametric Distribution Free UCL Statistics							
469					Data do not follow a Discernible Distribution							
470												
471					Suggested UCL to Use							
472					95% KM (t) UCL	0.0427						
473												
474	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
475	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
476	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
477												

478											
479	Ni										
480											
481					General Statistics						
482				Total Number of Observations	61			Number of Distinct Observations	55		
483								Number of Missing Observations	0		
484				Minimum	3			Mean	9.073		
485				Maximum	22.9			Median	7.99		
486				SD	4.183			Std. Error of Mean	0.536		
487				Coefficient of Variation	0.461			Skewness	0.892		
488											
489					Normal GOF Test						
490				Shapiro Wilk Test Statistic	0.923			Shapiro Wilk GOF Test			
491				1% Shapiro Wilk P Value	7.6175E-4			Data Not Normal at 1% Significance Level			
492				Lilliefors Test Statistic	0.139			Lilliefors GOF Test			
493				1% Lilliefors Critical Value	0.131			Data Not Normal at 1% Significance Level			
494					Data Not Normal at 1% Significance Level						
495											
496					Assuming Normal Distribution						
497				95% Normal UCL				95% UCLs (Adjusted for Skewness)			
498				95% Student's-t UCL	9.967			95% Adjusted-CLT UCL (Chen-1995)	10.02		
499								95% Modified-t UCL (Johnson-1978)	9.978		
500											
501					Gamma GOF Test						
502				A-D Test Statistic	0.73			Anderson-Darling Gamma GOF Test			
503				5% A-D Critical Value	0.753			Detected data appear Gamma Distributed at 5% Significance Level			
504				K-S Test Statistic	0.0919			Kolmogorov-Smirnov Gamma GOF Test			
505				5% K-S Critical Value	0.114			Detected data appear Gamma Distributed at 5% Significance Level			
506					Detected data appear Gamma Distributed at 5% Significance Level						
507											
508					Gamma Statistics						
509				k hat (MLE)	5.093			k star (bias corrected MLE)	4.853		
510				Theta hat (MLE)	1.781			Theta star (bias corrected MLE)	1.869		
511				nu hat (MLE)	621.3			nu star (bias corrected)	592.1		
512				MLE Mean (bias corrected)	9.073			MLE Sd (bias corrected)	4.118		
513								Approximate Chi Square Value (0.05)	536.7		
514				Adjusted Level of Significance	0.0461			Adjusted Chi Square Value	535.4		
515											
516					Assuming Gamma Distribution						
517				95% Approximate Gamma UCL	10.01			95% Adjusted Gamma UCL	10.03		
518											
519					Lognormal GOF Test						
520				Shapiro Wilk Test Statistic	0.97			Shapiro Wilk Lognormal GOF Test			
521				10% Shapiro Wilk P Value	0.294			Data appear Lognormal at 10% Significance Level			
522				Lilliefors Test Statistic	0.0907			Lilliefors Lognormal GOF Test			
523				10% Lilliefors Critical Value	0.104			Data appear Lognormal at 10% Significance Level			
524					Data appear Lognormal at 10% Significance Level						
525											
526					Lognormal Statistics						
527				Minimum of Logged Data	1.099			Mean of logged Data	2.104		
528				Maximum of Logged Data	3.131			SD of logged Data	0.456		
529											
530					Assuming Lognormal Distribution						

531					95% H-UCL	10.13			90% Chebyshev (MVUE) UCL			10.73
532					95% Chebyshev (MVUE) UCL	11.49			97.5% Chebyshev (MVUE) UCL			12.53
533					99% Chebyshev (MVUE) UCL	14.57						
534												
535					Nonparametric Distribution Free UCL Statistics							
536					Data appear to follow a Discernible Distribution							
537												
538					Nonparametric Distribution Free UCLs							
539					95% CLT UCL	9.954			95% BCA Bootstrap UCL			10.07
540					95% Standard Bootstrap UCL	9.972			95% Bootstrap-t UCL			10.05
541					95% Hall's Bootstrap UCL	10.05			95% Percentile Bootstrap UCL			9.983
542					90% Chebyshev(Mean, Sd) UCL	10.68			95% Chebyshev(Mean, Sd) UCL			11.41
543					97.5% Chebyshev(Mean, Sd) UCL	12.42			99% Chebyshev(Mean, Sd) UCL			14.4
544												
545					Suggested UCL to Use							
546					95% Approximate Gamma UCL	10.01						
547												
548					Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.							
549					Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.							
550					However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.							
551												
552	Zn											
553												
554					General Statistics							
555					Total Number of Observations	61			Number of Distinct Observations			59
556					Number of Detects	59			Number of Non-Detects			2
557					Number of Distinct Detects	58			Number of Distinct Non-Detects			1
558					Minimum Detect	12.1			Minimum Non-Detect			25
559					Maximum Detect	140			Maximum Non-Detect			25
560					Variance Detects	718.7			Percent Non-Detects			3.279%
561					Mean Detects	40.75			SD Detects			26.81
562					Median Detects	32			CV Detects			0.658
563					Skewness Detects	2.001			Kurtosis Detects			4.743
564					Mean of Logged Detects	3.544			SD of Logged Detects			0.554
565												
566					Normal GOF Test on Detects Only							
567					Shapiro Wilk Test Statistic	0.796			Normal GOF Test on Detected Observations Only			
568					1% Shapiro Wilk P Value	1.037E-10			Detected Data Not Normal at 1% Significance Level			
569					Lilliefors Test Statistic	0.154			Lilliefors GOF Test			
570					1% Lilliefors Critical Value	0.133			Detected Data Not Normal at 1% Significance Level			
571					Detected Data Not Normal at 1% Significance Level							
572												
573					Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs							
574					KM Mean	40.06			KM Standard Error of Mean			3.412
575					90KM SD	26.41			95% KM (BCA) UCL			45.81
576					95% KM (t) UCL	45.76			95% KM (Percentile Bootstrap) UCL			46
577					95% KM (z) UCL	45.68			95% KM Bootstrap t UCL			46.9
578					90% KM Chebyshev UCL	50.3			95% KM Chebyshev UCL			54.94
579					97.5% KM Chebyshev UCL	61.37			99% KM Chebyshev UCL			74.01
580												
581					Gamma GOF Tests on Detected Observations Only							
582					A-D Test Statistic	1.1			Anderson-Darling GOF Test			
583					5% A-D Critical Value	0.757			Detected Data Not Gamma Distributed at 5% Significance Level			

584				K-S Test Statistic	0.117	Kolmogorov-Smirnov GOF						
585				5% K-S Critical Value	0.117	Detected Data Not Gamma Distributed at 5% Significance Level						
586	Detected Data Not Gamma Distributed at 5% Significance Level											
587												
588	Gamma Statistics on Detected Data Only											
589				k hat (MLE)	3.218	k star (bias corrected MLE)	3.065					
590				Theta hat (MLE)	12.67	Theta star (bias corrected MLE)	13.29					
591				nu hat (MLE)	379.7	nu star (bias corrected)	361.7					
592				Mean (detects)	40.75							
593												
594	Gamma ROS Statistics using Imputed Non-Detects											
595	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
596	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
597	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
598	This is especially true when the sample size is small.											
599	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
600				Minimum	11.4	Mean	39.92					
601				Maximum	140	Median	30.2					
602				SD	26.76	CV	0.67					
603				k hat (MLE)	3.088	k star (bias corrected MLE)	2.947					
604				Theta hat (MLE)	12.93	Theta star (bias corrected MLE)	13.55					
605				nu hat (MLE)	376.7	nu star (bias corrected)	359.5					
606				Adjusted Level of Significance (β)	0.0461							
607				Approximate Chi Square Value (359.52, α)	316.6	Adjusted Chi Square Value (359.52, β)	315.6					
608				95% Gamma Approximate UCL	45.33	95% Gamma Adjusted UCL	45.47					
609												
610	Estimates of Gamma Parameters using KM Estimates											
611				Mean (KM)	40.06	SD (KM)	26.41					
612				Variance (KM)	697.8	SE of Mean (KM)	3.412					
613				k hat (KM)	2.3	k star (KM)	2.198					
614				nu hat (KM)	280.7	nu star (KM)	268.2					
615				theta hat (KM)	17.42	theta star (KM)	18.23					
616				80% gamma percentile (KM)	59.31	90% gamma percentile (KM)	76.22					
617				95% gamma percentile (KM)	92.26	99% gamma percentile (KM)	127.6					
618												
619	Gamma Kaplan-Meier (KM) Statistics											
620				Approximate Chi Square Value (268.19, α)	231.3	Adjusted Chi Square Value (268.19, β)	230.4					
621				95% KM Approximate Gamma UCL	46.46	95% KM Adjusted Gamma UCL	46.63					
622												
623	Lognormal GOF Test on Detected Observations Only											
624				Shapiro Wilk Approximate Test Statistic	0.962	Shapiro Wilk GOF Test						
625				10% Shapiro Wilk P Value	0.138	Detected Data appear Lognormal at 10% Significance Level						
626				Lilliefors Test Statistic	0.0888	Lilliefors GOF Test						
627				10% Lilliefors Critical Value	0.105	Detected Data appear Lognormal at 10% Significance Level						
628	Detected Data appear Lognormal at 10% Significance Level											
629												
630	Lognormal ROS Statistics Using Imputed Non-Detects											
631				Mean in Original Scale	40.06	Mean in Log Scale	3.525					
632				SD in Original Scale	26.63	SD in Log Scale	0.555					
633				95% t UCL (assumes normality of ROS data)	45.76	95% Percentile Bootstrap UCL	45.74					
634				95% BCA Bootstrap UCL	46.82	95% Bootstrap t UCL	46.92					
635				95% H-UCL (Log ROS)	45.37							
636												

D-1 Soil to Groundwater Pathway - SVOC Data
Bridge - Former Dawn Foods

	Paired Data			Paired Data		
Sample ID	**GP-SB-21-05**	**GP-SB-21-10**	**MW-2**	**GP-SB-25-08**	**GP-SB-25-13.5**	**GP-SB-25-GW**
Date Sample	**12/1/2020**	**12/1/2020**	**1/22/2024**	**12/5/2020**	**12/5/2020**	**12/5/2020**
Depth ft. bgs	**3 to 5**	**7.5 to 10**	**Groundwater**	**6 to 8**	**12 to 13.5**	**Groundwater**
Zone	**Vadose**	**Saturated**		**Vadose**	**Saturated**	
Units	**mg/kg**	**mg/kg**	**ug/L**	**mg/kg**	**mg/kg**	**ug/L**
SVOCs				SVOCs		
1-Methylnaphthalene	<0.05	<0.01	0.2 U	**1.8**	<0.01	0.4 U
2-Methylnaphthalene	<0.05	<0.01	0.2 U	**0.28**	<0.01	0.4 U
Acenaphthene	<0.05	<0.01	0.02 U	**0.43**	<0.01	0.04 U
Acenaphthylene	<0.05	<0.01	0.02 U	<0.05	<0.01	0.04 U
Anthracene	<0.05	<0.01	0.02 U	<0.05	<0.01	0.04 U
Benz(a)anthracene	<0.05	<0.01	0.02 U	**0.11**	<0.01	0.04 U
Benzo(a)pyrene	<0.05	<0.01	0.02 U	**0.15**	<0.01	0.04 U
Benzo(b)fluoranthene	<0.05	<0.01	0.02 U	**0.19**	<0.01	0.04 U
Benzo(g,h,i)perylene	<0.05	<0.01	0.04 U	**0.10**	<0.01	0.08 U
Benzo(k)fluoranthene	<0.05	<0.01	0.02 U	**0.063**	<0.01	0.04 U
Chrysene	<0.05	<0.01	0.02 U	**0.14**	<0.01	0.04 U
Dibenz(a,h)anthracene	<0.05	<0.01	0.02 U	<0.05	<0.01	0.04 U
Fluoranthene	<0.05	<0.01	0.02 U	**0.21**	<0.01	0.04 U
Fluorene	<0.05	<0.01	0.02 U	**0.67**	<0.01	0.04 U
Indeno(1,2,3-cd)pyrene	<0.05	<0.01	0.02 U	**0.11**	<0.01	0.04 U
Naphthalene	<0.05	<0.01	0.2 U	<0.05	<0.01	0.4 U
Phenanthrene	<0.05	<0.01	0.02 U	**1.0**	<0.01	0.04 U
Pyrene	<0.05	<0.01	0.02 U	**0.24**	<0.01	0.04 U
Total cPAHs TEQ	<0.05	<0.01	ND	**0.188**	<0.01	ND

Notes:
Shading denotes an exceedance of a PCUL.
ug/L = micrograms per liters
mg/kg = milligrams per kilograms
SVOCs -Semi Volatile Organic Compounds
< or U = laboratory detection limit
ND = Not detected
cPAHs - carcinogenic polycyclic aromatic hydrocarbons

D-2 Soil to Groundwater Pathway - Arsenic
Bridge - Former Dawn Foods

Sample ID	Date Sampled	**Sample Depth (feet bgs)**	**Vadose or Saturated**	Units	**Arsenic**	**Notes**
GP-SB-5-7	1/2/2020	7	Saturated	mg/kg	**5.09**	
GP-SB-5-12	1/2/2020	12	Saturated	mg/kg	**2.48**	
GP-SB-5	1/2/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-11	6/9/2020	4 to 5	Vadose	mg/kg	5 U	
GP-SB-11	6/9/20		**DPT - GW**	ug/L	**4.61 ca**	
MW-5 12.5-14'	12/15/2021	12.5 to 14	Saturated	mg/kg	**5.46**	
MW-5	1/31/22		MW-GW	ug/L	**1.98**	
MW-5	4/21/22		MW-GW	ug/L	**0.568 J**	
MW-5	8/9/22		MW-GW	ug/L	**0.182 J**	
MW-5	12/21/22		MW-GW	ug/L	**0.309 J**	
MW-5	3/25/23		MW-GW	ug/L	**0.443 J**	
MW-5	6/19/23		MW-GW	ug/L	**0.860**	
MW-5	8/28/23		MW-GW	ug/L	**0.584 J**	
MW-5	1/22/24		MW-GW	ug/L	0.162 U	
MW-5	4/25/24		MW-GW	ug/L	**0.408 J**	**This location is linked to MW-5, use well data instead of DPT data**
MW-5	6/6/24		MW-GW	ug/L	**0.427 J**	
MW-5	9/25/24		MW-GW	ug/L	NA	
GP-SB-12	6/9/2020	8.5 to 9.5	Saturated	mg/kg	5 U	
GP-SB-12	6/9/20		**DPT - GW**	ug/L	1 Uca	**Pair**
GP-SB-18-03	12/1/2020	2 to 3	Vadose	mg/kg	**4.81**	
GP-SB-18-09.5	12/1/2020	9 to 9.5	Saturated	mg/kg	1 U	**MW-5 nearest down gradient well.**
GP-SB-18	12/1/20		**DPT - GW**	ug/L	**14.8**	
GP-SB-19-03.5	12/1/2020	3 to 3.5	Vadose	mg/kg	**3.56**	
GP-SB-19-08.5	12/1/2020	8 to 8.5	Saturated	mg/kg	**3.48**	
HC-2, S-2 (GP-SB-19)	9/6/1996	7.5-9	Saturated	mg/kg	7 U	
GP-SB-19	12/1/20		**DPT - GW**	ug/L	**1.85**	**Pair**
GP-SB-21-05	12/1/2020	3 to 5	Vadose	mg/kg	**1.75**	
GP-SB-21-10	12/1/2020	7.5 to 10	Saturated	mg/kg	**6.11**	
MW-6 7.5-9'	12/15/2021	7.5 to 9	Saturated	mg/kg	**3.80**	
MW-6	1/30/22		MW-GW	ug/L	**0.286 J**	
MW-6	4/21/22		MW-GW	ug/L	**0.241 J**	
MW-6	8/8/22		MW-GW	ug/L	**0.367 J**	
MW-6	12/21/22		MW-GW	ug/L	**0.216 J**	
MW-6	3/25/23		MW-GW	ug/L	0.404 U	
MW-6	6/21/20203		MW-GW	ug/L	0.404 U	
MW-6	8/30/23		MW-GW	ug/L	**0.251 J**	
MW-6	1/10/24		MW-GW	ug/L	0.162 U	**This location is linked to MW6, use well data instead of DPT data**
MW-6	4/24/24		MW-GW	ug/L	0.222 U	
MW-6	6/7/24		MW-GW	ug/L	NA	
GP-SB-25-08	12/5/2020	6 to 8	Vadose	mg/kg	**5.44**	
GP-SB-25-13.5	12/5/2020	12 to 13.5	Saturated	mg/kg	**5.07**	
GP-SB-25	12/5/20		**DPT - GW**	ug/L	**5.05**	**Pair**
GP-SB-26-06	12/5/2020	4 to 6	Vadose	mg/kg	**4.13**	
GP-SB-26-12	12/5/2020	10 to 12	Saturated	mg/kg	**2.48**	**Pair**
GP-SB-27-08	12/5/2020	6 to 8	Vadose	mg/kg	**2.03**	
GP-SB-27-12	12/5/2020	11 to 12	Saturated	mg/kg	**3.05**	
GP-SB-27-14.5	12/5/2020	12 to 14.5	Saturated	mg/kg	**4.79**	
GP-SB-27	12/5/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-28-04	12/5/2020	2 to 4	Vadose	mg/kg	**2.31**	
GP-SB-28-08	12/5/2020	6 to 8	Vadose	mg/kg	**1.81**	
GP-SB-28-12	12/5/2020	11.2 to 12	Saturated	mg/kg	**6.91**	
GP-SB-28-13	12/5/2020	12 to 13	Saturated	mg/kg	**3.26**	
GP-SB-28	12/5/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-29-06.5	12/5/2020	5.2 to 6.5	Vadose	mg/kg	**3.87**	
GP-SB-29-10.5	12/5/2020	9.5 to 10.5	Saturated	mg/kg	**1.85**	
GP-SB-29-12	12/5/2020	11 to 12	Saturated	mg/kg	**1.33**	
GP-SB-29	12/5/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-30-05.5	12/12/2020	4 to 5.5	Vadose	mg/kg	**6.06**	
GP-SB-30-08	12/12/2020	7 to 8	Vadose	mg/kg	**1.40**	**Near Fox Ave, all downgradient wells are below PCULs**
GP-SB-30-13.3	12/12/2020	12.5 to 13.3	Saturated	mg/kg	**3.56**	
GP-SB-30	12/12/20		**DPT - GW**	ug/L	**11.3**	
GP-SB-31-06	12/12/2020	4.5 to 6	Vadose	mg/kg	**4.50**	
GP-SB-31-08	12/12/2020	7 to 8	Vadose	mg/kg	**3.85**	**Near Fox Ave, all downgradient wells are below PCULs**
GP-SB-31-14	12/12/2020	12.5 to 14	Saturated	mg/kg	**1.08**	
GP-SB-31	12/12/20		**DPT - GW**	ug/L	**16.4**	
MW-1 13-14'	12/16/2021	13 to 14	Saturated	mg/kg	**3.86**	
MW-1	2/1/22		MW-GW	ug/L	**1.23**	
MW-1	4/19/22		MW-GW	ug/L	**1.58**	
MW-1	8/8/22		MW-GW	ug/L	**1.37**	
MW-1	12/21/22		MW-GW	ug/L	**1.14**	
MW-1	3/25/23		MW-GW	ug/L	**1.41**	
MW-1	6/21/23		MW-GW	ug/L	**1.56**	
MW-1	8/29/23		MW-GW	ug/L	**1.26**	
MW-1	10/19/23		MW-GW	ug/L	**1.52 J**	
MW-1	1/10/24		MW-GW	ug/L	**1.58**	
MW-1	4/26/24		MW-GW	ug/L	**1.40**	
MW-1	6/6/24		MW-GW	ug/L	**1.24**	**MW-1**
MW-2 7.5-9'	12/15/2021	7.5 to 9	Saturated	mg/kg	**2.51**	
MW-2 12.5-14'	12/15/2021	12.5 to 14	Saturated	mg/kg	**8.55**	
MW-2	1/31/22		MW-GW	ug/L	**3.37**	
MW-2	4/19/22		MW-GW	ug/L	**3.48**	
MW-2	8/9/22		MW-GW	ug/L	**3.29**	
MW-2	12/22/22		MW-GW	ug/L	**2.94**	
MW-2	3/26/23		MW-GW	ug/L	**2.82**	
MW-2	6/19/23		MW-GW	ug/L	**3.42**	
MW-2	8/29/23		MW-GW	ug/L	**3.21**	
MW-2	1/22/24		MW-GW	ug/L	**3.64**	

D-2 Soil to Groundwater Pathway - Arsenic
Bridge - Former Dawn Foods

Sample ID	Date Sampled	Sample Depth (feet bgs)	Vadose or Saturated	Units	Arsenic	Notes
MW-2	4/24/24		MW-GW	ug/L	**3.58**	
MW-2	6/5/24		MW-GW	ug/L	**3.42**	**MW-2**
MW-3 7.5-9'	12/16/2021	7.5 to 9	Saturated	mg/kg	**1.36**	
MW-3 12.5-14'	12/16/2021	12.5 to 14	Saturated	mg/kg	**4.21**	
MW-3	1/30/22		MW-GW	ug/L	**4.10**	
MW-3	4/20/22		MW-GW	ug/L	**3.07**	
MW-3	8/8/22		MW-GW	ug/L	**3.10**	
MW-3	12/22/22		MW-GW	ug/L	**2.54**	
MW-3	3/26/23		MW-GW	ug/L	**2.59**	
MW-3	6/21/23		MW-GW	ug/L	**2.28**	
MW-3	8/29/23		MW-GW	ug/L	**2.33**	
MW-3	1/12/24		MW-GW	ug/L	**1.95**	
MW-3	4/25/24		MW-GW	ug/L	**2.45**	**MW-3**
MW-4 7.5-9'	12/16/2021	7.5 to 9	Saturated	mg/kg	**1.86**	
MW-4 11-11.5'	12/16/2021	11 to 11.5	Saturated	mg/kg	**2.50**	
MW-4	2/2/22		MW-GW	ug/L	**0.645 J**	
MW-4	4/20/22		MW-GW	ug/L	**0.323 J**	
MW-4	8/9/22		MW-GW	ug/L	**0.165 J**	
MW-4	12/22/22		MW-GW	ug/L	**0.162 U**	
MW-4	3/26/23		MW-GW	ug/L	0.162 U	
MW-4	6/19/23		MW-GW	ug/L	0.162 U	
MW-4	8/30/23		MW-GW	ug/L	0.162 U	
MW-4	1/11/24		MW-GW	ug/L	0.162 U	
MW-4	4/24/24		MW-GW	ug/L	0.222 U	
MW-4	6/7/24		MW-GW	ug/L	0.222 U	**MW-4**
RI-SB-01-10	12/18/2021	8 to 10	Saturated	mg/kg	**2.20**	
RI-SB-01-14	12/18/2021	12.5 to 14	Saturated	mg/kg	**3.31**	
RI-SB-01	12/18/21		**DPT - GW**	ug/L	1 U	**Pair**
RI-SB-02-08	12/18/2021	6 to 8	Vadose	mg/kg	**3.17**	
RI-SB-02-12	12/18/2021	10 to 12	Saturated	mg/kg	**1.59**	
RI-SB-02 / Duplicate	12/18/21		**DPT - GW**	ug/L	**1.29**	**Pair**
RI-SB-04 2-4' / DUP-022823	2/28/2023	2 to 4	Vadose	mg/kg	**13.0**	
RI-SB-04 11-12'	2/28/2023	11 to 12	Saturated	mg/kg	**2.73**	
RI-SB-04	2/28/23		**DPT - GW**	ug/L	0.162 U	**Pair**
RI-SB-05 9-10'	2/28/2023	9 to 10	Saturated	mg/kg	**2.09**	
RI-SB-05 12.5-14'	2/28/2023	12.5 to 14	Saturated	mg/kg	**7.30**	
RI-SB-05	2/28/23		**DPT - GW**	ug/L	**0.766**	**Pair**
RI-SB-06 6-8'	2/28/2023	6 to 8	Saturated	mg/kg	**1.63**	
RI-SB-06 12.5-13.5'	2/28/2023	12.5 to 13.5	Saturated	mg/kg	**3.37**	**Pair - MW-1 downgradient of this boring**
RI-SB-06	2/28/23		**DPT - GW**	ug/L	**11.1**	
MW-7 8-10'	2/28/2023	8 to 10	Saturated	mg/kg	**5.44**	
MW-7 16-18'	2/28/2023	16 to 18	Saturated	mg/kg	**2.89**	
MW-7	3/28/23		MW-GW	ug/L	**0.415 J**	
MW-7	6/21/23		MW-GW	ug/L	**0.311 J**	
MW-7	8/28/23		MW-GW	ug/L	**0.562 J**	
MW-7	1/12/24		MW-GW	ug/L	0.162 U	
MW-7	4/26/24		MW-GW	ug/L	0.222 U	
MW-7	6/6/24		MW-GW	ug/L	0.222 U	**MW-7**
MW-8 11-13'	2/28/2023	11 to 13	Saturated	mg/kg	1 U	
MW-8	3/25/23		MW-GW	ug/L	**8.4**	
MW-8	6/19/23		MW-GW	ug/L	**4.61**	
MW-8	8/28/23		MW-GW	ug/L	**9.07**	
MW-8	1/10/24		MW-GW	ug/L	**5.61**	
MW-8	4/24/24		MW-GW	ug/L	**2.74**	
MW-8	6/5/24		MW-GW	ug/L	**4.25**	**GW detections go away after monitoring**
MW-8	9/23/24		MW-GW	ug/L	NA	
RI-SB-08 5-10'	2/29/2024	5-10	Vadose	mg/kg	**10.6**	
RI-SB-08 10.6-12.5'	2/29/2024	10.6-12.5	Saturated	mg/kg	**4.54**	**Pair**
RI-SB-08 DUP04-0224	2/29/24		**DPT - GW**	ug/L	**4.30**	
RI-SB-09 10-12.5'	2/29/2024	10-12.5	Saturated	mg/kg	**3.88**	**Pair**
RI-SB-09 DUP01-0224					**4.81**	
RI-SB-09 DUP02-0224	2/29/24		**DPT - GW**	ug/L	**1.93**	
RI-SB-10 5-8'	2/27/2024	5-8	Vadose/Saturated	mg/kg	**28.7**	**Pair**
RI-SB-10	2/27/24		**DPT - GW**	ug/L	**1.13**	
RI-SB-11 5-7.5'	2/27/2024	5-7.5	Vadose	mg/kg	**7.37**	**Paired**
HC-4, S-3	9/6/1996	7.5-9.0	Saturated	mg/kg	26	
HC-4, S-4	9/6/1996	12.5-14.0	Saturated	mg/kg	7 U	
RI-SB-11	2/27/24		**DPT - GW**	ug/L	**0.996**	
PCUL (Vadose) Soil					7.3	
PCUL (Saturated) Soil					7.3	
PCUL (ug/L) Groundwater					8.00	

Notes:
Shading denotes an exceedance of a PCUL.
ug/L = micrograms per liters
mg/kg = milligrams per kilograms
Dissolved groundwater data shown
For samples with duplicate data, the highest value is presented in this table.
< or U = laboratory detection limit
ND = Not detected

D-3 Soil to Groundwater Pathway - Lead
Bridge - Former Dawn Foods

Sample ID	Date Sampled	Sample Depth (feet bgs)	Vadose or Saturated	Units	Lead	Notes
GP-SB-5-7	1/2/2020	7	Saturated	mg/kg	**222**	
GP-SB-5-12	1/2/2020	12	Saturated	mg/kg	**3.09**	
GP-SB-5	1/2/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-11	6/9/2020	4 to 5	Vadose	mg/kg	**48.2**	
GP-SB-11	6/9/20		**DPT - GW**	ug/L	1 U	
MW-5 12.5-14'	12/15/2021	12.5 to 14	Saturated	mg/kg	**93.1**	
MW-5	1/31/22		MW-GW	ug/L	**0.147**	
MW-5	4/21/22		MW-GW	ug/L	**0.093 J**	
MW-5	8/9/22		MW-GW	ug/L	0.061 U	
MW-5	12/21/22		MW-GW	ug/L	**0.116 J**	
MW-5	3/25/23		MW-GW	ug/L	0.061 U	
MW-5	6/19/23		MW-GW	ug/L	0.061 U	
MW-5	8/28/23		MW-GW	ug/L	**0.093 J**	
MW-5	1/22/24		MW-GW	ug/L	0.061 U	
MW-5	4/25/24		MW-GW	ug/L	0.091 U	**This location is linked to**
MW-5	6/6/24		MW-GW	ug/L	0.091 U	**MW-5, use well data instead**
MW-5	9/25/24		MW-GW	ug/L	NA	**of DPT data**
GP-SB-12	6/9/2020	8.5 to 9.5	Saturated	mg/kg	**1.04**	
GP-SB-12	6/9/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-18-03	12/1/2020	2 to 3	Vadose	mg/kg	**13.5**	
GP-SB-18-09.5	12/1/2020	9 to 9.5	Saturated	mg/kg	**1 U**	**MW-5 nearest down**
GP-SB-18	12/1/20		**DPT - GW**	ug/L	1 U	**gradient well.**
GP-SB-19-03.5	12/1/2020	3 to 3.5	Vadose	mg/kg	**49.1**	
GP-SB-19-08.5	12/1/2020	8 to 8.5	Saturated	mg/kg	**2.27**	
HC-2, S-2 (GP-SB-19)	9/6/1996	7.5-9	Saturated	mg/kg	5 U	
GP-SB-19	12/1/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-21-05	12/1/2020	3 to 5	Vadose	mg/kg	**2.04**	
GP-SB-21-10	12/1/2020	7.5 to 10	Saturated	mg/kg	**5.41**	
MW-6 7.5-9'	12/15/2021	7.5 to 9	Saturated	mg/kg	**13.9**	
MW-6	1/30/22		MW-GW	ug/L	0.101 U	
MW-6	4/21/22		MW-GW	ug/L	0.101 U	
MW-6	8/8/22		MW-GW	ug/L	0.061 U	
MW-6	12/21/22		MW-GW	ug/L	0.061 U	
MW-6	3/25/23		MW-GW	ug/L	0.152 U	
MW-6	6/21/20203		MW-GW	ug/L	0.152 U	
MW-6	8/30/23		MW-GW	ug/L	0.061 U	**This location is linked to**
MW-6	1/10/24		MW-GW	ug/L	0.061 U	**MW6, use well data instead**
MW-6	4/24/24		MW-GW	ug/L	0.091 U	**of DPT data**
GP-SB-25-08	12/5/2020	6 to 8	Vadose	mg/kg	**48.3**	
GP-SB-25-13.5	12/5/2020	12 to 13.5	Saturated	mg/kg	**3.37**	
GP-SB-25	12/5/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-26-06	12/5/2020	4 to 6	Vadose	mg/kg	**20.0**	
GP-SB-26-12	12/5/2020	10 to 12	Saturated	mg/kg	**3.01**	**Pair**
GP-SB-27-08	12/5/2020	6 to 8	Vadose	mg/kg	**1.08**	
GP-SB-27-12	12/5/2020	11 to 12	Saturated	mg/kg	**6.60**	
GP-SB-27-14.5	12/5/2020	12 to 14.5	Saturated	mg/kg	**3.83**	
GP-SB-27	12/5/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-28-04	12/5/2020	2 to 4	Vadose	mg/kg	**34.0**	
GP-SB-28-08	12/5/2020	6 to 8	Vadose	mg/kg	**1.04**	
GP-SB-28-12	12/5/2020	11.2 to 12	Saturated	mg/kg	**5.49**	
GP-SB-28-13	12/5/2020	12 to 13	Saturated	mg/kg	**2.81**	
GP-SB-28	12/5/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-29-06.5	12/5/2020	5.2 to 6.5	Vadose	mg/kg	**3.31**	
GP-SB-29-10.5	12/5/2020	9.5 to 10.5	Saturated	mg/kg	**1.83**	
GP-SB-29-12	12/5/2020	11 to 12	Saturated	mg/kg	**1.42**	
GP-SB-29	12/5/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-30-05.5	12/12/2020	4 to 5.5	Vadose	mg/kg	**24.8**	
GP-SB-30-08	12/12/2020	7 to 8	Vadose	mg/kg	1 U	**Near Fox Ave, all**
GP-SB-30-13.3	12/12/2020	12.5 to 13.3	Saturated	mg/kg	**5.90**	**downgradient wells are**
GP-SB-30	12/12/20		**DPT - GW**	ug/L	1 U	**below PCULs**
GP-SB-31-06	12/12/2020	4.5 to 6	Vadose	mg/kg	**16.5**	
GP-SB-31-08	12/12/2020	7 to 8	Vadose	mg/kg	**2.50**	**Near Fox Ave, all**
GP-SB-31-14	12/12/2020	12.5 to 14	Saturated	mg/kg	**1.79**	**downgradient wells are**
GP-SB-31	12/12/20		**DPT - GW**	ug/L	1 U	**below PCULs**
MW-1 13-14'	12/16/2021	13 to 14	Saturated	mg/kg	**1.73**	
MW-1	2/1/22		MW-GW	ug/L	0.040 U	
MW-1	4/19/22		MW-GW	ug/L	0.040 U	
MW-1	8/8/22		MW-GW	ug/L	0.061 U	
MW-1	12/21/22		MW-GW	ug/L	0.061 U	
MW-1	3/25/23		MW-GW	ug/L	0.061 U	
MW-1	6/21/23		MW-GW	ug/L	0.061 U	
MW-1	8/29/23		MW-GW	ug/L	**0.102 J**	
MW-1	10/19/23		MW-GW	ug/L	1.52 U	
MW-1	1/10/24		MW-GW	ug/L	0.061 U	
MW-1	4/26/24		MW-GW	ug/L	0.091 U	
MW-1	6/6/24		MW-GW	ug/L	0.091 U	**MW-1**
MW-2 7.5-9'	12/15/2021	7.5 to 9	Saturated	mg/kg	**2.73**	
MW-2 12.5-14'	12/15/2021	12.5 to 14	Saturated	mg/kg	**3.77**	
MW-2	1/31/22		MW-GW	ug/L	0.040 U	
MW-2	4/19/22		MW-GW	ug/L	0.040 U	
MW-2	8/9/22		MW-GW	ug/L	0.061 U	
MW-2	12/22/22		MW-GW	ug/L	0.061 U	
MW-2	3/26/23		MW-GW	ug/L	0.152 U	
MW-2	6/19/23		MW-GW	ug/L	0.061 U	
MW-2	8/29/23		MW-GW	ug/L	**0.089 J**	
MW-2	1/22/24		MW-GW	ug/L	0.061 U	
MW-2	4/24/24		MW-GW	ug/L	0.091 U	
MW-2	6/5/24		MW-GW	ug/L	**0.061 U**	**MW-2**
MW-3 7.5-9'	12/16/2021	7.5 to 9	Saturated	mg/kg	**2.37**	
MW-3 12.5-14'	12/16/2021	12.5 to 14	Saturated	mg/kg	**6.00**	
MW-3	1/30/22		MW-GW	ug/L	**1.49**	
MW-3	4/20/22		MW-GW	ug/L	0.101 U	
MW-3	8/8/22		MW-GW	ug/L	0.152 U	
MW-3	12/22/22		MW-GW	ug/L	0.061 U	
MW-3	3/26/23		MW-GW	ug/L	0.152 U	
MW-3	6/21/23		MW-GW	ug/L	0.061 U	
MW-3	8/29/23		MW-GW	ug/L	**0.089 J**	
MW-3	1/12/24		MW-GW	ug/L	0.152 U	
MW-3	4/25/24		MW-GW	ug/L	0.227 U	**MW-3**
MW-4 7.5-9'	12/16/2021	7.5 to 9	Saturated	mg/kg	**1.89**	
MW-4 11-11.5'	12/16/2021	11 to 11.5	Saturated	mg/kg	**2.67**	
MW-4	2/2/22		MW-GW	ug/L	0.040 U	
MW-4	4/20/22		MW-GW	ug/L	0.040 U	
MW-4	8/9/22		MW-GW	ug/L	0.061 U	
MW-4	12/22/22		MW-GW	ug/L	0.061 U	
MW-4	3/26/23		MW-GW	ug/L	0.061 U	
MW-4	6/19/23		MW-GW	ug/L	0.061 U	
MW-4	8/30/23		MW-GW	ug/L	0.061 U	
MW-4	1/11/24		MW-GW	ug/L	0.061 U	
MW-4	4/24/24		MW-GW	ug/L	0.091 U	
MW-4	6/7/24		MW-GW	ug/L	0.091 U	**MW-4**
RI-SB-01-10	12/18/2021	8 to 10	Saturated	mg/kg	**7.51**	
RI-SB-01-14	12/18/2021	12.5 to 14	Saturated	mg/kg	**2.60**	
RI-SB-01	12/18/21		**DPT - GW**	ug/L	1 U	**Pair**
RI-SB-02-08	12/18/2021	6 to 8	Vadose	mg/kg	**2.14**	
RI-SB-02-12	12/18/2021	10 to 12	Saturated	mg/kg	**1.49**	
RI-SB-02 / Duplicate	12/18/21		**DPT - GW**	ug/L	1 U	**Pair**
RI-SB-04 2-4' / DUP-022823	2/28/2023	2 to 4	Vadose	mg/kg	**97.6**	

D-3 Soil to Groundwater Pathway - Lead
Bridge - Former Dawn Foods

Sample ID	Date Sampled	Sample Depth (feet bgs)	Vadose or Saturated	Units	Lead	Notes
RI-SB-04 11-12'	2/28/2023	11 to 12	Saturated	mg/kg	**3.15**	
RI-SB-04	2/28/23		**DPT - GW**	ug/L	0.061 U	**Pair**
RI-SB-05 9-10'	2/28/2023	9 to 10	Saturated	mg/kg	**1.35**	
RI-SB-05 12.5-14'	2/28/2023	12.5 to 14	Saturated	mg/kg	**2.13**	
RI-SB-05	2/28/23		**DPT - GW**	ug/L	0.061 U	**Pair**
RI-SB-06 6-8'	2/28/2023	6 to 8	Saturated	mg/kg	**5.51**	
RI-SB-06 12.5-13.5'	2/28/2023	12.5 to 13.5	Saturated	mg/kg	**1.90**	**Pair - MW-1 downgradient**
RI-SB-06	2/28/23		**DPT - GW**	ug/L	0.061 U	**of this boring**
MW-7 8-10'	2/28/2023	8 to 10	Saturated	mg/kg	**5.70**	
MW-7 16-18'	2/28/2023	16 to 18	Saturated	mg/kg	**2.42**	
MW-7	3/28/23		MW-GW	ug/L	0.061 U	
MW-7	6/21/23		MW-GW	ug/L	0.061 U	
MW-7	8/28/23		MW-GW	ug/L	**0.225**	
MW-7	1/12/24		MW-GW	ug/L	0.061 U	
MW-7	4/26/24		MW-GW	ug/L	0.091 U	
MW-7	6/6/24		MW-GW	ug/L	0.091 U	**MW-7**
MW-8 11-13'	2/28/2023	11 to 13	Saturated	mg/kg	1 U	
MW-8	3/25/23		MW-GW	ug/L	0.061 U	
MW-8	6/19/23		MW-GW	ug/L	0.061 U	
MW-8	8/28/23		MW-GW	ug/L	**0.112 J**	
MW-8	1/10/24		MW-GW	ug/L	0.061 U	
MW-8	4/24/24		MW-GW	ug/L	0.091 U	
MW-8	6/5/24		MW-GW	ug/L	0.091 U	**MW-8**
RI-SB-08 5-10'	2/29/2024	5-10	Vadose	mg/kg	**8.90**	
RI-SB-08 10.6-12.5'	2/29/2024	10.6-12.5	Saturated	mg/kg	**38.2**	**Pair**
RI-SB-08 DUP04-0224	2/29/24		**DPT - GW**	ug/L	0.061 U	
RI-SB-09 10-12.5' DUP01-0224	2/29/2024	10-12.5	Saturated	mg/kg	**5.38 4.74**	**Pair**
RI-SB-09 DUP02-0224	2/29/24		**DPT - GW**	ug/L	0.061 U	
RI-SB-10 5-8'	2/27/2024	5-8	Vadose/Saturated	mg/kg	**91.4**	**Paired**
RI-SB-10	2/27/24		**DPT - GW**	ug/L	0.061 U	
RI-SB-11 5-7.5'	2/27/2024	5-7.5	Vadose	mg/kg	**133**	
HC-4, S-3	9/6/1996	7.5-9.0	Saturated	mg/kg	580	
HC-4, S-4	9/6/1996	12.5-14.0	Saturated	mg/kg	36	
RI-SB-11	2/27/24		**DPT - GW**	ug/L	**0.257**	
PCUL (Vadose) Soil					250	
PCUL (Saturated) Soil					81	
PCUL (ug/L) Groundwater					8.10	

Notes:
Shading denotes an exceedance of a PCUL.
ug/L = micrograms per liters
mg/kg = milligrams per kilograms
Dissolved groundwater data shown
For samples with duplicate data, the highest value is presented in this table.
< or U = laboratory detection limit
ND = Not detected

D-4 Soil to Groundwater Pathway - Copper
Bridge - Former Dawn Foods

Sample ID	Date Sampled	**Sample Depth (feet bgs)**	**Vadose or Saturated**	Units	**Copper**	**Notes**
GP-SB-5-7	1/2/2020	7	Saturated	mg/kg	**213**	
GP-SB-5-12	1/2/2020	12	Saturated	mg/kg	**19.1**	
GP-SB-5	1/2/20		**DPT - GW**	ug/L	25 U	**Pair**
GP-SB-11	6/9/2020	4 to 5	Vadose	mg/kg	**83.1**	
GP-SB-11	6/9/20		**DPT - GW**	ug/L	**2.73**	
MW-5	1/31/22		MW-GW	ug/L	0.404 U	
MW-5	4/21/22		MW-GW	ug/L	**0.983 J**	
MW-5	8/9/22		MW-GW	ug/L	**0.866 J**	
MW-5	12/21/22		MW-GW	ug/L	**1.46**	
MW-5	3/25/23		MW-GW	ug/L	0.505 U	
MW-5	6/19/23		MW-GW	ug/L	0.505 U	
MW-5	8/28/23		MW-GW	ug/L	0.505 U	
MW-5	1/22/24		MW-GW	ug/L	0.505 U	**This location is linked to MW-**
MW-5	4/25/24		MW-GW	ug/L	0.909 U	**5, use well data instead of**
MW-5	6/6/24		MW-GW	ug/L	0.909 U	**DPT data**
GP-SB-12	6/9/2020	8.5 to 9.5	Saturated	mg/kg	25 U	
GP-SB-12	6/9/20		**DPT - GW**	ug/L	2.4 UJ	**Pair**
MW-1 13-14'	12/16/2021	13 to 14	Saturated	mg/kg	NA	
MW-1	2/1/22		MW-GW	ug/L	**2.30**	
MW-1	4/19/22		MW-GW	ug/L	**2.07**	
MW-1	8/8/22		MW-GW	ug/L	**1.56**	
MW-1	12/21/22		MW-GW	ug/L	**2.14**	
MW-1	3/25/23		MW-GW	ug/L	**2.91**	
MW-1	6/21/23		MW-GW	ug/L	**1.44**	
MW-1	8/29/23		MW-GW	ug/L	**1.81**	
MW-1	10/19/23		MW-GW	ug/L	**1.94 J**	
MW-1	1/10/24		MW-GW	ug/L	**2.02**	
MW-1	4/26/24		MW-GW	ug/L	**1.63 J**	
MW-1	6/6/24		MW-GW	ug/L	**1.67 J**	**MW-1**
RI-SB-04 2-4' / DUP-022823	2/28/2023	2 to 4	Vadose	mg/kg	**161**	
RI-SB-04 11-12'	2/28/2023	11 to 12	Saturated	mg/kg	**20.1**	
RI-SB-04	2/28/23		**DPT - GW**	ug/L	0.505 U	**Pair**
RI-SB-05 9-10'	2/28/2023	9 to 10	Saturated	mg/kg	**8.24**	
RI-SB-05 12.5-14'	2/28/2023	12.5 to 14	Saturated	mg/kg	**16.5**	
RI-SB-05	2/28/23		**DPT - GW**	ug/L	0.505 U	**Pair**
RI-SB-06 6-8'	2/28/2023	6 to 8	Saturated	mg/kg	**8.44**	
RI-SB-06 12.5-13.5'	2/28/2023	12.5 to 13.5	Saturated	mg/kg	**15.1**	**Pair - MW-1 downgradient**
RI-SB-06	2/28/23		**DPT - GW**	ug/L	0.505 U	**of this boring**
MW-7 8-10'	2/28/2023	8 to 10	Saturated	mg/kg	**18.2**	
MW-7 16-18'	2/28/2023	16 to 18	Saturated	mg/kg	**18.1**	
MW-7	3/28/23		MW-GW	ug/L	**0.521 J**	
MW-7	6/21/23		MW-GW	ug/L	**0.505 U**	
MW-7	8/28/23		MW-GW	ug/L	0.505 U	
MW-7	1/12/24		MW-GW	ug/L	0.505 U	
MW-7	4/26/24		MW-GW	ug/L	0.909 U	
MW-7	6/6/24		MW-GW	ug/L	0.909 U	**MW-7**
MW-8 11-13'	2/28/2023	11 to 13	Saturated	mg/kg	**7.76**	
MW-8	3/25/23		MW-GW	ug/L	**0.907 J**	
MW-8	6/19/23		MW-GW	ug/L	**0.505 U**	
MW-8	8/28/23		MW-GW	ug/L	0.505 U	
MW-8	1/10/24		MW-GW	ug/L	0.505 U	
MW-8	4/24/24		MW-GW	ug/L	0.909 U	
MW-8	6/5/24		MW-GW	ug/L	0.909 U	**MW-8**
RI-SB-08 5-10'	2/29/2024	5-10	Vadose	mg/kg	**53.7**	
RI-SB-08 10.6-12.5'	2/29/2024	10.6-12.5	Saturated	mg/kg	**23.6**	**Pair**
RI-SB-08 DUP04-0224	2/29/24		**DPT - GW**	ug/L	0.505 U	
RI-SB-09 10-12.5' DUP01-0224	2/29/2024	10-12.5	Saturated	mg/kg	**23.7** **22.7**	**Pair**
RI-SB-09 DUP02-0224	2/29/24		**DPT - GW**	ug/L	1.26 U	
RI-SB-10 5-8'	2/27/2024	5-8	Vadose/Saturated	mg/kg	**206**	**Pair**
RI-SB-10	2/27/24		**DPT - GW**	ug/L	0.505 U	
RI-SB-11 5-7.5'	2/27/2024	5-7.5	Vadose	mg/kg	**460**	
HC-4, S-3	9/6/1996	7.5-9.0	Saturated	mg/kg	360	
HC-4, S-4	9/6/1996	12.5-14.0	Saturated	mg/kg	47	
RI-SB-11	2/27/24		**DPT - GW**	ug/L	**1.14**	**Pair**
PCUL (Vadose) Soil					36	
PCUL (Saturated) Soil					36	
PCUL (ug/L) Groundwater					3.10	

Notes:
Shading denotes an exceedance of a PCUL.
ug/L = micrograms per liters
mg/kg = milligrams per kilograms
< or U = laboratory detection limit
ND = Not detected
Monitoring wells with only groundwater data (no soil data) are not shown, with the exception of MW-1.
Dissolved groundwater data shown
For samples with duplicate data, the highest value is presented in this table.

D-5 Soil to Groundwater Pathway - Mercury
Bridge - Former Dawn Foods

Sample ID	Date Sampled	**Sample Depth (feet bgs)**	**Vadose or Saturated**	Units	**Mercury**	**Notes**
GP-SB-5-7	1/2/2020	7	Saturated	mg/kg	**2**	
GP-SB-5-12	1/2/2020	12	Saturated	mg/kg	1 U	
GP-SB-5	1/2/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-11	6/9/2020	4 to 5	Vadose	mg/kg	1 U	**This location is linked to MW-5, use well data instead of DPT data**
MW-5 12.5-14'	12/15/2021	12.5 to 14	Saturated	mg/kg	1 U	
MW-5	1/22/24		MW-GW	ug/L	0.00013 U	
MW-5	4/25/24		MW-GW	ug/L	0.14 U	
MW-5	6/6/24		MW-GW	ug/L	0.00014 U	
GP-SB-12	6/9/2020	8.5 to 9.5	Saturated	mg/kg	1 U	
GP-SB-12	6/9/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-18-03	12/1/2020	2 to 3	Vadose	mg/kg	1 U	**MW-5 nearest down gradient well.**
GP-SB-18-09.5	12/1/2020	9 to 9.5	Saturated	mg/kg	1 U	
GP-SB-18	12/1/20		**DPT - GW**	ug/L	1 U	
GP-SB-19-03.5	12/1/2020	3 to 3.5	Vadose	mg/kg	1 U	
GP-SB-19-08.5	12/1/2020	8 to 8.5	Saturated	mg/kg	1 U	
HC-2, S-2 (GP-SB-19)	9/6/1996	7.5-9	Saturated	mg/kg	0.05 U	
GP-SB-19	12/1/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-20-04.5	12/1/2020	3.5 to 4.5	Vadose	mg/kg	1 U	
GP-SB-20-09	12/1/2020	7 to 9	Saturated	mg/kg	1 U	
GP-SB-20	12/1/20		**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-21-05	12/1/2020	3 to 5	Vadose	mg/kg	1 U	
GP-SB-21-10	12/1/2020	7.5 to 10	Saturated	mg/kg	1 U	**This location is linked to MW6, use well data instead of DPT data**
GP-SB-21	12/1/20		**DPT - GW**	ug/L	1 UJ	
MW-6 7.5-9'	12/15/2021	7.5 to 9	Saturated	mg/kg	1 U	
MW-6	1/10/24		MW-GW	ug/L	0.00013 U	
MW-6	4/24/24		MW-GW	ug/L	0.13 U	
GP-SB-25-08	12/5/2020	6 to 8	Vadose	mg/kg	1 U	
GP-SB-25-13.5	12/5/2020	12 to 13.5	Saturated	mg/kg	1 U	
GP-SB-25	12/5/20		**DPT - GW**	ug/L	1 U	Pair
GP-SB-27-08	12/5/2020	6 to 8	Vadose	mg/kg	1 U	
GP-SB-27-12	12/5/2020	11 to 12	Saturated	mg/kg	1 U	
GP-SB-27-14.5	12/5/2020	12 to 14.5	Saturated	mg/kg	1 U	
GP-SB-27	12/5/20		**DPT - GW**	ug/L	1 U	Pair
GP-SB-28-04	12/5/2020	2 to 4	Vadose	mg/kg	1 U	
GP-SB-28-08	12/5/2020	6 to 8	Vadose	mg/kg	1 U	
GP-SB-28-12	12/5/2020	11.2 to 12	Saturated	mg/kg	1 U	
GP-SB-28-13	12/5/2020	12 to 13	Saturated	mg/kg	1 U	
GP-SB-28	12/5/20		**DPT - GW**	ug/L	1 U	Pair
GP-SB-29-06.5	12/5/2020	5.2 to 6.5	Vadose	mg/kg	1 U	Near Fox Ave, all downgradient wells are below PCULs
GP-SB-29-10.5	12/5/2020	9.5 to 10.5	Saturated	mg/kg	1 U	
GP-SB-29-12	12/5/2020	11 to 12	Saturated	mg/kg	1 U	
GP-SB-29	12/5/20		**DPT - GW**	ug/L	1 U	
GP-SB-30-05.5	12/12/2020	4 to 5.5	Vadose	mg/kg	1 U	
GP-SB-30-08	12/12/2020	7 to 8	Vadose	mg/kg	1 U	
GP-SB-30-13.3	12/12/2020	12.5 to 13.3	Saturated	mg/kg	1 U	
GP-SB-30	12/12/20		**DPT - GW**	ug/L	1 U	Pair
GP-SB-31-06	12/12/2020	4.5 to 6	Vadose	mg/kg	1 U	
GP-SB-31-08	12/12/2020	7 to 8	Vadose	mg/kg	1 U	
GP-SB-31-14	12/12/2020	12.5 to 14	Saturated	mg/kg	1 U	
GP-SB-31	12/12/20		**DPT - GW**	ug/L	1 U	
MW-1 13-14'	12/16/2021	13 to 14	Saturated	mg/kg	1 U	
MW-1	1/10/24		MW-GW	ug/L	**0.00101**	
MW-1	4/26/24		MW-GW	ug/L	**0.00072 H**	
MW-1	6/6/24		MW-GW	ug/L	**0.00055**	MW-1
MW-2 7.5-9'	12/15/2021	7.5 to 9	Saturated	mg/kg	1 U	
MW-2 12.5-14'	12/15/2021	12.5 to 14	Saturated	mg/kg	1 U	
MW-2	1/22/24		MW-GW	ug/L	**0.00022 J**	
MW-2	4/24/24		MW-GW	ug/L	**0.00031 J**	
MW-2	6/5/24		MW-GW	ug/L	**0.00022**	**MW-2**
MW-3 7.5-9'	12/16/2021	7.5 to 9	Saturated	mg/kg	1 U	
MW-3 12.5-14'	12/16/2021	12.5 to 14	Saturated	mg/kg	1 U	
MW-3	1/12/24		MW-GW	ug/L	**0.00031 J**	
MW-3	4/25/24		MW-GW	ug/L	0.00013 U	**MW-3**
MW-4 7.5-9'	12/16/2021	7.5 to 9	Saturated	mg/kg	1 U	
MW-4 11-11.5'	12/16/2021	11 to 11.5	Saturated	mg/kg	1 U	
MW-4	1/11/24		MW-GW	ug/L	0.00014 U	
MW-4	4/24/24		MW-GW	ug/L	0.13 U	
MW-4	6/7/24		MW-GW	ug/L	0.00014 U	MW-4
RI-SB-01-10	12/18/2021	8 to 10	Saturated	mg/kg	1 U	
RI-SB-01-14	12/18/2021	12.5 to 14	Saturated	mg/kg	1 U	
RI-SB-01	12/18/21		**DPT - GW**	ug/L	1 U	Pair
RI-SB-02-08	12/18/2021	6 to 8	Vadose	mg/kg	1 U	
RI-SB-02-12	12/18/2021	10 to 12	Saturated	mg/kg	1 U	
RI-SB-02 / Duplicate	12/18/21		**DPT - GW**	ug/L	1 U / 1 U	Pair
MW-7 8-10'	2/28/2023	8 to 10	Saturated	mg/kg	1 U	
MW-7 16-18'	2/28/2023	16 to 18	Saturated	mg/kg	1 U	
MW-7	1/12/24		MW-GW	ug/L	**0.00019 J**	
MW-7	4/26/24		MW-GW	ug/L	0.13 U	

D-5 Soil to Groundwater Pathway - Mercury
Bridge - Former Dawn Foods

Sample ID	Date Sampled	**Sample Depth (feet bgs)**	**Vadose or Saturated**	Units	**Mercury**	**Notes**
MW-7	6/6/24		MW-GW	ug/L	0.00014 U	MW-7
MW-8 11-13'	2/28/2023	11 to 13	Saturated	mg/kg	1 U	
MW-8	1/10/24		MW-GW	ug/L	**0.00039 J**	
MW-8	4/24/24		MW-GW	ug/L	0.00014 U	
MW-8	6/5/24		MW-GW	ug/L	0.00014 U	MW-8
RI-SB-08 5-10'	2/29/2024	5-10	Vadose	mg/kg	**0.0195**	
RI-SB-08 10.6-12.5'	2/29/2024	10.6-12.5	Saturated	mg/kg	**0.0552**	Pair
RI-SB-08 DUP04-0224	2/29/24		**DPT - GW**	ug/L	0.00014 U	
RI-SB-09 10-12.5' DUP01-0224	2/29/2024	10-12.5	Saturated	mg/kg	**0.112**	
RI-SB-09 DUP02-0224	2/29/24		**DPT - GW**	ug/L	**0.00019 J**	Pair
RI-SB-10 5-8'	2/27/2024	5-8	Vadose/Saturated	mg/kg	**0.044**	
RI-SB-10	2/27/24		**DPT - GW**	ug/L	**0.00249**	Pair
RI-SB-11 5-7.5'	2/27/2024	5-7.5	Vadose	mg/kg	**0.231**	
HC-4, S-3	9/6/1996	7.5-9.0	Saturated	mg/kg	0.41	
HC-4, S-4	9/6/1996	12.5-14.0	Saturated	mg/kg	0.29	
RI-SB-11	2/27/24		**DPT - GW**	ug/L	**0.00373**	Pair
PCUL (Vadose) Soil					0.07	
PCUL (Saturated) Soil					0.07	
PCUL (ug/L) Groundwater					0.03	

Notes:
Shading denotes an exceedance of a PCUL.
ug/L = micrograms per liters
mg/kg = milligrams per kilograms
Dissolved groundwater data shown
For samples with duplicate data, the highest value is presented in this table.

< or U = laboratory detection limit
ND = Not detected

D-6 Soil to Groundwater Pathway - Chromium
Bridge - Former Dawn Foods

Sample ID	**Vadose or Saturated**	Units	**Chromium**	**Notes**
MW-5 12.5-14'	Saturated	mg/kg	**17.1**	
MW-5	MW-GW	ug/L	1.72 U	
MW-5	MW-GW	ug/L	1.72 U	
MW-5	MW-GW	ug/L	4.29 U	
MW-5	MW-GW	ug/L	1.72 U	
MW-5	MW-GW	ug/L	1.72 U	
MW-5	MW-GW	ug/L	1.72 U	
MW-5	MW-GW	ug/L	1.72 U	
MW-5	MW-GW	ug/L	1.72 U	
MW-5	MW-GW	ug/L	1.72 U	
MW-5	MW-GW	ug/L	1.72 U	**MW-5**
GP-SB-18-03	Vadose	mg/kg	**15.9 J**	**MW-5 nearest down gradient well.**
GP-SB-18-09.5	Saturated	mg/kg	**7.66**	
GP-SB-18	**DPT - GW**	ug/L	**1.72**	
GP-SB-19-03.5	Vadose	mg/kg	**9.41**	
GP-SB-19-08.5	Saturated	mg/kg	**9.91**	
HC-2, S-2 (GP-SB-19)	Saturated	mg/kg	5.9	
GP-SB-19	**DPT - GW**	ug/L	10 U	**Pair**
GP-SB-21-05	Vadose	mg/kg	**9.89**	
GP-SB-21-10	Saturated	mg/kg	**7.63**	
GP-SB-21	**DPT - GW**	ug/L	10 U	
MW-6 7.5-9'	Saturated	mg/kg	**9.06**	
MW-6	MW-GW	ug/L	4.29 U	
MW-6	MW-GW	ug/L	4.29 U	
MW-6	MW-GW	ug/L	**1.90 J**	
MW-6	MW-GW	ug/L	1.72 U	
MW-6	MW-GW	ug/L	4.29 U	
MW-6	MW-GW	ug/L	4.29 U	
MW-6	MW-GW	ug/L	1.72 U	
MW-6	MW-GW	ug/L	1.72 U	
MW-6	MW-GW	ug/L	1.72 U	**MW-6**
GP-SB-25-08	Vadose	mg/kg	**9.67**	
GP-SB-25-13.5	Saturated	mg/kg	**9.10**	
GP-SB-25	**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-27-08	Vadose	mg/kg	**6.61**	
GP-SB-27-12	Saturated	mg/kg	**9.13**	
GP-SB-27-14.5	Saturated	mg/kg	**11.3**	
GP-SB-27	**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-28-04	Vadose	mg/kg	**18.4**	
GP-SB-28-08	Vadose	mg/kg	**6.53**	
GP-SB-28-12	Saturated	mg/kg	**11.6**	
GP-SB-28-13	Saturated	mg/kg	**11.3**	
GP-SB-28	**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-29-06.5	Vadose	mg/kg	**9.71**	
GP-SB-29-10.5	Saturated	mg/kg	**10.6**	
GP-SB-29-12	Saturated	mg/kg	**8.60**	
GP-SB-29	**DPT - GW**	ug/L	1 U	**Pair**
GP-SB-30-05.5	Vadose	mg/kg	**9.67**	
GP-SB-30-08	Vadose	mg/kg	**5.74**	
GP-SB-30-13.3	Saturated	mg/kg	**17.5**	
GP-SB-30	**DPT - GW**	ug/L	1 U	
GP-SB-31-06	Vadose	mg/kg	**9.68**	**Near Fox Ave, all downgradient wells are below**
GP-SB-31-08	Vadose	mg/kg	**12.9**	
GP-SB-31-14	Saturated	mg/kg	**9.36**	
GP-SB-31	**DPT - GW**	ug/L	**1.19**	
MW-1 13-14'	Saturated	mg/kg	**9.48**	
MW-1	MW-GW	ug/L	1.72 U	
MW-1	MW-GW	ug/L	1.72 U	
MW-1	MW-GW	ug/L	1.72 U	
MW-1	MW-GW	ug/L	1.72 U	
MW-1	MW-GW	ug/L	1.72 U	
MW-1	MW-GW	ug/L	1.72 U	
MW-1	MW-GW	ug/L	1.72 U	
MW-1	MW-GW	ug/L	4.29 U	
MW-1	MW-GW	ug/L	1.72 U	
MW-1	MW-GW	ug/L	1.72 U	
MW-1	MW-GW	ug/L	1.72 U	**MW-1**
MW-2 7.5-9'	Saturated	mg/kg	**9.4**	
MW-2 12.5-14'	Saturated	mg/kg	**12.0**	
MW-2	MW-GW	ug/L	1.72 U	
MW-2	MW-GW	ug/L	1.72 U	
MW-2	MW-GW	ug/L	1.72 U	
MW-2	MW-GW	ug/L	1.72 U	
MW-2	MW-GW	ug/L	4.29 U	
MW-2	MW-GW	ug/L	1.72 U	
MW-2	MW-GW	ug/L	1.72 U	
MW-2	MW-GW	ug/L	1.72 U	
MW-2	MW-GW	ug/L	1.72 U	
MW-2	MW-GW	ug/L	1.72 U	**MW-2**
MW-3 7.5-9'	Saturated	mg/kg	**8.96**	
MW-3 12.5-14'	Saturated	mg/kg	**10.1**	
MW-3	MW-GW	ug/L	4.29 U	
MW-3	MW-GW	ug/L	4.29 U	
MW-3	MW-GW	ug/L	4.29 U	
MW-3	MW-GW	ug/L	**2.49 J**	
MW-3	MW-GW	ug/L	4.29 U	
MW-3	MW-GW	ug/L	1.72 U	
MW-3	MW-GW	ug/L	**1.83 J**	

D-6 Soil to Groundwater Pathway - Chromium
Bridge - Former Dawn Foods

Sample ID	**Vadose or Saturated**	Units	**Chromium**	**Notes**
MW-3	MW-GW	ug/L	4.29 U	
MW-3	MW-GW	ug/L	4.29 U	**MW-3**
MW-4 7.5-9'	Saturated	mg/kg	**8.83**	
MW-4 11-11.5'	Saturated	mg/kg	**11.3**	
MW-4	MW-GW	ug/L	1.72 U	
MW-4	MW-GW	ug/L	1.72 U	
MW-4	MW-GW	ug/L	1.72 U	
MW-4	MW-GW	ug/L	1.72 U	
MW-4	MW-GW	ug/L	1.72 U	
MW-4	MW-GW	ug/L	1.72 U	
MW-4	MW-GW	ug/L	1.72 U	
MW-4	MW-GW	ug/L	1.72 U	
MW-4	MW-GW	ug/L	1.72 U	**MW-4**
MW-6 7.5-9'	Saturated	mg/kg	**9.06**	
MW-6	MW-GW	ug/L	10 U	
MW-6	MW-GW	ug/L	4.29 U	
MW-6	MW-GW	ug/L	4.29 U	
MW-6	MW-GW	ug/L	**1.90 J**	
MW-6	MW-GW	ug/L	1.72 U	
MW-6	MW-GW	ug/L	4.29 U	
MW-6	MW-GW	ug/L	4.29 U	
MW-6	MW-GW	ug/L	1.72 U	
MW-6	MW-GW	ug/L	1.72 U	
MW-6	MW-GW	ug/L	1.72 U	
MW-6	MW-GW	ug/L	1.72 U	**MW-6**
RI-SB-01-10	Saturated	mg/kg	**14.9**	
RI-SB-01-14	Saturated	mg/kg	**13.0**	
RI-SB-01	**DPT - GW**	ug/L	**1.39**	**Pair**
RI-SB-02-08	Vadose	mg/kg	**9.21**	
RI-SB-02-12	Saturated	mg/kg	**10.2**	
RI-SB-02 / Duplicate	**DPT - GW**	ug/L	**2.12**	**Pair**
RI-SB-04 2-4' / DUP-022823	Vadose	mg/kg	**43.3**	
RI-SB-04 11-12'	Saturated	mg/kg	**10.7**	
RI-SB-04	**DPT - GW**	ug/L	1.72 U	**Pair**
RI-SB-05 9-10'	Saturated	mg/kg	**7.51**	
RI-SB-05 12.5-14'	Saturated	mg/kg	**11.2**	
RI-SB-05	**DPT - GW**	ug/L	1.72 U	**Pair**
RI-SB-06 6-8'	Saturated	mg/kg	**8.51**	**Pair - MW-1 downgradient of this boring**
RI-SB-06 12.5-13.5'	Saturated	mg/kg	**10.2**	
RI-SB-06	**DPT - GW**	ug/L	**3.48 J**	
MW-7 8-10'	Saturated	mg/kg	**11.2**	
MW-7 16-18'	Saturated	mg/kg	**11.1**	
MW-7	MW-GW	ug/L	1.72 U	
MW-7	MW-GW	ug/L	1.72 U	
MW-7	MW-GW	ug/L	**4.31 J**	
MW-7	MW-GW	ug/L	1.72 U	
MW-7	MW-GW	ug/L	1.72 U	
MW-7	MW-GW	ug/L	1.72 U	**MW-7**
MW-8 11-13'	Saturated	mg/kg	**5.23**	
MW-8	MW-GW	ug/L	1.72 U	
MW-8	MW-GW	ug/L	1.72 U	
MW-8	MW-GW	ug/L	1.72 U	
MW-8	MW-GW	ug/L	1.72 U	
MW-8	MW-GW	ug/L	1.72 U	
MW-8	MW-GW	ug/L	1.72 U	**MW-8**
RI-SB-08 5-10'	Vadose	mg/kg	**20.8**	
RI-SB-08 10.6-12.5'	Saturated	mg/kg	**14.1**	
RI-SB-08 DUP04-0224	**DPT - GW**	ug/L	1.72 U	**Pair**
RI-SB-09 10-12.5' DUP01-0224	Saturated	mg/kg	**18.5** **15.4**	**Pair**
RI-SB-09 DUP02-0224	**DPT - GW**	ug/L	1.72 U	
RI-SB-10 5-8'	Vadose/Saturated	mg/kg	**698**	
RI-SB-10	**DPT - GW**	ug/L	**1.92 J**	**Pair**
RI-SB-11 5-7.5'	Vadose	mg/kg	**28.9**	
HC-4, S-3	Saturated	mg/kg	44	
HC-4, S-4	Saturated	mg/kg	4.5	
RI-SB-11	**DPT - GW**	ug/L	**1.81 J**	**Pair**
PCUL (Vadose) Soil			Cr III: 548 Cr VI: 0.14	
PCUL (Saturated) Soil			Cr III: 27 Cr VI: 0.0069	
PCUL (ug/L) Groundwater			Cr III: 27.4 Cr VI: 0.36	

Notes:
Shading denotes an exceedan< or U = laboratory detection limit
ug/L = micrograms per liters ND = Not detected
mg/kg = milligrams per kilograms
Dissolved groundwater data shown
For samples with duplicate data, the highest value is presented in this table.

D-6 Soil to Groundwater Pathway - Nickel
Bridge - Former Dawn Foods

link this to MW-5

Sample ID	Date Sampled	Sample Depth (feet bgs)	Vadose or Saturated	Units	Nickel	Notes
GP-SB-5-7	1/2/2020	7	Saturated	mg/kg	**6.84**	
GP-SB-5-12	1/2/2020	12	Saturated	mg/kg	**9.08**	
GP-SB-5	1/2/20		**DPT - GW**	ug/L	5 U	**Pair**
GP-SB-11	6/9/2020	4 to 5	Vadose	mg/kg	**174**	
MW-5	1/31/22		MW-GW	ug/L	NA	
MW-5	4/21/22		MW-GW	ug/L	1.21 U / 1.21 U	
MW-5	8/9/22		MW-GW	ug/L	3.03 U	
MW-5	12/21/22		MW-GW	ug/L	**1.52 J**	
MW-5	3/25/23		MW-GW	ug/L	1.21 U	
MW-5	6/19/23		MW-GW	ug/L	1.21 U	
MW-5	8/28/23		MW-GW	ug/L	1.21 U	
MW-5	1/22/24		MW-GW	ug/L	1.21 U	
MW-5	4/25/24		MW-GW	ug/L	1.21 U	**This location is linked to MW-5, use well**
MW-5	6/6/24		MW-GW	ug/L	1.21 U / 1.21 U	**data instead of DPT data**
GP-SB-12	6/9/2020	8.5 to 9.5	Saturated	mg/kg	**5.40**	
GP-SB-12	6/9/20		**DPT - GW**	ug/L	**2.37 J**	**Pair**
GP-SB-18-03	12/1/2020	2 to 3	Vadose	mg/kg	**5.05**	
GP-SB-18-09.5	12/1/2020	9 to 9.5	Saturated	mg/kg	**3.00**	
GP-SB-18	12/1/20		**DPT - GW**	ug/L	**5.30**	**Pair**
GP-SB-19-03.5	12/1/2020	3 to 3.5	Vadose	mg/kg	**5.04**	
GP-SB-19-08.5	12/1/2020	8 to 8.5	Saturated	mg/kg	**9.19**	
HC-2, S-2 (GP-SB-19)	9/6/1996	7.5-9	Saturated	mg/kg	4.9	
GP-SB-19	12/1/20		**DPT - GW**	ug/L	10 U	**Pair**
GP-SB-21-05	12/1/2020	3 to 5	Vadose	mg/kg	**11.5**	
GP-SB-21-10	12/1/2020	7.5 to 10	Saturated	mg/kg	**5.18**	
MW-6 7.5-9'	12/15/2021	7.5 to 9	Saturated	mg/kg	**6.89**	
MW-6	1/30/22		MW-GW	ug/L	NA	
MW-6	1/30/22		MW-GW	ug/L	NA	
MW-6	4/21/22		MW-GW	ug/L	3.03 U	
MW-6	8/8/22		MW-GW	ug/L	1.21 U	
MW-6	12/21/22		MW-GW	ug/L	1.21 U / 1.21 U	
MW-6	3/25/23		MW-GW	ug/L	3.03 U	
MW-6	6/21/20203		MW-GW	ug/L	3.03 U	
MW-6	8/30/23		MW-GW	ug/L	**1.23 J**	
MW-6	1/10/24		MW-GW	ug/L	1.21 U	**This location is linked to MW-6, use well**
MW-6	4/24/24		MW-GW	ug/L	1.21 U	**data instead of DPT data**
GP-SB-25-08	12/5/2020	6 to 8	Vadose	mg/kg	**6.49**	
GP-SB-25-13.5	12/5/2020	12 to 13.5	Saturated	mg/kg	**11.4**	
GP-SB-25	12/5/20		**DPT - GW**	ug/L	**1.62**	**Pair**
GP-SB-27-08	12/5/2020	6 to 8	Vadose	mg/kg	**5.45**	
GP-SB-27-12	12/5/2020	11 to 12	Saturated	mg/kg	**7.43**	
GP-SB-27-14.5	12/5/2020	12 to 14.5	Saturated	mg/kg	**7.00**	
GP-SB-27	12/5/20		**DPT - GW**	ug/L	**2.33**	**Pair**
GP-SB-28-04	12/5/2020	2 to 4	Vadose	mg/kg	**22.9**	
GP-SB-28-08	12/5/2020	6 to 8	Vadose	mg/kg	**5.68**	
GP-SB-28-12	12/5/2020	11.2 to 12	Saturated	mg/kg	**12.8**	
GP-SB-28-13	12/5/2020	12 to 13	Saturated	mg/kg	**7.09**	
GP-SB-28	12/5/20		**DPT - GW**	ug/L	**3.28**	**Pair**
GP-SB-29-06.5	12/5/2020	5.2 to 6.5	Vadose	mg/kg	**6.13**	
GP-SB-29-10.5	12/5/2020	9.5 to 10.5	Saturated	mg/kg	**3.88**	
GP-SB-29-12	12/5/2020	11 to 12	Saturated	mg/kg	**3.93**	
GP-SB-29	12/5/20		**DPT - GW**	ug/L	**3.41**	**Pair**
GP-SB-30-05.5	12/12/2020	4 to 5.5	Vadose	mg/kg	**7.62**	
GP-SB-30-08	12/12/2020	7 to 8	Vadose	mg/kg	**4.2**	
GP-SB-30-13.3	12/12/2020	12.5 to 13.3	Saturated	mg/kg	**12.4**	
GP-SB-30	12/12/20		**DPT - GW**	ug/L	**2.96**	**Pair**
GP-SB-31-06	12/12/2020	4.5 to 6	Vadose	mg/kg	**6.97**	
GP-SB-31-08	12/12/2020	7 to 8	Vadose	mg/kg	**6.59**	
GP-SB-31-14	12/12/2020	12.5 to 14	Saturated	mg/kg	**4.82**	
GP-SB-31	12/12/20		**DPT - GW**	ug/L	**4.49**	**Pair**
MW-1 13-14'	12/16/2021	13 to 14	Saturated	mg/kg	**5.18**	
MW-1	2/1/22		MW-GW	ug/L	NA	
MW-1	4/19/22		MW-GW	ug/L	1.21 U	
MW-1	8/8/22		MW-GW	ug/L	**1.37 J**	
MW-1	12/21/22		MW-GW	ug/L	**1.85 J**	
MW-1	3/25/23		MW-GW	ug/L	1.21 U	
MW-1	6/21/23		MW-GW	ug/L	1.21 U / 1.21 U	
MW-1	8/29/23		MW-GW	ug/L	**1.57 J / 1.54 J**	
MW-1	10/19/23		MW-GW	ug/L	**3.70 J**	
MW-1	1/10/24		MW-GW	ug/L	1.22 J	
MW-1	4/26/24		MW-GW	ug/L	1.21 U	
MW-1	6/6/24		MW-GW	ug/L	1.21 U	**MW-1**
MW-2 7.5-9'	12/15/2021	7.5 to 9	Saturated	mg/kg	**12.3**	
MW-2 12.5-14'	12/15/2021	12.5 to 14	Saturated	mg/kg	**17.1**	
MW-2	1/31/22		MW-GW	ug/L	NA	
MW-2	4/19/22		MW-GW	ug/L	1.21 U	
MW-2	8/9/22		MW-GW	ug/L	1.21 U	
MW-2	12/22/22		MW-GW	ug/L	1.21 U	
MW-2	3/26/23		MW-GW	ug/L	3.03 U	
MW-2	6/19/23		MW-GW	ug/L	1.21 U	
MW-2	8/29/23		MW-GW	ug/L	**1.68 J**	
MW-2	1/22/24		MW-GW	ug/L	1.21 U	
MW-2	4/24/24		MW-GW	ug/L	1.21 U	
MW-2	6/5/24		MW-GW	ug/L	1.21 U	**MW-2**
MW-3 7.5-9'	12/16/2021	7.5 to 9	Saturated	mg/kg	**14.9**	
MW-3 12.5-14'	12/16/2021	12.5 to 14	Saturated	mg/kg	**10.7**	
MW-3	1/30/22		MW-GW	ug/L	NA	
MW-3	4/20/22		MW-GW	ug/L	3.03 U	
MW-3	8/8/22		MW-GW	ug/L	**4.70 J**	
MW-3	12/22/22		MW-GW	ug/L	**4.36**	
MW-3	3/26/23		MW-GW	ug/L	3.03 U	
MW-3	6/21/23		MW-GW	ug/L	1.21 U	
MW-3	8/29/23		MW-GW	ug/L	**2.48 J**	
MW-3	1/12/24		MW-GW	ug/L	3.03 U	
MW-3	4/25/24		MW-GW	ug/L	3.03 U	**MW-3**
MW-4 7.5-9'	12/16/2021	7.5 to 9	Saturated	mg/kg	**6.09**	
MW-4 11-11.5'	12/16/2021	11 to 11.5	Saturated	mg/kg	**10.7**	
MW-4	2/2/22		MW-GW	ug/L	NA	
MW-4	4/20/22		MW-GW	ug/L	**2.02 J**	
MW-4	8/9/22		MW-GW	ug/L	**1.76 J**	
MW-4	12/22/22		MW-GW	ug/L	**1.45 J**	
MW-4	3/26/23		MW-GW	ug/L	**2.04 J**	
MW-4	6/19/23		MW-GW	ug/L	1.21 U	
MW-4	8/30/23		MW-GW	ug/L	1.21 U	
MW-4	1/11/24		MW-GW	ug/L	1.21 U / 1.21 U	
MW-4	4/24/24		MW-GW	ug/L	1.21 U	
MW-4	6/7/24		MW-GW	ug/L	1.21 U	**MW-4**
RI-SB-01-10	12/18/2021	8 to 10	Saturated	mg/kg	**8.21**	
RI-SB-01-14	12/18/2021	12.5 to 14	Saturated	mg/kg	**7.39**	
RI-SB-01	12/18/21		**DPT - GW**	ug/L	**1.95**	**Pair**
RI-SB-02-08	12/18/2021	6 to 8	Vadose	mg/kg	**5.74**	

D-6 Soil to Groundwater Pathway - Nickel
Bridge - Former Dawn Foods

link this to MW-5

Sample ID	Date Sampled	Sample Depth (feet bgs)	Vadose or Saturated	Units	Nickel	Notes
RI-SB-02-12	12/18/2021	10 to 12	Saturated	mg/kg	**4.96**	
RI-SB-02 / Duplicate	12/18/21		**DPT - GW**	ug/L	**1.66 / 1.62**	**Pair**
RI-SB-04 2-4' / DUP-022823	2/28/2023	2 to 4	Vadose	mg/kg	**28.8 / 23.5**	
RI-SB-04 11-12'	2/28/2023	11 to 12	Saturated	mg/kg	**7.98**	
RI-SB-04	2/28/23		**DPT - GW**	ug/L	1.21 U	**Pair**
RI-SB-05 9-10'	2/28/2023	9 to 10	Saturated	mg/kg	**5.51**	
RI-SB-05 12.5-14'	2/28/2023	12.5 to 14	Saturated	mg/kg	**14.2**	
RI-SB-05	2/28/23		**DPT - GW**	ug/L	**1.41 J**	**Pair**
RI-SB-06 6-8'	2/28/2023	6 to 8	Saturated	mg/kg	**5.24**	
RI-SB-06 12.5-13.5'	2/28/2023	12.5 to 13.5	Saturated	mg/kg	**8.79**	
RI-SB-06	2/28/23		**DPT - GW**	ug/L	**2.17 J**	**Pair**
MW-7 8-10'	2/28/2023	8 to 10	Saturated	mg/kg	**8.15**	
MW-7 16-18'	2/28/2023	16 to 18	Saturated	mg/kg	**9.74**	
MW-7	3/28/23		MW-GW	ug/L	**1.40 J**	
MW-7	6/21/23		MW-GW	ug/L	**1.21 U**	
MW-7	8/28/23		MW-GW	ug/L	**1.21 U**	
MW-7	1/12/24		MW-GW	ug/L	1.21 U	
MW-7	4/26/24		MW-GW	ug/L	1.21 U	
MW-7	6/6/24		MW-GW	ug/L	1.21 U	**MW-7**
MW-8 11-13'	2/28/2023	11 to 13	Saturated	mg/kg	**4.19**	
MW-8	3/25/23		MW-GW	ug/L	**2.31 J**	
MW-8	6/19/23		MW-GW	ug/L	**1.88 J**	
MW-8	8/28/23		MW-GW	ug/L	**1.71 J**	
MW-8	1/10/24		MW-GW	ug/L	**1.59 J**	
MW-8	4/24/24		MW-GW	ug/L	**1.91 J**	
MW-8	6/5/24		MW-GW	ug/L	1.21 U	**MW-8**
RI-SB-08 5-10'	2/29/2024	5-10	Vadose	mg/kg	**20.5**	
RI-SB-08 10.6-12.5'	2/29/2024	10.6-12.5	Saturated	mg/kg	**7.99**	
RI-SB-08 DUP04-0224	2/29/24		**DPT - GW**	ug/L	1.21 U	**Pair**
RI-SB-09 10-12.5' DUP01-0224	2/29/2024	10-12.5	Saturated	mg/kg	**12.2 13.6**	**Pair**
RI-SB-09 DUP02-0224	2/29/24		**DPT - GW**	ug/L	3.03 U	
RI-SB-10 5-8'	2/27/2024	5-8	Vadose/Saturated	mg/kg	**477**	
RI-SB-10	2/27/24		**DPT - GW**	ug/L	1.21 U	**Pair**
RI-SB-11 5-7.5'	2/27/2024	5-7.5	Vadose	mg/kg	**16.8**	
HC-4, S-3	9/6/1996	7.5-9.0	Saturated	mg/kg	76	
HC-4, S-4	9/6/1996	12.5-14.0	Saturated	mg/kg	9.7	
RI-SB-11	2/27/24		**DPT - GW**	ug/L	**2.30 J**	**Pair**
PCUL (Vadose) Soil					48	
PCUL (Saturated) Soil					48	
PCUL (ug/L) Groundwater					8.20	

Notes:
Shading denotes an exceedance of a PCUL.
ug/L = micrograms per liters
mg/kg = milligrams per kilograms
Dissolved groundwater data shown
For samples with duplicate data, the highest value is presented in this table.

< or U = laboratory detection limit
ND = Not detected

	A	B	C	D	E	F	G	H	I	J	K	L
637	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
638					KM Mean (logged)	3.525			KM Geo Mean			33.96
639					KM SD (logged)	0.55			95% Critical H Value (KM-Log)			1.894
640				KM Standard Error of Mean (logged)		0.0712			95% H-UCL (KM -Log)			45.21
641					KM SD (logged)	0.55			95% Critical H Value (KM-Log)			1.894
642				KM Standard Error of Mean (logged)		0.0712						
643												
644	DL/2 Statistics											
645	DL/2 Normal						DL/2 Log-Transformed					
646					Mean in Original Scale	39.83			Mean in Log Scale			3.511
647					SD in Original Scale	26.84			SD in Log Scale			0.574
648				95% t UCL (Assumes normality)		45.57			95% H-Stat UCL			45.48
649	DL/2 is not a recommended method, provided for comparisons and historical reasons											
650												
651	Nonparametric Distribution Free UCL Statistics											
652	Detected Data appear Lognormal Distributed at 10% Significance Level											
653												
654	Suggested UCL to Use											
655					KM H-UCL	45.21						
656												
657	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
658	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
659	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
660												

Appendix E

Indoor Air Vapor CUL Backup

Evaluating Compliance with Air Cleanup Levels for Petroleum
Table E-1 Sample: IA1 - Woman's Restroom, 5/1/24

Instructions

Input measured concentrations in green cells B12 to C27. If the fraction/component was not detected in the sample but was detected elsewhere on site, enter half the reporting limit. If the fraction/component wasn't analyzed or was never detected anywhere on site, enter 0 mg/kg.

Results

Sample is in compliance if all of the following are true:
1) Hazard indices in cells F29, H29, or J29 don't exceed 1
2) Total cancer risk in cells G29, I29, or K29 don't exceed 1E-05
3) Individual cancer risks in columns G, I, or K don't exceed 1E-06.

	Sample Concentration Data				Method B Hazards and Risks		Method C Hazards and Risks		Commercial Hazards and Risks	
Fraction or Component	Measured Site Concentration (ug/m3)	Measured Ambient Conc. (ug/m3)	Adjusted Concentration (ug/m3)	Proportion of TPH (percent)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)
Aliphatics EC>5-8	3.75E+01	0.00E+00	3.75E+01	38.4%	1E-02	--	6E-03	--	2E-03	--
Aliphatics EC>8-12	1.25E+01	0.00E+00	1.25E+01	12.8%	3E-01	--	1E-01	--	3E-02	--
Aliphatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>9-10	4.70E+01	0.00E+00	4.36E+01	44.6%	2E-01	--	1E-01	--	3E-02	--
Aromatics EC>10-12	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Benzene	4.20E-01	0.00E+00	4.20E-01	0.4%	3E-02	1E-06	1E-02	1E-06	4E-03	3E-07
Ethylbenzene	5.80E-01	0.00E+00	5.80E-01	0.6%	1E-03	--	6E-04	--	1E-04	--
Toluene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Total xylenes	2.86E+00	0.00E+00	2.86E+00	2.9%	6E-02	--	3E-02	--	7E-03	--
Hexane	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Naphthalene	1.40E-01	0.00E+00	1.40E-01	0.1%	1E-01	2E-06	5E-02	2E-06	1E-02	4E-07
1-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	--	--	--	--	--	--
1,2-Dichlorethane (EDC)	1.50E-01	0.00E+00	1.50E-01	0.2%	5E-02	2E-06	2E-02	2E-06	6E-03	3E-07
Ethylene dibromide (EDB)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Total	1.01E+02	0.00E+00	9.77E+01	100.0%	8E-01	5E-06	4E-01	5E-06	9E-02	1E-06
Source	Site-specific	Site-specific	Note a	--	Cells I64-I79	Cells J64-J79	Cells I85-I100	Cells J85-J100	Cells I106-I121 Note b	Cells J106-J121

a) The concentration of each fraction or component under Measured Ambient Conc. (column C) is subtracted from the corresponding concentration under Measured Site Concentration (column B) to correct for ambient background concentrations. The following additional subtractions are included to avoid double counting per Section E-6 of Ecology's (2022) vapor intrusion guidance: hexane from aliphatics EC>5-8; ethylbenzene and total xylenes from aromatics EC>9-10, naphthalene from aromatics EC>10-12, and 1- and 2-methylnaphthalene from aromatics EC>12-16. If the subtraction produces a negative result, it is adjusted up to zero. Ambient air samples must be collected consistent with Section 4.7 of Ecology's (2022) VI guidance and the ambient air adjustment must be approved by the Ecology site manager.

b) Total hazard indices (cells F29, H29, and J29) include all fractions and components, assuming all have common target organs per WAC 173-340-750(3)(b)(ii)(C).

Calculation Details

Equations

1) Noncancer inhalation intake factor: IIF = ABW x UCF x HQ x AT / (BR x ED x EF)
2) Cancer inhalation intake factor: IIF = Risk x ABW x AT x UCF / (BR x ED x EF)
3) Noncancer cleanup level: CUL = IIF x RfDi / ABS
4) Cancer cleanup level: CUL = IIF / (CPFi x ABS)
5) Hazard Quotient = Adjusted Concentration / Noncancer CUL
6) Cancer Risk = Adjusted Concentration x 1E-6 / Cancer CUL
7) Exposure Frequency = ET x WD / (24 x 365)

Calculating Exposure Frequency for Commercial Scenario

Parameter	Abbrev.	Value	Units
Exposure time	ET	9	hr/day
Work days	WD	250	day/yr
Exposure freq. (Equation 7)	EF	2.57E-01	unitless

Exposure Parameters

			Method B		Method C		Commercial	
Parameter	Abbrev.	Units	Noncancer	Cancer	Noncancer	Cancer	Noncancer	Cancer
Average body weight	ABW	kg	16	70	70	70	70	70
Target risk	Risk	unitless	--	1E-06	--	1E-05	--	1E-06
Unit conversion factor	UCF	ug/mg	1,000	1,000	1,000	1,000	1,000	1,000
Hazard quotient	HQ	unitless	1	--	1	--	1	--
Averaging time	AT	yr	6	75	6	75	25	75
Breathing rate	BR	m3/day	10	20	20	20	20	20
Exposure duration	ED	yr	6	30	6	30	25	25
Exposure frequency	EF	unitless	1	1	1	1	0.26	0.26
Inhalation intake factor (Equations 1 and 2)	IIF	kg-ug-day/ mg-m3	1.60E+03	8.75E-03	3.50E+03	8.75E-02	1.36E+04	4.09E-02

Sources: MTCA Equations 750-1 and 750-2, WAC 173-340-750(4), and Ecology's (2022) VI guidance Section 4.4

Method B Noncancer Hazards and Cancer Risks

Fraction or Component	Adjusted Concentration (ug/m3)	Toxicity Data			Air Cleanup Levels			Evaluating Compliance		Soil Gas SL (ug/m3)	Commercial
		RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)		
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	2.74E+03	--	2.74E+03	1.37E-02	--	9.12E+04	776720.00
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.73E-01	--	1.53E+03	12990.76
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	0.00E+00	--	1.53E+03	12990.76
Aromatics EC>9-10	4.36E+01	1.14E-01	--	1	1.82E+02	--	1.82E+02	2.39E-01	--	6.08E+03	51781.33
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.37E+00	--	1.37E+00	0.00E+00	--	4.57E+01	389.27
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.82E-01	--	1.82E-01	0.00E+00	--	6.08E+00	51.78
Benzene	4.20E-01	8.57E-03	2.73E-02	1	1.37E+01	3.21E-01	3.21E-01	3.06E-02	1.31E-06	1.07E+01	49.91
Ethylbenzene	5.80E-01	2.86E-01	--	1	4.58E+02	--	4.58E+02	1.27E-03	--	1.53E+04	129907.56
Toluene	0.00E+00	1.43E+00	--	1	2.29E+03	--	2.29E+03	0.00E+00	--	7.63E+04	649537.78
Total xylenes	2.86E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	6.25E-02	--	1.53E+03	12990.76
Hexane	0.00E+00	2.00E-01	--	1	3.20E+02	--	3.20E+02	0.00E+00	--	1.07E+04	90844.44
Naphthalene	1.40E-01	8.57E-04	1.19E-01	1	1.37E+00	7.35E-02	7.35E-02	1.02E-01	1.90E-06	2.45E+00	11.45
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.37E-03	--	1.37E-03	0.00E+00	--	4.57E-02	0.39
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00	0.00
1,2-Dichlorethane (EDC)	1.50E-01	2.00E-03	9.10E-02	1	3.20E+00	9.62E-02	9.62E-02	4.69E-02	1.56E-06	3.21E+00	14.97
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	4.11E+00	4.17E-03	4.17E-03	0.00E+00	0.00E+00	1.39E-01	0.65
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.37E+03	9.62E+00	9.62E+00	0.00E+00	0.00E+00	3.21E+02	1497.44
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6		

Method C Noncancer Hazards and Cancer Risks

Fraction or Component	Adjusted Concentration (ug/m3)	Toxicity Data			Air Cleanup Levels			Evaluating Compliance		Soil Gas SL (ug/m3)
		RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	5.99E+03	--	5.99E+03	6.27E-03	--	2.00E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.25E-01	--	3.34E+03
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	0.00E+00	--	3.34E+03
Aromatics EC>9-10	4.36E+01	1.14E-01	--	1	3.99E+02	--	3.99E+02	1.09E-01	--	1.33E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	3.00E+00	--	3.00E+00	0.00E+00	--	1.00E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	3.99E-01	--	3.99E-01	0.00E+00	--	1.33E+01
Benzene	4.20E-01	8.57E-03	2.73E-02	1	3.00E+01	3.21E+00	3.21E+00	1.40E-02	1.31E-06	1.07E+02
Ethylbenzene	5.80E-01	2.86E-01	--	1	1.00E+03	--	1.00E+03	5.79E-04	--	3.34E+04
Toluene	0.00E+00	1.43E+00	--	1	5.01E+03	--	5.01E+03	0.00E+00	--	1.67E+05
Total xylenes	2.86E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	2.86E-02	--	3.34E+03
Hexane	0.00E+00	2.00E-01	--	1	7.00E+02	--	7.00E+02	0.00E+00	--	2.33E+04
Naphthalene	1.40E-01	8.57E-04	1.19E-01	1	3.00E+00	7.35E-01	7.35E-01	4.67E-02	1.90E-06	2.45E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	3.00E-03	--	3.00E-03	0.00E+00	--	1.00E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	1.50E-01	2.00E-03	9.10E-02	1	7.00E+00	9.62E-01	9.62E-01	2.14E-02	1.56E-06	3.21E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	9.00E+00	4.17E-02	4.17E-02	0.00E+00	0.00E+00	1.39E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	3.00E+03	9.62E+01	9.62E+01	0.00E+00	0.00E+00	3.21E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Commercial Noncancer Hazards and Cancer Risks

Fraction or Component	Adjusted Concentration (ug/m3)	Toxicity Data			Air Cleanup Levels			Evaluating Compliance		Soil Gas SL (ug/m3)
		RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	2.33E+04	--	2.33E+04	1.61E-03	--	7.77E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	3.90E+02	--	3.90E+02	3.21E-02	--	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	0.00E+00	--	1.30E+04
Aromatics EC>9-10	4.36E+01	1.14E-01	--	1	1.55E+03	--	1.55E+03	2.80E-02	--	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.17E+01	--	1.17E+01	0.00E+00	--	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.55E+00	--	1.55E+00	0.00E+00	--	5.18E+01
Benzene	4.20E-01	8.57E-03	2.73E-02	1	1.17E+02	1.50E+00	1.50E+00	3.60E-03	2.80E-07	4.99E+01
Ethylbenzene	5.80E-01	2.86E-01	--	1	3.90E+03	--	3.90E+03	1.49E-04	--	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	1.95E+04	--	1.95E+04	0.00E+00	--	6.50E+05

Total xylenes	2.86E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	7.34E-03	--	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	2.73E+03	--	2.73E+03	0.00E+00	--	9.08E+04
Naphthalene	1.40E-01	8.57E-04	1.19E-01	1	1.17E+01	3.44E-01	3.44E-01	1.20E-02	4.08E-07	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.17E-02	--	1.17E-02	0.00E+00	--	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	1.50E-01	2.00E-03	9.10E-02	1	2.73E+01	4.49E-01	4.49E-01	5.50E-03	3.34E-07	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	3.50E+01	1.95E-02	1.95E-02	0.00E+00	0.00E+00	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.17E+04	4.49E+01	4.49E+01	0.00E+00	0.00E+00	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Additional Abbreviations

-- - no value because parameter isn't available or isn't relevant in this case
ABS - inhalation absorption fraction
CLARC - Cleanup Levels and Risk Calculation database
CPFi - inhalation carcinogenic potency factor
CUL - cleanup level
EC - effective carbon chain length
RfDi - inhalation reference dose

Reference

Ecology. 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Publ. no. 09-09-047.

Evaluating Compliance with Air Cleanup Levels for Petroleum
Table E-2 Sample: IA2 - Office, 5/1/24

Instructions

Input measured concentrations in green cells B12 to C27. If the fraction/component was not detected in the sample but was detected elsewhere on site, enter half the reporting limit. If the fraction/component wasn't analyzed or was never detected anywhere on site, enter 0 mg/kg.

Results

Sample is in compliance if all of the following are true:
1) Hazard indices in cells F29, H29, or J29 don't exceed 1
2) Total cancer risk in cells G29, I29, or K29 don't exceed 1E-05
3) Individual cancer risks in columns G, I, or K don't exceed 1E-06.

	Sample Concentration Data				Method B Hazards and Risks		Method C Hazards and Risks		Commercial Hazards and Risks	
Fraction or Component	Measured Site Concentration (ug/m3)	Measured Ambient Conc. (ug/m3)	Adjusted Concentration (ug/m3)	Proportion of TPH (percent)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)
Aliphatics EC>5-8	8.80E+01	0.00E+00	8.80E+01	64.0%	3E-02	--	1E-02	--	4E-03	--
Aliphatics EC>8-12	1.25E+01	0.00E+00	1.25E+01	9.1%	3E-01	--	1E-01	--	3E-02	--
Aliphatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>9-10	3.60E+01	0.00E+00	3.26E+01	23.7%	2E-01	--	8E-02	--	2E-02	--
Aromatics EC>10-12	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Benzene	5.50E-01	0.00E+00	5.50E-01	0.4%	4E-02	2E-06	2E-02	2E-06	5E-03	4E-07
Ethylbenzene	5.70E-01	0.00E+00	5.70E-01	0.4%	1E-03	--	6E-04	--	1E-04	--
Toluene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Total xylenes	2.86E+00	0.00E+00	2.86E+00	2.1%	6E-02	--	3E-02	--	7E-03	--
Hexane	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Naphthalene	2.90E-01	0.00E+00	2.90E-01	0.2%	2E-01	4E-06	1E-01	4E-06	2E-02	8E-07
1-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	--	--	--	--	--	--
1,2-Dichlorethane (EDC)	1.10E-01	0.00E+00	1.10E-01	0.1%	3E-02	1E-06	2E-02	1E-06	4E-03	2E-07
Ethylene dibromide (EDB)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Total	1.41E+02	0.00E+00	1.37E+02	100.0%	8E-01	7E-06	4E-01	7E-06	1E-01	1E-06
Source	Site-specific	Site-specific	Note a	--	Cells I64-I79	Cells J64-J79	Cells I85-I100	Cells J85-J100	Cells I106-I121 Note b	Cells J106-J121

a) The concentration of each fraction or component under Measured Ambient Conc. (column C) is subtracted from the corresponding concentration under Measured Site Concentration (column B) to correct for ambient background concentrations. The following additional subtractions are included to avoid double counting per Section E-6 of Ecology's (2022) vapor intrusion guidance: hexane from aliphatics EC>5-8; ethylbenzene and total xylenes from aromatics EC>9-10, naphthalene from aromatics EC>10-12, and 1- and 2-methylnaphthalene from aromatics EC>12-16. If the subtraction produces a negative result, it is adjusted up to zero. Ambient air samples must be collected consistent with Section 4.7 of Ecology's (2022) VI guidance and the ambient air adjustment must be approved by the Ecology site manager.

b) Total hazard indices (cells F29, H29, and J29) include all fractions and components, assuming all have common target organs per WAC 173-340-750(3)(b)(ii)(C).

Calculation Details

Equations

1) Noncancer inhalation intake factor: IIF = ABW x UCF x HQ x AT / (BR x ED x EF)
2) Cancer inhalation intake factor: IIF = Risk x ABW x AT x UCF / (BR x ED x EF)
3) Noncancer cleanup level: CUL = IIF x RfDi / ABS
4) Cancer cleanup level: CUL = IIF / (CPFi x ABS)
5) Hazard Quotient = Adjusted Concentration / Noncancer CUL
6) Cancer Risk = Adjusted Concentration x 1E-6 / Cancer CUL
7) Exposure Frequency = ET x WD / (24 x 365)

Calculating Exposure Frequency for Commercial Scenario

Parameter	Abbrev.	Value	Units
Exposure time	ET	9	hr/day
Work days	WD	250	day/yr
Exposure freq. (Equation 7)	EF	2.57E-01	unitless

Exposure Parameters

			Method B		Method C		Commercial	
Parameter	Abbrev.	Units	Noncancer	Cancer	Noncancer	Cancer	Noncancer	Cancer
Average body weight	ABW	kg	16	70	70	70	70	70
Target risk	Risk	unitless	--	1E-06	--	1E-05	--	1E-06
Unit conversion factor	UCF	ug/mg	1,000	1,000	1,000	1,000	1,000	1,000
Hazard quotient	HQ	unitless	1	--	1	--	1	--
Averaging time	AT	yr	6	75	6	75	25	75
Breathing rate	BR	m3/day	10	20	20	20	20	20

Exposure duration	ED	yr	6	30	6	30	25	25
Exposure frequency	EF	unitless	1	1	1	1	0.26	0.26
Inhalation intake factor (Equations 1 and 2)	IIF	kg-ug-day/ mg-m3	1.60E+03	8.75E-03	3.50E+03	8.75E-02	1.36E+04	4.09E-02

Sources: MTCA Equations 750-1 and 750-2, WAC 173-340-750(4), and Ecology's (2022) VI guidance Section 4.4

Method B Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance			
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)	Commercial
Aliphatics EC>5-8	8.80E+01	1.71E+00	--	1	2.74E+03	--	2.74E+03	3.22E-02	--	9.12E+04	7.77E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.73E-01	--	1.53E+03	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	0.00E+00	--	1.53E+03	1.30E+04
Aromatics EC>9-10	3.26E+01	1.14E-01	--	1	1.82E+02	--	1.82E+02	1.79E-01	--	6.08E+03	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.37E+00	--	1.37E+00	0.00E+00	--	4.57E+01	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.82E-01	--	1.82E-01	0.00E+00	--	6.08E+00	5.18E+01
Benzene	5.50E-01	8.57E-03	2.73E-02	1	1.37E+01	3.21E-01	3.21E-01	4.01E-02	1.72E-06	1.07E+01	4.99E+01
Ethylbenzene	5.70E-01	2.86E-01	--	1	4.58E+02	--	4.58E+02	1.25E-03	--	1.53E+04	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	2.29E+03	--	2.29E+03	0.00E+00	--	7.63E+04	6.50E+05
Total xylenes	2.86E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	6.25E-02	--	1.53E+03	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	3.20E+02	--	3.20E+02	0.00E+00	--	1.07E+04	9.08E+04
Naphthalene	2.90E-01	8.57E-04	1.19E-01	1	1.37E+00	7.35E-02	7.35E-02	2.11E-01	3.94E-06	2.45E+00	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.37E-03	--	1.37E-03	0.00E+00	--	4.57E-02	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00	0.00E+00
1,2-Dichlorethane (EDC)	1.10E-01	2.00E-03	9.10E-02	1	3.20E+00	9.62E-02	9.62E-02	3.44E-02	1.14E-06	3.21E+00	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	4.11E+00	4.17E-03	4.17E-03	0.00E+00	0.00E+00	1.39E-01	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.37E+03	9.62E+00	9.62E+00	0.00E+00	0.00E+00	3.21E+02	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6		

Method C Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	8.80E+01	1.71E+00	--	1	5.99E+03	--	5.99E+03	1.47E-02	--	2.00E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.25E-01	--	3.34E+03
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	0.00E+00	--	3.34E+03
Aromatics EC>9-10	3.26E+01	1.14E-01	--	1	3.99E+02	--	3.99E+02	8.16E-02	--	1.33E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	3.00E+00	--	3.00E+00	0.00E+00	--	1.00E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	3.99E-01	--	3.99E-01	0.00E+00	--	1.33E+01
Benzene	5.50E-01	8.57E-03	2.73E-02	1	3.00E+01	3.21E+00	3.21E+00	1.83E-02	1.72E-06	1.07E+02
Ethylbenzene	5.70E-01	2.86E-01	--	1	1.00E+03	--	1.00E+03	5.69E-04	--	3.34E+04
Toluene	0.00E+00	1.43E+00	--	1	5.01E+03	--	5.01E+03	0.00E+00	--	1.67E+05
Total xylenes	2.86E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	2.86E-02	--	3.34E+03
Hexane	0.00E+00	2.00E-01	--	1	7.00E+02	--	7.00E+02	0.00E+00	--	2.33E+04
Naphthalene	2.90E-01	8.57E-04	1.19E-01	1	3.00E+00	7.35E-01	7.35E-01	9.67E-02	3.94E-06	2.45E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	3.00E-03	--	3.00E-03	0.00E+00	--	1.00E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	1.10E-01	2.00E-03	9.10E-02	1	7.00E+00	9.62E-01	9.62E-01	1.57E-02	1.14E-06	3.21E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	9.00E+00	4.17E-02	4.17E-02	0.00E+00	0.00E+00	1.39E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	3.00E+03	9.62E+01	9.62E+01	0.00E+00	0.00E+00	3.21E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Commercial Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	8.80E+01	1.71E+00	--	1	2.33E+04	--	2.33E+04	3.78E-03	--	7.77E+05

Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	3.90E+02	--	3.90E+02	3.21E-02	--	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	0.00E+00	--	1.30E+04
Aromatics EC>9-10	3.26E+01	1.14E-01	--	1	1.55E+03	--	1.55E+03	2.10E-02	--	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.17E+01	--	1.17E+01	0.00E+00	--	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.55E+00	--	1.55E+00	0.00E+00	--	5.18E+01
Benzene	5.50E-01	8.57E-03	2.73E-02	1	1.17E+02	1.50E+00	1.50E+00	4.71E-03	3.67E-07	4.99E+01
Ethylbenzene	5.70E-01	2.86E-01	--	1	3.90E+03	--	3.90E+03	1.46E-04	--	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	1.95E+04	--	1.95E+04	0.00E+00	--	6.50E+05
Total xylenes	2.86E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	7.34E-03	--	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	2.73E+03	--	2.73E+03	0.00E+00	--	9.08E+04
Naphthalene	2.90E-01	8.57E-04	1.19E-01	1	1.17E+01	3.44E-01	3.44E-01	2.48E-02	8.44E-07	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.17E-02	--	1.17E-02	0.00E+00	--	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	1.10E-01	2.00E-03	9.10E-02	1	2.73E+01	4.49E-01	4.49E-01	4.04E-03	2.45E-07	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	3.50E+01	1.95E-02	1.95E-02	0.00E+00	0.00E+00	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.17E+04	4.49E+01	4.49E+01	0.00E+00	0.00E+00	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Additional Abbreviations

-- - no value because parameter isn't available or isn't relevant in this case
ABS - inhalation absorption fraction
CLARC - Cleanup Levels and Risk Calculation database
CPFi - inhalation carcinogenic potency factor
CUL - cleanup level
EC - effective carbon chain length
RfDi - inhalation reference dose

Reference

Ecology. 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Publ. no. 09-09-047.

Evaluating Compliance with Air Cleanup Levels for Petroleum
Table E-3 Sample: IA3 - Warehouse SE, 5/1/24

Instructions

Input measured concentrations in green cells B12 to C27. If the fraction/component was not detected in the sample but was detected elsewhere on site, enter half the reporting limit. If the fraction/component wasn't analyzed or was never detected anywhere on site, enter 0 mg/kg.

Results

Sample is in compliance if all of the following are true:
1) Hazard indices in cells F29, H29, or J29 don't exceed 1
2) Total cancer risk in cells G29, I29, or K29 don't exceed 1E-05
3) Individual cancer risks in columns G or K don't exceed 1E-06.

Individual risks in column I don't exceed 1E-5.

	Sample Concentration Data				Method B Hazards and Risks		Method C Hazards and Risks		Commercial Hazards and Risks	
Fraction or Component	Measured Site Concentration (ug/m3)	Measured Ambient Conc. (ug/m3)	Adjusted Concentration (ug/m3)	Proportion of TPH (percent)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)
Aliphatics EC>5-8	3.75E+01	0.00E+00	3.75E+01	39.3%	1E-02	--	6E-03	--	2E-03	--
Aliphatics EC>8-12	1.25E+01	0.00E+00	1.25E+01	13.1%	3E-01	--	1E-01	--	3E-02	--
Aliphatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>9-10	4.50E+01	0.00E+00	4.22E+01	44.2%	2E-01	--	1E-01	--	3E-02	--
Aromatics EC>10-12	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Benzene	1.60E-01	0.00E+00	1.60E-01	0.2%	1E-02	5E-07	5E-03	5E-07	1E-03	1E-07
Ethylbenzene	4.60E-01	0.00E+00	4.60E-01	0.5%	1E-03	--	5E-04	--	1E-04	--
Toluene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Total xylenes	2.35E+00	0.00E+00	2.35E+00	2.5%	5E-02	--	2E-02	--	6E-03	--
Hexane	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Naphthalene	1.70E-01	0.00E+00	1.70E-01	0.2%	1E-01	2E-06	6E-02	2E-06	1E-02	5E-07
1-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	--	--	--	--	--	--
1,2-Dichlorethane (EDC)	2.05E-01	0.00E+00	2.05E-01	0.2%	6E-02	2E-06	3E-02	2E-06	8E-03	5E-07
Ethylene dibromide (EDB)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Total	9.83E+01	6.37E+01	9.55E+01	100.0%	8E-01	5E-06	4E-01	5E-06	9E-02	1E-06
Source	Site-specific	Site-specific	Note a	--	Cells I64-I79	Cells J64-J79	Cells I85-I100	Cells J85-J100	Cells I106-I121 Note b	Cells J106-J121

a) The concentration of each fraction or component under Measured Ambient Conc. (column C) is subtracted from the corresponding concentration under Measured Site Concentration (column B) to correct for ambient background concentrations. The following additional subtractions are included to avoid double counting per Section E-6 of Ecology's (2022) vapor intrusion guidance: hexane from aliphatics EC>5-8; ethylbenzene and total xylenes from aromatics EC>9-10, naphthalene from aromatics EC>10-12, and 1- and 2-methylnaphthalene from aromatics EC>12-16. If the subtraction produces a negative result, it is adjusted up to zero. Ambient air samples must be collected consistent with Section 4.7 of Ecology's (2022) VI guidance and the ambient air adjustment must be approved by the Ecology site manager.

b) Total hazard indices (cells F29, H29, and J29) include all fractions and components, assuming all have common target organs per WAC 173-340-750(3)(b)(ii)(C).

Calculation Details

Equations

1) Noncancer inhalation intake factor: IIF = ABW x UCF x HQ x AT / (BR x ED x EF)
2) Cancer inhalation intake factor: IIF = Risk x ABW x AT x UCF / (BR x ED x EF)
3) Noncancer cleanup level: CUL = IIF x RfDi / ABS
4) Cancer cleanup level: CUL = IIF / (CPFi x ABS)
5) Hazard Quotient = Adjusted Concentration / Noncancer CUL
6) Cancer Risk = Adjusted Concentration x 1E-6 / Cancer CUL
7) Exposure Frequency = ET x WD / (24 x 365)

Calculating Exposure Frequency for Commercial Scenario

Parameter	Abbrev.	Value	Units
Exposure time	ET	9	hr/day
Work days	WD	250	day/yr
Exposure freq. (Equation 7)	EF	2.57E-01	unitless

Exposure Parameters

			Method B		Method C		Commercial	
Parameter	Abbrev.	Units	Noncancer	Cancer	Noncancer	Cancer	Noncancer	Cancer
Average body weight	ABW	kg	16	70	70	70	70	70
Target risk	Risk	unitless	--	1E-06	--	1E-05	--	1E-06
Unit conversion factor	UCF	ug/mg	1,000	1,000	1,000	1,000	1,000	1,000
Hazard quotient	HQ	unitless	1	--	1	--	1	--
Averaging time	AT	yr	6	75	6	75	25	75
Breathing rate	BR	m3/day	10	20	20	20	20	20

Exposure duration	ED	yr	6	30	6	30	25	25
Exposure frequency	EF	unitless	1	1	1	1	0.26	0.26
Inhalation intake factor (Equations 1 and 2)	IIF	kg-ug-day/ mg-m3	1.60E+03	8.75E-03	3.50E+03	8.75E-02	1.36E+04	4.09E-02

Sources: MTCA Equations 750-1 and 750-2, WAC 173-340-750(4), and Ecology's (2022) VI guidance Section 4.4

Method B Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance			
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)	Commercial
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	2.74E+03	--	2.74E+03	1.37E-02	--	9.12E+04	7.77E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.73E-01	--	1.53E+03	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	0.00E+00	--	1.53E+03	1.30E+04
Aromatics EC>9-10	4.22E+01	1.14E-01	--	1	1.82E+02	--	1.82E+02	2.31E-01	--	6.08E+03	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.37E+00	--	1.37E+00	0.00E+00	--	4.57E+01	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.82E-01	--	1.82E-01	0.00E+00	--	6.08E+00	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.37E+01	3.21E-01	3.21E-01	1.17E-02	4.99E-07	1.07E+01	4.99E+01
Ethylbenzene	4.60E-01	2.86E-01	--	1	4.58E+02	--	4.58E+02	1.01E-03	--	1.53E+04	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	2.29E+03	--	2.29E+03	0.00E+00	--	7.63E+04	6.50E+05
Total xylenes	2.35E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	5.14E-02	--	1.53E+03	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	3.20E+02	--	3.20E+02	0.00E+00	--	1.07E+04	9.08E+04
Naphthalene	1.70E-01	8.57E-04	1.19E-01	1	1.37E+00	7.35E-02	7.35E-02	1.24E-01	2.31E-06	2.45E+00	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.37E-03	--	1.37E-03	0.00E+00	--	4.57E-02	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00	0.00E+00
1,2-Dichlorethane (EDC)	2.05E-01	2.00E-03	9.10E-02	1	3.20E+00	9.62E-02	9.62E-02	6.41E-02	2.13E-06	3.21E+00	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	4.11E+00	4.17E-03	4.17E-03	0.00E+00	0.00E+00	1.39E-01	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.37E+03	9.62E+00	9.62E+00	0.00E+00	0.00E+00	3.21E+02	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6		

Method C Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	5.99E+03	--	5.99E+03	6.27E-03	--	2.00E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.25E-01	--	3.34E+03
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	0.00E+00	--	3.34E+03
Aromatics EC>9-10	4.22E+01	1.14E-01	--	1	3.99E+02	--	3.99E+02	1.06E-01	--	1.33E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	3.00E+00	--	3.00E+00	0.00E+00	--	1.00E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	3.99E-01	--	3.99E-01	0.00E+00	--	1.33E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	3.00E+01	3.21E+00	3.21E+00	5.33E-03	4.99E-07	1.07E+02
Ethylbenzene	4.60E-01	2.86E-01	--	1	1.00E+03	--	1.00E+03	4.60E-04	--	3.34E+04
Toluene	0.00E+00	1.43E+00	--	1	5.01E+03	--	5.01E+03	0.00E+00	--	1.67E+05
Total xylenes	2.35E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	2.35E-02	--	3.34E+03
Hexane	0.00E+00	2.00E-01	--	1	7.00E+02	--	7.00E+02	0.00E+00	--	2.33E+04
Naphthalene	1.70E-01	8.57E-04	1.19E-01	1	3.00E+00	7.35E-01	7.35E-01	5.67E-02	2.31E-06	2.45E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	3.00E-03	--	3.00E-03	0.00E+00	--	1.00E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	2.05E-01	2.00E-03	9.10E-02	1	7.00E+00	9.62E-01	9.62E-01	2.93E-02	2.13E-06	3.21E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	9.00E+00	4.17E-02	4.17E-02	0.00E+00	0.00E+00	1.39E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	3.00E+03	9.62E+01	9.62E+01	0.00E+00	0.00E+00	3.21E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Commercial Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	2.33E+04	--	2.33E+04	1.61E-03	--	7.77E+05

Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	3.90E+02	--	3.90E+02	3.21E-02	--	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	0.00E+00	--	1.30E+04
Aromatics EC>9-10	4.22E+01	1.14E-01	--	1	1.55E+03	--	1.55E+03	2.72E-02	--	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.17E+01	--	1.17E+01	0.00E+00	--	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.55E+00	--	1.55E+00	0.00E+00	--	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.17E+02	1.50E+00	1.50E+00	1.37E-03	1.07E-07	4.99E+01
Ethylbenzene	4.60E-01	2.86E-01	--	1	3.90E+03	--	3.90E+03	1.18E-04	--	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	1.95E+04	--	1.95E+04	0.00E+00	--	6.50E+05
Total xylenes	2.35E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	6.03E-03	--	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	2.73E+03	--	2.73E+03	0.00E+00	--	9.08E+04
Naphthalene	1.70E-01	8.57E-04	1.19E-01	1	1.17E+01	3.44E-01	3.44E-01	1.46E-02	4.95E-07	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.17E-02	--	1.17E-02	0.00E+00	--	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	2.05E-01	2.00E-03	9.10E-02	1	2.73E+01	4.49E-01	4.49E-01	7.52E-03	4.56E-07	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	3.50E+01	1.95E-02	1.95E-02	0.00E+00	0.00E+00	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.17E+04	4.49E+01	4.49E+01	0.00E+00	0.00E+00	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Additional Abbreviations

-- - no value because parameter isn't available or isn't relevant in this case
ABS - inhalation absorption fraction
CLARC - Cleanup Levels and Risk Calculation database
CPFi - inhalation carcinogenic potency factor
CUL - cleanup level
EC - effective carbon chain length
RfDi - inhalation reference dose

Reference

Ecology. 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Publ. no. 09-09-047.

Evaluating Compliance with Air Cleanup Levels for Petroleum
Table E-4 Sample: IA4 - Warehouse Center/Eastern, 5/1/24

Instructions

Input measured concentrations in green cells B12 to C27. If the fraction/component was not detected in the sample but was detected elsewhere on site, enter half the reporting limit. If the fraction/component wasn't analyzed or was never detected anywhere on site, enter 0 mg/kg.

Results

Sample is in compliance if all of the following are true:
1) Hazard indices in cells F29, H29, or J29 don't exceed 1
2) Total cancer risk in cells G29, I29, or K29 don't exceed 1E-05
3) Individual cancer risks in columns G, I, or K don't exceed 1E-06.

	Sample Concentration Data				Method B Hazards and Risks		Method C Hazards and Risks		Commercial Hazards and Risks	
Fraction or Component	Measured Site Concentration (ug/m3)	Measured Ambient Conc. (ug/m3)	Adjusted Concentration (ug/m3)	Proportion of TPH (percent)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)
Aliphatics EC>5-8	8.30E+01	0.00E+00	8.30E+01	57.6%	3E-02	--	1E-02	--	4E-03	--
Aliphatics EC>8-12	1.25E+01	0.00E+00	1.25E+01	8.7%	3E-01	--	1E-01	--	3E-02	--
Aliphatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>9-10	4.80E+01	0.00E+00	4.59E+01	31.8%	3E-01	--	1E-01	--	3E-02	--
Aromatics EC>10-12	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Benzene	1.60E-01	0.00E+00	1.60E-01	0.1%	1E-02	5E-07	5E-03	5E-07	1E-03	1E-07
Ethylbenzene	2.15E-01	0.00E+00	2.15E-01	0.1%	5E-04	--	2E-04	--	6E-05	--
Toluene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Total xylenes	1.90E+00	0.00E+00	1.90E+00	1.3%	4E-02	--	2E-02	--	5E-03	--
Hexane	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Naphthalene	1.70E-01	0.00E+00	1.70E-01	0.1%	1E-01	2E-06	6E-02	2E-06	1E-02	5E-07
1-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	--	--	--	--	--	--
1,2-Dichlorethane (EDC)	2.70E-01	0.00E+00	2.70E-01	0.2%	8E-02	3E-06	4E-02	3E-06	1E-02	6E-07
Ethylene dibromide (EDB)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Total	1.46E+02	0.00E+00	1.44E+02	100.0%	8E-01	6E-06	4E-01	6E-06	1E-01	1E-06
Source	Site-specific	Site-specific	Note a	--	Cells I64-I79	Cells J64-J79	Cells I85-I100	Cells J85-J100	Cells I106-I121 Note b	Cells J106-J121

a) The concentration of each fraction or component under Measured Ambient Conc. (column C) is subtracted from the corresponding concentration under Measured Site Concentration (column B) to correct for ambient background concentrations. The following additional subtractions are included to avoid double counting per Section E-6 of Ecology's (2022) vapor intrusion guidance: hexane from aliphatics EC>5-8; ethylbenzene and total xylenes from aromatics EC>9-10, naphthalene from aromatics EC>10-12, and 1- and 2-methylnaphthalene from aromatics EC>12-16. If the subtraction produces a negative result, it is adjusted up to zero. Ambient air samples must be collected consistent with Section 4.7 of Ecology's (2022) VI guidance and the ambient air adjustment must be approved by the Ecology site manager.

b) Total hazard indices (cells F29, H29, and J29) include all fractions and components, assuming all have common target organs per WAC 173-340-750(3)(b)(ii)(C).

Calculation Details

Equations

1) Noncancer inhalation intake factor: IIF = ABW x UCF x HQ x AT / (BR x ED x EF)
2) Cancer inhalation intake factor: IIF = Risk x ABW x AT x UCF / (BR x ED x EF)
3) Noncancer cleanup level: CUL = IIF x RfDi / ABS
4) Cancer cleanup level: CUL = IIF / (CPFi x ABS)
5) Hazard Quotient = Adjusted Concentration / Noncancer CUL
6) Cancer Risk = Adjusted Concentration x 1E-6 / Cancer CUL
7) Exposure Frequency = ET x WD / (24 x 365)

Calculating Exposure Frequency for Commercial Scenario

Parameter	Abbrev.	Value	Units
Exposure time	ET	9	hr/day
Work days	WD	250	day/yr
Exposure freq. (Equation 7)	EF	2.57E-01	unitless

Exposure Parameters

			Method B		Method C		Commercial	
Parameter	Abbrev.	Units	Noncancer	Cancer	Noncancer	Cancer	Noncancer	Cancer
Average body weight	ABW	kg	16	70	70	70	70	70
Target risk	Risk	unitless	--	1E-06	--	1E-05	--	1E-06
Unit conversion factor	UCF	ug/mg	1,000	1,000	1,000	1,000	1,000	1,000
Hazard quotient	HQ	unitless	1	--	1	--	1	--
Averaging time	AT	yr	6	75	6	75	25	75
Breathing rate	BR	m3/day	10	20	20	20	20	20

Exposure duration	ED	yr	6	30	6	30	25	25
Exposure frequency	EF	unitless	1	1	1	1	0.26	0.26
Inhalation intake factor (Equations 1 and 2)	IIF	kg-ug-day/ mg-m3	1.60E+03	8.75E-03	3.50E+03	8.75E-02	1.36E+04	4.09E-02

Sources: MTCA Equations 750-1 and 750-2, WAC 173-340-750(4), and Ecology's (2022) VI guidance Section 4.4

Method B Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance			
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)	Commercial
Aliphatics EC>5-8	8.30E+01	1.71E+00	--	1	2.74E+03	--	2.74E+03	3.03E-02	--	9.12E+04	7.77E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.73E-01	--	1.53E+03	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	0.00E+00	--	1.53E+03	1.30E+04
Aromatics EC>9-10	4.59E+01	1.14E-01	--	1	1.82E+02	--	1.82E+02	2.52E-01	--	6.08E+03	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.37E+00	--	1.37E+00	0.00E+00	--	4.57E+01	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.82E-01	--	1.82E-01	0.00E+00	--	6.08E+00	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.37E+01	3.21E-01	3.21E-01	1.17E-02	4.99E-07	1.07E+01	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	4.58E+02	--	4.58E+02	4.70E-04	--	1.53E+04	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	2.29E+03	--	2.29E+03	0.00E+00	--	7.63E+04	6.50E+05
Total xylenes	1.90E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	4.15E-02	--	1.53E+03	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	3.20E+02	--	3.20E+02	0.00E+00	--	1.07E+04	9.08E+04
Naphthalene	1.70E-01	8.57E-04	1.19E-01	1	1.37E+00	7.35E-02	7.35E-02	1.24E-01	2.31E-06	2.45E+00	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.37E-03	--	1.37E-03	0.00E+00	--	4.57E-02	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00	0.00E+00
1,2-Dichlorethane (EDC)	2.70E-01	2.00E-03	9.10E-02	1	3.20E+00	9.62E-02	9.62E-02	8.44E-02	2.81E-06	3.21E+00	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	4.11E+00	4.17E-03	4.17E-03	0.00E+00	0.00E+00	1.39E-01	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.37E+03	9.62E+00	9.62E+00	0.00E+00	0.00E+00	3.21E+02	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6		

Method C Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	8.30E+01	1.71E+00	--	1	5.99E+03	--	5.99E+03	1.39E-02	--	2.00E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.25E-01	--	3.34E+03
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	0.00E+00	--	3.34E+03
Aromatics EC>9-10	4.59E+01	1.14E-01	--	1	3.99E+02	--	3.99E+02	1.15E-01	--	1.33E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	3.00E+00	--	3.00E+00	0.00E+00	--	1.00E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	3.99E-01	--	3.99E-01	0.00E+00	--	1.33E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	3.00E+01	3.21E+00	3.21E+00	5.33E-03	4.99E-07	1.07E+02
Ethylbenzene	2.15E-01	2.86E-01	--	1	1.00E+03	--	1.00E+03	2.15E-04	--	3.34E+04
Toluene	0.00E+00	1.43E+00	--	1	5.01E+03	--	5.01E+03	0.00E+00	--	1.67E+05
Total xylenes	1.90E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.90E-02	--	3.34E+03
Hexane	0.00E+00	2.00E-01	--	1	7.00E+02	--	7.00E+02	0.00E+00	--	2.33E+04
Naphthalene	1.70E-01	8.57E-04	1.19E-01	1	3.00E+00	7.35E-01	7.35E-01	5.67E-02	2.31E-06	2.45E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	3.00E-03	--	3.00E-03	0.00E+00	--	1.00E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	2.70E-01	2.00E-03	9.10E-02	1	7.00E+00	9.62E-01	9.62E-01	3.86E-02	2.81E-06	3.21E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	9.00E+00	4.17E-02	4.17E-02	0.00E+00	0.00E+00	1.39E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	3.00E+03	9.62E+01	9.62E+01	0.00E+00	0.00E+00	3.21E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Commercial Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	8.30E+01	1.71E+00	--	1	2.33E+04	--	2.33E+04	3.56E-03	--	7.77E+05

Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	3.90E+02	--	3.90E+02	3.21E-02	--	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	0.00E+00	--	1.30E+04
Aromatics EC>9-10	4.59E+01	1.14E-01	--	1	1.55E+03	--	1.55E+03	2.95E-02	--	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.17E+01	--	1.17E+01	0.00E+00	--	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.55E+00	--	1.55E+00	0.00E+00	--	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.17E+02	1.50E+00	1.50E+00	1.37E-03	1.07E-07	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	3.90E+03	--	3.90E+03	5.52E-05	--	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	1.95E+04	--	1.95E+04	0.00E+00	--	6.50E+05
Total xylenes	1.90E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	4.88E-03	--	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	2.73E+03	--	2.73E+03	0.00E+00	--	9.08E+04
Naphthalene	1.70E-01	8.57E-04	1.19E-01	1	1.17E+01	3.44E-01	3.44E-01	1.46E-02	4.95E-07	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.17E-02	--	1.17E-02	0.00E+00	--	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	2.70E-01	2.00E-03	9.10E-02	1	2.73E+01	4.49E-01	4.49E-01	9.91E-03	6.01E-07	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	3.50E+01	1.95E-02	1.95E-02	0.00E+00	0.00E+00	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.17E+04	4.49E+01	4.49E+01	0.00E+00	0.00E+00	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Additional Abbreviations

-- - no value because parameter isn't available or isn't relevant in this case
ABS - inhalation absorption fraction
CLARC - Cleanup Levels and Risk Calculation database
CPFi - inhalation carcinogenic potency factor
CUL - cleanup level
EC - effective carbon chain length
RfDi - inhalation reference dose

Reference

Ecology. 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Publ. no. 09-09-047.

Evaluating Compliance with Air Cleanup Levels for Petroleum
Table E-5 Sample: IA5 - Warehouse Center/Stairs to Office, 5/1/24

Instructions

Input measured concentrations in green cells B12 to C27. If the fraction/component was not detected in the sample but was detected elsewhere on site, enter half the reporting limit. If the fraction/component wasn't analyzed or was never detected anywhere on site, enter 0 mg/kg.

Results

Sample is in compliance if all of the following are true:
1) Hazard indices in cells F29, H29, or J29 don't exceed 1
2) Total cancer risk in cells G29, I29, or K29 don't exceed 1E-05
3) Individual cancer risks in columns G, I, or K don't exceed 1E-06.

	Sample Concentration Data				Method B Hazards and Risks		Method C Hazards and Risks		Commercial Hazards and Risks	
Fraction or Component	Measured Site Concentration (ug/m3)	Measured Ambient Conc. (ug/m3)	Adjusted Concentration (ug/m3)	Proportion of TPH (percent)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)
Aliphatics EC>5-8	3.75E+01	0.00E+00	3.75E+01	36.2%	1E-02	--	6E-03	--	2E-03	--
Aliphatics EC>8-12	1.25E+01	0.00E+00	1.25E+01	12.1%	3E-01	--	1E-01	--	3E-02	--
Aliphatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>9-10	5.30E+01	0.00E+00	5.10E+01	49.2%	3E-01	--	1E-01	--	3E-02	--
Aromatics EC>10-12	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Benzene	3.20E-01	0.00E+00	3.20E-01	0.3%	2E-02	1E-06	1E-02	1E-06	3E-03	2E-07
Ethylbenzene	2.15E-01	0.00E+00	2.15E-01	0.2%	5E-04	--	2E-04	--	6E-05	--
Toluene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Total xylenes	1.76E+00	0.00E+00	1.76E+00	1.7%	4E-02	--	2E-02	--	5E-03	--
Hexane	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Naphthalene	2.20E-01	0.00E+00	2.20E-01	0.2%	2E-01	3E-06	7E-02	3E-06	2E-02	6E-07
1-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	--	--	--	--	--	--
1,2-Dichlorethane (EDC)	1.90E-01	0.00E+00	1.90E-01	0.2%	6E-02	2E-06	3E-02	2E-06	7E-03	4E-07
Ethylene dibromide (EDB)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Total	1.06E+02	0.00E+00	1.04E+02	100.0%	8E-01	6E-06	4E-01	6E-06	1E-01	1E-06
Source	Site-specific	Site-specific	Note a	--	Cells I64-I79	Cells J64-J79	Cells I85-I100	Cells J85-J100	Cells I106-I121 Note b	Cells J106-J121

a) The concentration of each fraction or component under Measured Ambient Conc. (column C) is subtracted from the corresponding concentration under Measured Site Concentration (column B) to correct for ambient background concentrations. The following additional subtractions are included to avoid double counting per Section E-6 of Ecology's (2022) vapor intrusion guidance: hexane from aliphatics EC>5-8; ethylbenzene and total xylenes from aromatics EC>9-10, naphthalene from aromatics EC>10-12, and 1- and 2-methylnaphthalene from aromatics EC>12-16. If the subtraction produces a negative result, it is adjusted up to zero. Ambient air samples must be collected consistent with Section 4.7 of Ecology's (2022) VI guidance and the ambient air adjustment must be approved by the Ecology site manager.

b) Total hazard indices (cells F29, H29, and J29) include all fractions and components, assuming all have common target organs per WAC 173-340-750(3)(b)(ii)(C).

Calculation Details

Equations

1) Noncancer inhalation intake factor: IIF = ABW x UCF x HQ x AT / (BR x ED x EF)
2) Cancer inhalation intake factor: IIF = Risk x ABW x AT x UCF / (BR x ED x EF)
3) Noncancer cleanup level: CUL = IIF x RfDi / ABS
4) Cancer cleanup level: CUL = IIF / (CPFi x ABS)
5) Hazard Quotient = Adjusted Concentration / Noncancer CUL
6) Cancer Risk = Adjusted Concentration x 1E-6 / Cancer CUL
7) Exposure Frequency = ET x WD / (24 x 365)

Calculating Exposure Frequency for Commercial Scenario

Parameter	Abbrev.	Value	Units
Exposure time	ET	9	hr/day
Work days	WD	250	day/yr
Exposure freq. (Equation 7)	EF	2.57E-01	unitless

Exposure Parameters

			Method B		Method C		Commercial	
Parameter	Abbrev.	Units	Noncancer	Cancer	Noncancer	Cancer	Noncancer	Cancer
Average body weight	ABW	kg	16	70	70	70	70	70
Target risk	Risk	unitless	--	1E-06	--	1E-05	--	1E-06
Unit conversion factor	UCF	ug/mg	1,000	1,000	1,000	1,000	1,000	1,000
Hazard quotient	HQ	unitless	1	--	1	--	1	--
Averaging time	AT	yr	6	75	6	75	25	75
Breathing rate	BR	m3/day	10	20	20	20	20	20

Exposure duration	ED	yr	6	30	6	30	25	25
Exposure frequency	EF	unitless	1	1	1	1	0.26	0.26
Inhalation intake factor (Equations 1 and 2)	IIF	kg-ug-day/ mg-m3	1.60E+03	8.75E-03	3.50E+03	8.75E-02	1.36E+04	4.09E-02

Sources: MTCA Equations 750-1 and 750-2, WAC 173-340-750(4), and Ecology's (2022) VI guidance Section 4.4

Method B Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance			
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)	Commercial
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	2.74E+03	--	2.74E+03	1.37E-02	--	9.12E+04	7.77E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.73E-01	--	1.53E+03	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	0.00E+00	--	1.53E+03	1.30E+04
Aromatics EC>9-10	5.10E+01	1.14E-01	--	1	1.82E+02	--	1.82E+02	2.80E-01	--	6.08E+03	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.37E+00	--	1.37E+00	0.00E+00	--	4.57E+01	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.82E-01	--	1.82E-01	0.00E+00	--	6.08E+00	5.18E+01
Benzene	3.20E-01	8.57E-03	2.73E-02	1	1.37E+01	3.21E-01	3.21E-01	2.33E-02	9.98E-07	1.07E+01	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	4.58E+02	--	4.58E+02	4.70E-04	--	1.53E+04	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	2.29E+03	--	2.29E+03	0.00E+00	--	7.63E+04	6.50E+05
Total xylenes	1.76E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	3.85E-02	--	1.53E+03	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	3.20E+02	--	3.20E+02	0.00E+00	--	1.07E+04	9.08E+04
Naphthalene	2.20E-01	8.57E-04	1.19E-01	1	1.37E+00	7.35E-02	7.35E-02	1.60E-01	2.99E-06	2.45E+00	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.37E-03	--	1.37E-03	0.00E+00	--	4.57E-02	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00	0.00E+00
1,2-Dichlorethane (EDC)	1.90E-01	2.00E-03	9.10E-02	1	3.20E+00	9.62E-02	9.62E-02	5.94E-02	1.98E-06	3.21E+00	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	4.11E+00	4.17E-03	4.17E-03	0.00E+00	0.00E+00	1.39E-01	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.37E+03	9.62E+00	9.62E+00	0.00E+00	0.00E+00	3.21E+02	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6		

Method C Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	5.99E+03	--	5.99E+03	6.27E-03	--	2.00E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.25E-01	--	3.34E+03
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	0.00E+00	--	3.34E+03
Aromatics EC>9-10	5.10E+01	1.14E-01	--	1	3.99E+02	--	3.99E+02	1.28E-01	--	1.33E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	3.00E+00	--	3.00E+00	0.00E+00	--	1.00E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	3.99E-01	--	3.99E-01	0.00E+00	--	1.33E+01
Benzene	3.20E-01	8.57E-03	2.73E-02	1	3.00E+01	3.21E+00	3.21E+00	1.07E-02	9.98E-07	1.07E+02
Ethylbenzene	2.15E-01	2.86E-01	--	1	1.00E+03	--	1.00E+03	2.15E-04	--	3.34E+04
Toluene	0.00E+00	1.43E+00	--	1	5.01E+03	--	5.01E+03	0.00E+00	--	1.67E+05
Total xylenes	1.76E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.76E-02	--	3.34E+03
Hexane	0.00E+00	2.00E-01	--	1	7.00E+02	--	7.00E+02	0.00E+00	--	2.33E+04
Naphthalene	2.20E-01	8.57E-04	1.19E-01	1	3.00E+00	7.35E-01	7.35E-01	7.33E-02	2.99E-06	2.45E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	3.00E-03	--	3.00E-03	0.00E+00	--	1.00E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	1.90E-01	2.00E-03	9.10E-02	1	7.00E+00	9.62E-01	9.62E-01	2.71E-02	1.98E-06	3.21E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	9.00E+00	4.17E-02	4.17E-02	0.00E+00	0.00E+00	1.39E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	3.00E+03	9.62E+01	9.62E+01	0.00E+00	0.00E+00	3.21E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Commercial Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	2.33E+04	--	2.33E+04	1.61E-03	--	7.77E+05

Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	3.90E+02	--	3.90E+02	3.21E-02	--	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	0.00E+00	--	1.30E+04
Aromatics EC>9-10	5.10E+01	1.14E-01	--	1	1.55E+03	--	1.55E+03	3.28E-02	--	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.17E+01	--	1.17E+01	0.00E+00	--	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.55E+00	--	1.55E+00	0.00E+00	--	5.18E+01
Benzene	3.20E-01	8.57E-03	2.73E-02	1	1.17E+02	1.50E+00	1.50E+00	2.74E-03	2.14E-07	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	3.90E+03	--	3.90E+03	5.52E-05	--	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	1.95E+04	--	1.95E+04	0.00E+00	--	6.50E+05
Total xylenes	1.76E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	4.52E-03	--	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	2.73E+03	--	2.73E+03	0.00E+00	--	9.08E+04
Naphthalene	2.20E-01	8.57E-04	1.19E-01	1	1.17E+01	3.44E-01	3.44E-01	1.88E-02	6.40E-07	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.17E-02	--	1.17E-02	0.00E+00	--	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	1.90E-01	2.00E-03	9.10E-02	1	2.73E+01	4.49E-01	4.49E-01	6.97E-03	4.23E-07	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	3.50E+01	1.95E-02	1.95E-02	0.00E+00	0.00E+00	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.17E+04	4.49E+01	4.49E+01	0.00E+00	0.00E+00	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Additional Abbreviations

-- - no value because parameter isn't available or isn't relevant in this case
ABS - inhalation absorption fraction
CLARC - Cleanup Levels and Risk Calculation database
CPFi - inhalation carcinogenic potency factor
CUL - cleanup level
EC - effective carbon chain length
RfDi - inhalation reference dose

Reference

Ecology. 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Publ. no. 09-09-047.

Evaluating Compliance with Air Cleanup Levels for Petroleum
Table E-6 Sample: IA6 - Warehouse Center, 5/1/24

Instructions

Input measured concentrations in green cells B12 to C27. If the fraction/component was not detected in the sample but was detected elsewhere on site, enter half the reporting limit. If the fraction/component wasn't analyzed or was never detected anywhere on site, enter 0 mg/kg.

Results

Sample is in compliance if all of the following are true:
1) Hazard indices in cells F29, H29, or J29 don't exceed 1
2) Total cancer risk in cells G29, I29, or K29 don't exceed 1E-05
3) Individual cancer risks in columns G, I, or K don't exceed 1E-06.

	Sample Concentration Data				Method B Hazards and Risks		Method C Hazards and Risks		Commercial Hazards and Risks	
Fraction or Component	Measured Site Concentration (ug/m3)	Measured Ambient Conc. (ug/m3)	Adjusted Concentration (ug/m3)	Proportion of TPH (percent)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)
Aliphatics EC>5-8	7.70E+01	0.00E+00	7.70E+01	60.7%	3E-02	--	1E-02	--	3E-03	--
Aliphatics EC>8-12	1.25E+01	0.00E+00	1.25E+01	9.8%	3E-01	--	1E-01	--	3E-02	--
Aliphatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>9-10	3.70E+01	0.00E+00	3.57E+01	28.1%	2E-01	--	9E-02	--	2E-02	--
Aromatics EC>10-12	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Benzene	1.60E-01	0.00E+00	1.60E-01	0.1%	1E-02	5E-07	5E-03	5E-07	1E-03	1E-07
Ethylbenzene	2.15E-01	0.00E+00	2.15E-01	0.2%	5E-04	--	2E-04	--	6E-05	--
Toluene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Total xylenes	1.10E+00	0.00E+00	1.10E+00	0.9%	2E-02	--	1E-02	--	3E-03	--
Hexane	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Naphthalene	1.80E-01	0.00E+00	1.80E-01	0.1%	1E-01	2E-06	6E-02	2E-06	2E-02	5E-07
1-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	--	--	--	--	--	--
1,2-Dichlorethane (EDC)	7.30E-02	0.00E+00	7.30E-02	0.1%	2E-02	8E-07	1E-02	8E-07	3E-03	2E-07
Ethylene dibromide (EDB)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Total	1.28E+02	0.00E+00	1.27E+02	100.0%	7E-01	4E-06	3E-01	4E-06	8E-02	8E-07
Source	Site-specific	Site-specific	Note a	--	Cells I64-I79	Cells J64-J79	Cells I85-I100	Cells J85-J100	Cells I106-I121 Note b	Cells J106-J121

a) The concentration of each fraction or component under Measured Ambient Conc. (column C) is subtracted from the corresponding concentration under Measured Site Concentration (column B) to correct for ambient background concentrations. The following additional subtractions are included to avoid double counting per Section E-6 of Ecology's (2022) vapor intrusion guidance: hexane from aliphatics EC>5-8; ethylbenzene and total xylenes from aromatics EC>9-10, naphthalene from aromatics EC>10-12, and 1- and 2-methylnaphthalene from aromatics EC>12-16. If the subtraction produces a negative result, it is adjusted up to zero. Ambient air samples must be collected consistent with Section 4.7 of Ecology's (2022) VI guidance and the ambient air adjustment must be approved by the Ecology site manager.

b) Total hazard indices (cells F29, H29, and J29) include all fractions and components, assuming all have common target organs per WAC 173-340-750(3)(b)(ii)(C).

Calculation Details

Equations

1) Noncancer inhalation intake factor: IIF = ABW x UCF x HQ x AT / (BR x ED x EF)
2) Cancer inhalation intake factor: IIF = Risk x ABW x AT x UCF / (BR x ED x EF)
3) Noncancer cleanup level: CUL = IIF x RfDi / ABS
4) Cancer cleanup level: CUL = IIF / (CPFi x ABS)
5) Hazard Quotient = Adjusted Concentration / Noncancer CUL
6) Cancer Risk = Adjusted Concentration x 1E-6 / Cancer CUL
7) Exposure Frequency = ET x WD / (24 x 365)

Calculating Exposure Frequency for Commercial Scenario

Parameter	Abbrev.	Value	Units
Exposure time	ET	9	hr/day
Work days	WD	250	day/yr
Exposure freq. (Equation 7)	EF	2.57E-01	unitless

Exposure Parameters

			Method B		Method C		Commercial	
Parameter	Abbrev.	Units	Noncancer	Cancer	Noncancer	Cancer	Noncancer	Cancer
Average body weight	ABW	kg	16	70	70	70	70	70
Target risk	Risk	unitless	--	1E-06	--	1E-05	--	1E-06
Unit conversion factor	UCF	ug/mg	1,000	1,000	1,000	1,000	1,000	1,000
Hazard quotient	HQ	unitless	1	--	1	--	1	--
Averaging time	AT	yr	6	75	6	75	25	75
Breathing rate	BR	m3/day	10	20	20	20	20	20

Exposure duration	ED	yr	6	30	6	30	25	25
Exposure frequency	EF	unitless	1	1	1	1	0.26	0.26
Inhalation intake factor (Equations 1 and 2)	IIF	kg-ug-day/ mg-m3	1.60E+03	8.75E-03	3.50E+03	8.75E-02	1.36E+04	4.09E-02

Sources: MTCA Equations 750-1 and 750-2, WAC 173-340-750(4), and Ecology's (2022) VI guidance Section 4.4

Method B Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance			
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)	Commercial
Aliphatics EC>5-8	7.70E+01	1.71E+00	--	1	2.74E+03	--	2.74E+03	2.81E-02	--	9.12E+04	7.77E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.73E-01	--	1.53E+03	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	0.00E+00	--	1.53E+03	1.30E+04
Aromatics EC>9-10	3.57E+01	1.14E-01	--	1	1.82E+02	--	1.82E+02	1.96E-01	--	6.08E+03	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.37E+00	--	1.37E+00	0.00E+00	--	4.57E+01	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.82E-01	--	1.82E-01	0.00E+00	--	6.08E+00	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.37E+01	3.21E-01	3.21E-01	1.17E-02	4.99E-07	1.07E+01	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	4.58E+02	--	4.58E+02	4.70E-04	--	1.53E+04	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	2.29E+03	--	2.29E+03	0.00E+00	--	7.63E+04	6.50E+05
Total xylenes	1.10E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.40E-02	--	1.53E+03	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	3.20E+02	--	3.20E+02	0.00E+00	--	1.07E+04	9.08E+04
Naphthalene	1.80E-01	8.57E-04	1.19E-01	1	1.37E+00	7.35E-02	7.35E-02	1.31E-01	2.45E-06	2.45E+00	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.37E-03	--	1.37E-03	0.00E+00	--	4.57E-02	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00	0.00E+00
1,2-Dichlorethane (EDC)	7.30E-02	2.00E-03	9.10E-02	1	3.20E+00	9.62E-02	9.62E-02	2.28E-02	7.59E-07	3.21E+00	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	4.11E+00	4.17E-03	4.17E-03	0.00E+00	0.00E+00	1.39E-01	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.37E+03	9.62E+00	9.62E+00	0.00E+00	0.00E+00	3.21E+02	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6		

Method C Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	7.70E+01	1.71E+00	--	1	5.99E+03	--	5.99E+03	1.29E-02	--	2.00E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.25E-01	--	3.34E+03
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	0.00E+00	--	3.34E+03
Aromatics EC>9-10	3.57E+01	1.14E-01	--	1	3.99E+02	--	3.99E+02	8.94E-02	--	1.33E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	3.00E+00	--	3.00E+00	0.00E+00	--	1.00E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	3.99E-01	--	3.99E-01	0.00E+00	--	1.33E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	3.00E+01	3.21E+00	3.21E+00	5.33E-03	4.99E-07	1.07E+02
Ethylbenzene	2.15E-01	2.86E-01	--	1	1.00E+03	--	1.00E+03	2.15E-04	--	3.34E+04
Toluene	0.00E+00	1.43E+00	--	1	5.01E+03	--	5.01E+03	0.00E+00	--	1.67E+05
Total xylenes	1.10E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.10E-02	--	3.34E+03
Hexane	0.00E+00	2.00E-01	--	1	7.00E+02	--	7.00E+02	0.00E+00	--	2.33E+04
Naphthalene	1.80E-01	8.57E-04	1.19E-01	1	3.00E+00	7.35E-01	7.35E-01	6.00E-02	2.45E-06	2.45E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	3.00E-03	--	3.00E-03	0.00E+00	--	1.00E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	7.30E-02	2.00E-03	9.10E-02	1	7.00E+00	9.62E-01	9.62E-01	1.04E-02	7.59E-07	3.21E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	9.00E+00	4.17E-02	4.17E-02	0.00E+00	0.00E+00	1.39E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	3.00E+03	9.62E+01	9.62E+01	0.00E+00	0.00E+00	3.21E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Commercial Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	7.70E+01	1.71E+00	--	1	2.33E+04	--	2.33E+04	3.30E-03	--	7.77E+05

Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	3.90E+02	--	3.90E+02	3.21E-02	--	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	0.00E+00	--	1.30E+04
Aromatics EC>9-10	3.57E+01	1.14E-01	--	1	1.55E+03	--	1.55E+03	2.30E-02	--	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.17E+01	--	1.17E+01	0.00E+00	--	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.55E+00	--	1.55E+00	0.00E+00	--	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.17E+02	1.50E+00	1.50E+00	1.37E-03	1.07E-07	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	3.90E+03	--	3.90E+03	5.52E-05	--	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	1.95E+04	--	1.95E+04	0.00E+00	--	6.50E+05
Total xylenes	1.10E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	2.82E-03	--	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	2.73E+03	--	2.73E+03	0.00E+00	--	9.08E+04
Naphthalene	1.80E-01	8.57E-04	1.19E-01	1	1.17E+01	3.44E-01	3.44E-01	1.54E-02	5.24E-07	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.17E-02	--	1.17E-02	0.00E+00	--	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	7.30E-02	2.00E-03	9.10E-02	1	2.73E+01	4.49E-01	4.49E-01	2.68E-03	1.63E-07	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	3.50E+01	1.95E-02	1.95E-02	0.00E+00	0.00E+00	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.17E+04	4.49E+01	4.49E+01	0.00E+00	0.00E+00	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Additional Abbreviations

-- - no value because parameter isn't available or isn't relevant in this case
ABS - inhalation absorption fraction
CLARC - Cleanup Levels and Risk Calculation database
CPFi - inhalation carcinogenic potency factor
CUL - cleanup level
EC - effective carbon chain length
RfDi - inhalation reference dose

Reference

Ecology. 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Publ. no. 09-09-047.

Evaluating Compliance with Air Cleanup Levels for Petroleum
Table E-7 Sample: IA7 - Indoor Warehouse Fire Sprinkler, 5/1/24

Instructions

Input measured concentrations in green cells B12 to C27. If the fraction/component was not detected in the sample but was detected elsewhere on site, enter half the reporting limit. If the fraction/component wasn't analyzed or was never detected anywhere on site, enter 0 mg/kg.

Results

Sample is in compliance if all of the following are true:
1) Hazard indices in cells F29, H29, or J29 don't exceed 1
2) Total cancer risk in cells G29, I29, or K29 don't exceed 1E-05
3) Individual cancer risks in columns G, I, or K don't exceed 1E-06.

	Sample Concentration Data				Method B Hazards and Risks		Method C Hazards and Risks		Commercial Hazards and Risks	
Fraction or Component	Measured Site Concentration (ug/m3)	Measured Ambient Conc. (ug/m3)	Adjusted Concentration (ug/m3)	Proportion of TPH (percent)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)
Aliphatics EC>5-8	7.60E+01	0.00E+00	7.60E+01	65.6%	3E-02	--	1E-02	--	3E-03	--
Aliphatics EC>8-12	1.25E+01	0.00E+00	1.25E+01	10.8%	3E-01	--	1E-01	--	3E-02	--
Aliphatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>9-10	2.70E+01	0.00E+00	2.57E+01	22.2%	1E-01	--	6E-02	--	2E-02	--
Aromatics EC>10-12	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Benzene	1.60E-01	0.00E+00	1.60E-01	0.1%	1E-02	5E-07	5E-03	5E-07	1E-03	1E-07
Ethylbenzene	2.15E-01	0.00E+00	2.15E-01	0.2%	5E-04	--	2E-04	--	6E-05	--
Toluene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Total xylenes	1.10E+00	0.00E+00	1.10E+00	0.9%	2E-02	--	1E-02	--	3E-03	--
Hexane	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Naphthalene	1.20E-01	0.00E+00	1.20E-01	0.1%	9E-02	2E-06	4E-02	2E-06	1E-02	3E-07
1-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	--	--	--	--	--	--
1,2-Dichlorethane (EDC)	7.30E-02	0.00E+00	7.30E-02	0.1%	2E-02	8E-07	1E-02	8E-07	3E-03	2E-07
Ethylene dibromide (EDB)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Total	1.17E+02	0.00E+00	1.16E+02	100.0%	6E-01	3E-06	3E-01	3E-06	7E-02	6E-07
Source	Site-specific	Site-specific	Note a	--	Cells I64-I79	Cells J64-J79	Cells I85-I100	Cells J85-J100	Cells I106-I121 Note b	Cells J106-J121

a) The concentration of each fraction or component under Measured Ambient Conc. (column C) is subtracted from the corresponding concentration under Measured Site Concentration (column B) to correct for ambient background concentrations. The following additional subtractions are included to avoid double counting per Section E-6 of Ecology's (2022) vapor intrusion guidance: hexane from aliphatics EC>5-8; ethylbenzene and total xylenes from aromatics EC>9-10, naphthalene from aromatics EC>10-12, and 1- and 2-methylnaphthalene from aromatics EC>12-16. If the subtraction produces a negative result, it is adjusted up to zero. Ambient air samples must be collected consistent with Section 4.7 of Ecology's (2022) VI guidance and the ambient air adjustment must be approved by the Ecology site manager.

b) Total hazard indices (cells F29, H29, and J29) include all fractions and components, assuming all have common target organs per WAC 173-340-750(3)(b)(ii)(C).

Calculation Details

Equations

1) Noncancer inhalation intake factor: IIF = ABW x UCF x HQ x AT / (BR x ED x EF)
2) Cancer inhalation intake factor: IIF = Risk x ABW x AT x UCF / (BR x ED x EF)
3) Noncancer cleanup level: CUL = IIF x RfDi / ABS
4) Cancer cleanup level: CUL = IIF / (CPFi x ABS)
5) Hazard Quotient = Adjusted Concentration / Noncancer CUL
6) Cancer Risk = Adjusted Concentration x 1E-6 / Cancer CUL
7) Exposure Frequency = ET x WD / (24 x 365)

Calculating Exposure Frequency for Commercial Scenario

Parameter	Abbrev.	Value	Units
Exposure time	ET	9	hr/day
Work days	WD	250	day/yr
Exposure freq. (Equation 7)	EF	2.57E-01	unitless

Exposure Parameters

			Method B		Method C		Commercial	
Parameter	Abbrev.	Units	Noncancer	Cancer	Noncancer	Cancer	Noncancer	Cancer
Average body weight	ABW	kg	16	70	70	70	70	70
Target risk	Risk	unitless	--	1E-06	--	1E-05	--	1E-06
Unit conversion factor	UCF	ug/mg	1,000	1,000	1,000	1,000	1,000	1,000
Hazard quotient	HQ	unitless	1	--	1	--	1	--
Averaging time	AT	yr	6	75	6	75	25	75
Breathing rate	BR	m3/day	10	20	20	20	20	20

Exposure duration	ED	yr	6	30	6	30	25	25
Exposure frequency	EF	unitless	1	1	1	1	0.26	0.26
Inhalation intake factor (Equations 1 and 2)	IIF	kg-ug-day/ mg-m3	1.60E+03	8.75E-03	3.50E+03	8.75E-02	1.36E+04	4.09E-02

Sources: MTCA Equations 750-1 and 750-2, WAC 173-340-750(4), and Ecology's (2022) VI guidance Section 4.4

Method B Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance			
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)	Commercial
Aliphatics EC>5-8	7.60E+01	1.71E+00	--	1	2.74E+03	--	2.74E+03	2.78E-02	--	9.12E+04	7.77E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.73E-01	--	1.53E+03	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	0.00E+00	--	1.53E+03	1.30E+04
Aromatics EC>9-10	2.57E+01	1.14E-01	--	1	1.82E+02	--	1.82E+02	1.41E-01	--	6.08E+03	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.37E+00	--	1.37E+00	0.00E+00	--	4.57E+01	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.82E-01	--	1.82E-01	0.00E+00	--	6.08E+00	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.37E+01	3.21E-01	3.21E-01	1.17E-02	4.99E-07	1.07E+01	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	4.58E+02	--	4.58E+02	4.70E-04	--	1.53E+04	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	2.29E+03	--	2.29E+03	0.00E+00	--	7.63E+04	6.50E+05
Total xylenes	1.10E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.40E-02	--	1.53E+03	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	3.20E+02	--	3.20E+02	0.00E+00	--	1.07E+04	9.08E+04
Naphthalene	1.20E-01	8.57E-04	1.19E-01	1	1.37E+00	7.35E-02	7.35E-02	8.75E-02	1.63E-06	2.45E+00	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.37E-03	--	1.37E-03	0.00E+00	--	4.57E-02	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00	0.00E+00
1,2-Dichlorethane (EDC)	7.30E-02	2.00E-03	9.10E-02	1	3.20E+00	9.62E-02	9.62E-02	2.28E-02	7.59E-07	3.21E+00	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	4.11E+00	4.17E-03	4.17E-03	0.00E+00	0.00E+00	1.39E-01	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.37E+03	9.62E+00	9.62E+00	0.00E+00	0.00E+00	3.21E+02	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6		

Method C Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	7.60E+01	1.71E+00	--	1	5.99E+03	--	5.99E+03	1.27E-02	--	2.00E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.25E-01	--	3.34E+03
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	0.00E+00	--	3.34E+03
Aromatics EC>9-10	2.57E+01	1.14E-01	--	1	3.99E+02	--	3.99E+02	6.44E-02	--	1.33E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	3.00E+00	--	3.00E+00	0.00E+00	--	1.00E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	3.99E-01	--	3.99E-01	0.00E+00	--	1.33E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	3.00E+01	3.21E+00	3.21E+00	5.33E-03	4.99E-07	1.07E+02
Ethylbenzene	2.15E-01	2.86E-01	--	1	1.00E+03	--	1.00E+03	2.15E-04	--	3.34E+04
Toluene	0.00E+00	1.43E+00	--	1	5.01E+03	--	5.01E+03	0.00E+00	--	1.67E+05
Total xylenes	1.10E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.10E-02	--	3.34E+03
Hexane	0.00E+00	2.00E-01	--	1	7.00E+02	--	7.00E+02	0.00E+00	--	2.33E+04
Naphthalene	1.20E-01	8.57E-04	1.19E-01	1	3.00E+00	7.35E-01	7.35E-01	4.00E-02	1.63E-06	2.45E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	3.00E-03	--	3.00E-03	0.00E+00	--	1.00E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	7.30E-02	2.00E-03	9.10E-02	1	7.00E+00	9.62E-01	9.62E-01	1.04E-02	7.59E-07	3.21E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	9.00E+00	4.17E-02	4.17E-02	0.00E+00	0.00E+00	1.39E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	3.00E+03	9.62E+01	9.62E+01	0.00E+00	0.00E+00	3.21E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Commercial Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	7.60E+01	1.71E+00	--	1	2.33E+04	--	2.33E+04	3.26E-03	--	7.77E+05

Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	3.90E+02	--	3.90E+02	3.21E-02	--	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	0.00E+00	--	1.30E+04
Aromatics EC>9-10	2.57E+01	1.14E-01	--	1	1.55E+03	--	1.55E+03	1.65E-02	--	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.17E+01	--	1.17E+01	0.00E+00	--	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.55E+00	--	1.55E+00	0.00E+00	--	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.17E+02	1.50E+00	1.50E+00	1.37E-03	1.07E-07	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	3.90E+03	--	3.90E+03	5.52E-05	--	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	1.95E+04	--	1.95E+04	0.00E+00	--	6.50E+05
Total xylenes	1.10E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	2.82E-03	--	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	2.73E+03	--	2.73E+03	0.00E+00	--	9.08E+04
Naphthalene	1.20E-01	8.57E-04	1.19E-01	1	1.17E+01	3.44E-01	3.44E-01	1.03E-02	3.49E-07	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.17E-02	--	1.17E-02	0.00E+00	--	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	7.30E-02	2.00E-03	9.10E-02	1	2.73E+01	4.49E-01	4.49E-01	2.68E-03	1.63E-07	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	3.50E+01	1.95E-02	1.95E-02	0.00E+00	0.00E+00	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.17E+04	4.49E+01	4.49E+01	0.00E+00	0.00E+00	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Additional Abbreviations

-- - no value because parameter isn't available or isn't relevant in this case
ABS - inhalation absorption fraction
CLARC - Cleanup Levels and Risk Calculation database
CPFi - inhalation carcinogenic potency factor
CUL - cleanup level
EC - effective carbon chain length
RfDi - inhalation reference dose

Reference

Ecology. 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Publ. no. 09-09-047.

Evaluating Compliance with Air Cleanup Levels for Petroleum
Table E-8 Sample: IA8 - Indoor Warehouse Outside Test Kitchen, 5/1/24

Instructions

Input measured concentrations in green cells B12 to C27. If the fraction/component was not detected in the sample but was detected elsewhere on site, enter half the reporting limit. If the fraction/component wasn't analyzed or was never detected anywhere on site, enter 0 mg/kg.

Results

Sample is in compliance if all of the following are true:
1) Hazard indices in cells F29, H29, or J29 don't exceed 1
2) Total cancer risk in cells G29, I29, or K29 don't exceed 1E-05
3) Individual cancer risks in columns G, I, or K don't exceed 1E-06.

	Sample Concentration Data				Method B Hazards and Risks		Method C Hazards and Risks		Commercial Hazards and Risks	
Fraction or Component	Measured Site Concentration (ug/m3)	Measured Ambient Conc. (ug/m3)	Adjusted Concentration (ug/m3)	Proportion of TPH (percent)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Noncancer Hazard (unitless)	Cancer Risk (unitless)
Aliphatics EC>5-8	3.75E+01	0.00E+00	3.75E+01	46.1%	1E-02	--	6E-03	--	2E-03	--
Aliphatics EC>8-12	1.25E+01	0.00E+00	1.25E+01	15.4%	3E-01	--	1E-01	--	3E-02	--
Aliphatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>9-10	3.10E+01	0.00E+00	2.95E+01	36.2%	2E-01	--	7E-02	--	2E-02	--
Aromatics EC>10-12	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Aromatics EC>12-16	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Benzene	1.60E-01	0.00E+00	1.60E-01	0.2%	1E-02	5E-07	5E-03	5E-07	1E-03	1E-07
Ethylbenzene	2.15E-01	0.00E+00	2.15E-01	0.3%	5E-04	--	2E-04	--	6E-05	--
Toluene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Total xylenes	1.30E+00	0.00E+00	1.30E+00	1.6%	3E-02	--	1E-02	--	3E-03	--
Hexane	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
Naphthalene	1.50E-01	0.00E+00	1.50E-01	0.2%	1E-01	2E-06	5E-02	2E-06	1E-02	4E-07
1-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	--	0E+00	--	0E+00	--
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.0%	--	--	--	--	--	--
1,2-Dichlorethane (EDC)	7.70E-02	0.00E+00	7.70E-02	0.1%	2E-02	8E-07	1E-02	8E-07	3E-03	2E-07
Ethylene dibromide (EDB)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	0.00E+00	0.00E+00	0.0%	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Total	8.29E+01	0.00E+00	8.14E+01	100.0%	6E-01	3E-06	3E-01	3E-06	7E-02	7E-07
Source	Site-specific	Site-specific	Note a	--	Cells I64-I79	Cells J64-J79	Cells I85-I100	Cells J85-J100	Cells I106-I121 Note b	Cells J106-J121

a) The concentration of each fraction or component under Measured Ambient Conc. (column C) is subtracted from the corresponding concentration under Measured Site Concentration (column B) to correct for ambient background concentrations. The following additional subtractions are included to avoid double counting per Section E-6 of Ecology's (2022) vapor intrusion guidance: hexane from aliphatics EC>5-8; ethylbenzene and total xylenes from aromatics EC>9-10, naphthalene from aromatics EC>10-12, and 1- and 2-methylnaphthalene from aromatics EC>12-16. If the subtraction produces a negative result, it is adjusted up to zero. Ambient air samples must be collected consistent with Section 4.7 of Ecology's (2022) VI guidance and the ambient air adjustment must be approved by the Ecology site manager.

b) Total hazard indices (cells F29, H29, and J29) include all fractions and components, assuming all have common target organs per WAC 173-340-750(3)(b)(ii)(C).

Calculation Details

Equations

1) Noncancer inhalation intake factor: IIF = ABW x UCF x HQ x AT / (BR x ED x EF)
2) Cancer inhalation intake factor: IIF = Risk x ABW x AT x UCF / (BR x ED x EF)
3) Noncancer cleanup level: CUL = IIF x RfDi / ABS
4) Cancer cleanup level: CUL = IIF / (CPFi x ABS)
5) Hazard Quotient = Adjusted Concentration / Noncancer CUL
6) Cancer Risk = Adjusted Concentration x 1E-6 / Cancer CUL
7) Exposure Frequency = ET x WD / (24 x 365)

Calculating Exposure Frequency for Commercial Scenario

Parameter	Abbrev.	Value	Units
Exposure time	ET	9	hr/day
Work days	WD	250	day/yr
Exposure freq. (Equation 7)	EF	2.57E-01	unitless

Exposure Parameters

			Method B		Method C		Commercial	
Parameter	Abbrev.	Units	Noncancer	Cancer	Noncancer	Cancer	Noncancer	Cancer
Average body weight	ABW	kg	16	70	70	70	70	70
Target risk	Risk	unitless	--	1E-06	--	1E-05	--	1E-06
Unit conversion factor	UCF	ug/mg	1,000	1,000	1,000	1,000	1,000	1,000
Hazard quotient	HQ	unitless	1	--	1	--	1	--
Averaging time	AT	yr	6	75	6	75	25	75
Breathing rate	BR	m3/day	10	20	20	20	20	20

Exposure duration	ED	yr	6	30	6	30	25	25
Exposure frequency	EF	unitless	1	1	1	1	0.26	0.26
Inhalation intake factor (Equations 1 and 2)	IIF	kg-ug-day/ mg-m3	1.60E+03	8.75E-03	3.50E+03	8.75E-02	1.36E+04	4.09E-02

Sources: MTCA Equations 750-1 and 750-2, WAC 173-340-750(4), and Ecology's (2022) VI guidance Section 4.4

Method B Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance			
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)	Commercial
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	2.74E+03	--	2.74E+03	1.37E-02	--	9.12E+04	7.77E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.73E-01	--	1.53E+03	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	0.00E+00	--	1.53E+03	1.30E+04
Aromatics EC>9-10	2.95E+01	1.14E-01	--	1	1.82E+02	--	1.82E+02	1.62E-01	--	6.08E+03	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.37E+00	--	1.37E+00	0.00E+00	--	4.57E+01	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.82E-01	--	1.82E-01	0.00E+00	--	6.08E+00	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.37E+01	3.21E-01	3.21E-01	1.17E-02	4.99E-07	1.07E+01	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	4.58E+02	--	4.58E+02	4.70E-04	--	1.53E+04	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	2.29E+03	--	2.29E+03	0.00E+00	--	7.63E+04	6.50E+05
Total xylenes	1.30E+00	2.86E-02	--	1	4.58E+01	--	4.58E+01	2.84E-02	--	1.53E+03	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	3.20E+02	--	3.20E+02	0.00E+00	--	1.07E+04	9.08E+04
Naphthalene	1.50E-01	8.57E-04	1.19E-01	1	1.37E+00	7.35E-02	7.35E-02	1.09E-01	2.04E-06	2.45E+00	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.37E-03	--	1.37E-03	0.00E+00	--	4.57E-02	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00	0.00E+00
1,2-Dichlorethane (EDC)	7.70E-02	2.00E-03	9.10E-02	1	3.20E+00	9.62E-02	9.62E-02	2.41E-02	8.01E-07	3.21E+00	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	4.11E+00	4.17E-03	4.17E-03	0.00E+00	0.00E+00	1.39E-01	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.37E+03	9.62E+00	9.62E+00	0.00E+00	0.00E+00	3.21E+02	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6		

Method C Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	5.99E+03	--	5.99E+03	6.27E-03	--	2.00E+05
Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.25E-01	--	3.34E+03
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	0.00E+00	--	3.34E+03
Aromatics EC>9-10	2.95E+01	1.14E-01	--	1	3.99E+02	--	3.99E+02	7.39E-02	--	1.33E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	3.00E+00	--	3.00E+00	0.00E+00	--	1.00E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	3.99E-01	--	3.99E-01	0.00E+00	--	1.33E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	3.00E+01	3.21E+00	3.21E+00	5.33E-03	4.99E-07	1.07E+02
Ethylbenzene	2.15E-01	2.86E-01	--	1	1.00E+03	--	1.00E+03	2.15E-04	--	3.34E+04
Toluene	0.00E+00	1.43E+00	--	1	5.01E+03	--	5.01E+03	0.00E+00	--	1.67E+05
Total xylenes	1.30E+00	2.86E-02	--	1	1.00E+02	--	1.00E+02	1.30E-02	--	3.34E+03
Hexane	0.00E+00	2.00E-01	--	1	7.00E+02	--	7.00E+02	0.00E+00	--	2.33E+04
Naphthalene	1.50E-01	8.57E-04	1.19E-01	1	3.00E+00	7.35E-01	7.35E-01	5.00E-02	2.04E-06	2.45E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	3.00E-03	--	3.00E-03	0.00E+00	--	1.00E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	7.70E-02	2.00E-03	9.10E-02	1	7.00E+00	9.62E-01	9.62E-01	1.10E-02	8.01E-07	3.21E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	9.00E+00	4.17E-02	4.17E-02	0.00E+00	0.00E+00	1.39E+00
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	3.00E+03	9.62E+01	9.62E+01	0.00E+00	0.00E+00	3.21E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Commercial Noncancer Hazards and Cancer Risks

		Toxicity Data			Air Cleanup Levels			Evaluating Compliance		
Fraction or Component	Adjusted Concentration (ug/m3)	RfDi (mg/kg-day)	CPFi (risk per mg/kg-day)	ABS (unitless)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Minimum CUL (ug/m3)	Noncancer Hazard (unitless)	Cancer Risk (unitless)	Soil Gas SL (ug/m3)
Aliphatics EC>5-8	3.75E+01	1.71E+00	--	1	2.33E+04	--	2.33E+04	1.61E-03	--	7.77E+05

Aliphatics EC>8-12	1.25E+01	2.86E-02	--	1	3.90E+02	--	3.90E+02	3.21E-02	--	1.30E+04
Aliphatics EC>12-16	0.00E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	0.00E+00	--	1.30E+04
Aromatics EC>9-10	2.95E+01	1.14E-01	--	1	1.55E+03	--	1.55E+03	1.90E-02	--	5.18E+04
Aromatics EC>10-12	0.00E+00	8.57E-04	--	1	1.17E+01	--	1.17E+01	0.00E+00	--	3.89E+02
Aromatics EC>12-16	0.00E+00	1.14E-04	--	1	1.55E+00	--	1.55E+00	0.00E+00	--	5.18E+01
Benzene	1.60E-01	8.57E-03	2.73E-02	1	1.17E+02	1.50E+00	1.50E+00	1.37E-03	1.07E-07	4.99E+01
Ethylbenzene	2.15E-01	2.86E-01	--	1	3.90E+03	--	3.90E+03	5.52E-05	--	1.30E+05
Toluene	0.00E+00	1.43E+00	--	1	1.95E+04	--	1.95E+04	0.00E+00	--	6.50E+05
Total xylenes	1.30E+00	2.86E-02	--	1	3.90E+02	--	3.90E+02	3.34E-03	--	1.30E+04
Hexane	0.00E+00	2.00E-01	--	1	2.73E+03	--	2.73E+03	0.00E+00	--	9.08E+04
Naphthalene	1.50E-01	8.57E-04	1.19E-01	1	1.17E+01	3.44E-01	3.44E-01	1.28E-02	4.37E-07	1.15E+01
1-Methylnaphthalene	0.00E+00	8.57E-07	--	1	1.17E-02	--	1.17E-02	0.00E+00	--	3.89E-01
2-Methylnaphthalene	0.00E+00	--	--	1	--	--	0.00E+00	--	--	0.00E+00
1,2-Dichlorethane (EDC)	7.70E-02	2.00E-03	9.10E-02	1	2.73E+01	4.49E-01	4.49E-01	2.83E-03	1.71E-07	1.50E+01
Ethylene dibromide (EDB)	0.00E+00	2.57E-03	2.10E+00	1	3.50E+01	1.95E-02	1.95E-02	0.00E+00	0.00E+00	6.49E-01
Methyl tert-butyl ether (MTBE)	0.00E+00	8.57E-01	9.10E-04	1	1.17E+04	4.49E+01	4.49E+01	0.00E+00	0.00E+00	1.50E+03
Source	Cells D12-D27	Ecology (2022) App. E, CLARC	CLARC	Default	Equation 3	Equation 4	--	Equation 5	Equation 6	

Additional Abbreviations

-- - no value because parameter isn't available or isn't relevant in this case
ABS - inhalation absorption fraction
CLARC - Cleanup Levels and Risk Calculation database
CPFi - inhalation carcinogenic potency factor
CUL - cleanup level
EC - effective carbon chain length
RfDi - inhalation reference dose

Reference

Ecology. 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Publ. no. 09-09-047.

Appendix F

Remedial Alternative Cost and PMEP Backup

Table F-1 Summary of Remedial Cost Estimates

OPTION DESCRIPTION	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	ERD, Excavation and Off-Site Disposal, Capping, Institutional Controls and Monitoring	ERD, Targeted Excavation and Off-Site Disposal, Capping, Institutional Controls and Monitoring	ERD, PRB, Capping, Institutional Controls and Monitoring	ERD, Institutional Controls, Monitoring and Capping
KEY ASSUMPTIONS	Subarea 1 - Metals and VOC (Vicinity of MW-5)	Subarea 1 - Metals and VOC (Vicinity of MW-5)	Subarea 1 - Metals and VOC (Vicinity of MW-5)	Subarea 1 - Metals and VOC (Vicinity of MW-5)
	10330 ft^2 Area to be restored	1510 ft^2 Area to be restored	0 ft^2 Area to be restored	0 ft^2 Area to be restored
	4,404 CY to be excavated & disposed	831 CY to be excavated & disposed	0 CY to be excavated and disposed	0 CY to be excavated and disposed
	30 years of gw monitoring	30 years of gw monitoring	30 years of gw monitoring	30 years of gw monitoring
	4,404 CY of backfill	831 CY of backfill	0 CY of backfill	0 CY of backfill
	Subarea 2 - RI-SB-13	Subarea 2 - RI-SB-13	Subarea 2 - RI-SB-13	Subarea 2 - RI-SB-13
	1165 ft^2 Area to be restored	0 ft^2 Area to be restored and capped	0 ft^2 Area to be restored	0 ft^2 Area to be restored
	712 CY to be excavated & disposed	0 CY to be excavated & disposed	0 CY to be excavated and disposed	0 CY to be excavated and disposed
	30 years of gw monitoring	30 years of gw monitoring	30 years of gw monitoring	30 years of gw monitoring
	712 CY of backfill	0 CY of backfill	0 CY of backfill	0 CY of backfill
	PRB	PRB	PRB	PRB
	0 sq yd Area to be restored	0 sq yd Area to be restored	650 sq yd Area to be restored	0 sq yd Area to be restored
	0 PRB medial volume	0 PRB medial volume	198 PRB medial volume	0 PRB medial volume
	0 CY to be excavated and disposed	0 CY to be excavated and disposed	1311 CY to be excavated and disposed	0 CY to be excavated and disposed
	0 CY of backfill	0 CY of backfill	217 CY of backfill	0 CY of backfill
	All Areas	All Areas	All Areas	All Areas
	235,224 restore existing building and pavement	235,224 restore existing building and pavement	235,224 restore existing building and pavement	235,224 restore existing building and pavement
	4536 Maintain existing shoreline stabilization	4536 Maintain existing shoreline stabilization	4536 Maintain existing shoreline stabilization	4536 Maintain existing shoreline stabilization
	1.6 tons per cy soil density	1.6 tons per cy soil density	1.6 tons per cy soil density	1.6 tons per cy soil density
	1.9 tons per cy ZVI density	1.9 tons per cy ZVI density	1.9 tons per cy ZVI density	1.9 tons per cy ZVI density
	9% interest rate	9% interest rate	9% interest rate	9% interest rate

	Alternative 1				Alternative 2				Alternative 3				Alternative 4				
	Quantity	Units	Unit Price	Price	Quantity	Units	Unit Price	Price	Quantity	Units	Unit Price	Price	Quantity	Units	Unit Price	Price	Alternative Notes
CONSTRUCTION COSTS																	
ERD Injections	1	LS	$ 250,000	$ 250,000	1	LS	$ 250,000	$ 250,000	1	LS	$ 250,000	$ 250,000	1	LS	$ 250,000	$ 250,000	Actual project costs
Excavation and Stockpiling	8,186	TON	$ 38	$ 311,066	1,329	TON	$ 38	$ 50,494	0	TON	$ 38	$ -	0	TON	$ 38	$ -	EE, recent projects
Subtitle D T&D	8,186	TON	$ 100	$ 818,596	1,329	TON	$ 100	$ 132,880	1,311	TON	$ 100	$ 131,111	0	TON	$ 100	$ -	EE, recent projects
Additional Disposal Cost from CVOCs	8,186	TON	$ 25	$ 204,649	1,329	TON	$ 25	$ 33,220	0	TON	$ 95	$ -	0	TON	$ 25	$ -	EE
Shoring - Trench Box Upland (non shoreline)	1	LS	$ 80,000	$ 80,000	1	LS	$ 80,000	$ 80,000	1.00	LS	$ 40,000	$ 40,000	0	LS	$ 40,000	$ -	EE, recent projects
Shoring - along building (sheetpile wall)	2,500	SF	$ 90	$ 225,000	0	SF	$ 90	$ -	200	SF	$ 90	$ 18,000	0	SF	$ 90		EE, recent projects
Water Mgmt/Dewatering	300,000	Gal	$ 0.50	$ 150,000	100,000	Gal	$ 0.50	$ 50,000	200,000	Gal	$ 0.50	$ 100,000	0	Gal	$ 0.50	$ -	EE, recent projects
Disposal of Water (assume sanitary)	900	1000 Gal	$ 31	$ 27,900	300	1000 Gal	$ 31	$ 9,300	200	1000 Gal	$ 31	$ 6,200	0	1000 Gal	$ 31	$ -	EE, recent projects
Upland Backfill - Import, Place and Compact	8,186	ton	$ 45	$ 368,368	1,329	ton	$ 45	$ 59,796	347	ton	$ 45	$ 15,600	0	ton	$ 45	$ -	EE, recent projects
Shoreline stabilization - Place and Compact	135	cy	$ 150	$ 20,240	0	cy	$ 150	$ -	0	cy	$ 150	$ -	0	cy	$ 150	$ -	EE, recent projects
Soil Confirmation Sampling	1	LS	$ 30,000	$ 30,000	1	LS	$ 10,000	$ 10,000	0	LS	$ 10,000	$ -	0	LS	$ 10,000	$ -	EE, recent projects
Asphalt Repair (6 inches thick)	639	SY	$ 78	$ 49,812	84	SY	$ 78	$ 6,543	650	SY	$ 78	$ 50,700	0	SY	$ 78	$ -	EE, recent projects
Utility location and protection and re routing	1	LS	$ 200,000	$ 200,000	1	LS	$ 100,000	$ 100,000	1	LS	$ 200,000	$ 200,000	0	LS	$ 100,000	$ -	EE, recent projects
PRB -Installation (20% ZVI w carbon)	0	LF	$ 515,300	$ -	0	LF	$ 515,300	$ -	1	LS	$ 515,300	$ 515,300	0	LF	$ 515,300	$ -	Cascade quote
PRB - maint. (year 3 and year 6)	0	LS	$ 100,000	$ -	0	LS	$ 100,000	$ -	1	LS	$ 100,000	$ 100,000	0	LS	$ 100,000	$ -	EE, recent project
Stormwater treatment - replace and reconnect	1	LS	$ 50,000	$ 50,000	1	LS	$ 25,000	$ 25,000	1	LS	$ 50,000	$ 50,000	0	LS	$ 25,000	$ -	EE, recent project
Non-Stormwater Utility reconnection	1	LS	$ 150,000	$ 150,000	1	LS	$ 75,000	$ 75,000	1	LS	$ 150,000	$ 150,000	0	LS	$ 150,000	$ -	EE, recent project
Removal of Monitoring Wells	2	EACH	$ 1,200.0	$ 2,400	2	EACH	$ 1,200.0	$ 2,400	0	EACH	$ 1,200.0	$ -	0	EACH	$ 1,200.0	$ -	EE, recent project
Replacement/New Monitoring Wells	2	EACH	$ 3,000.0	$ 6,000	1	EACH	$ 3,000.0	$ 3,000	0	EACH	$ 3,000.0	$ -	0	EACH	$ 3,000.0	$ -	EE, recent project
TESC/Mob/Safety/Temp Facilities	20%	Construction Cost		$ 538,806	20%	Construction Cost		$ 127,527	20%	Construction Cost		$ 275,382	20%	Construction Cost		$ -	EE
SUBTOTAL - CONSTRUCTION				**$ 3,482,837**				**$ 1,015,160**				**$ 1,902,293**				**$ 250,000**	
AGENCY COORD, ENGINEERING, OVERSIGHT																	
Design, Permitting	20%	Construction Cost		$ 696,567	20%	Construction Cost		$ 203,032	20%	Construction Cost		$ 380,459	20%	Construction Cost		$ 50,000	EE
Construction Management	15%	Construction Cost		$ 522,425	15%	Construction Cost		$ 152,274	15%	Construction Cost		$ 285,344	15%	Construction Cost		$ 37,500	EE
Agency Oversight Costs	1	LS	$ 75,000	$ 75,000	1	LS	$ 75,000	$ 75,000	1	LS	$ 75,000	$ 75,000	1	LS	$ 50,000	$ 50,000	EE
WSST (10.35%) [1]	10%	Construction Cost		$ 360,474	10%	Construction Cost		$ 105,069	10%	Construction Cost		$ 196,887	10%	Construction Cost		$ 25,875	
Long Term Monitoring and Inspection																	
Quarterly GW Monitoring & Reporting (includes PV)	2	years	$ 100,000	$ 177,111	2	years	$ 100,000	$ 177,111	2	years	$ 100,000	$ 177,111	2	years	$ 100,000	$ 177,111	EE, project actual
Semiannual GW Monitoring & Reporting (starts after quarterly monitoring; includes PV)	3	years	$ 50,000	$ 127,701	3	years	$ 50,000	$ 127,701	4	years	$ 50,000	$ 163,780	4	years	$ 50,000	$ 163,780	EE, project actual
5 year GW Monitoring & Reporting (includes PV)	4	events	$ 10,000	$ 32,756	4	events	$ 30,000	$ 98,268	4	events	$ 30,000	$ 98,268	4	events	$ 30,000	$ 98,268	EE, project actual
TOTAL COST																	
			Estimated Costs	$ 5,475,000			Estimated Costs	$ 1,954,000			Estimated Costs	$ 3,279,000			Estimated Costs	$ 853,000	
			Costs Plus Contingency (30%)	**$ 7,118,000**			Costs Plus Contingency (30%)	**$ 2,540,000**			Costs Plus Contingency (30%)	**$ 4,263,000**			Costs Plus Contingency (30%)	**$ 1,109,000**	
			Present Value (5% discount)	**$5,475,000**			Present Value	**$1,943,000**			Present Value	**$3,266,000**			Present Value	**$840,000**	

Notes:

1. Sales tax assumed to be applicable to all construction costs in this estimate.
2. Oversight assumed for the cleanup areas only, cost includes oversight and sampling

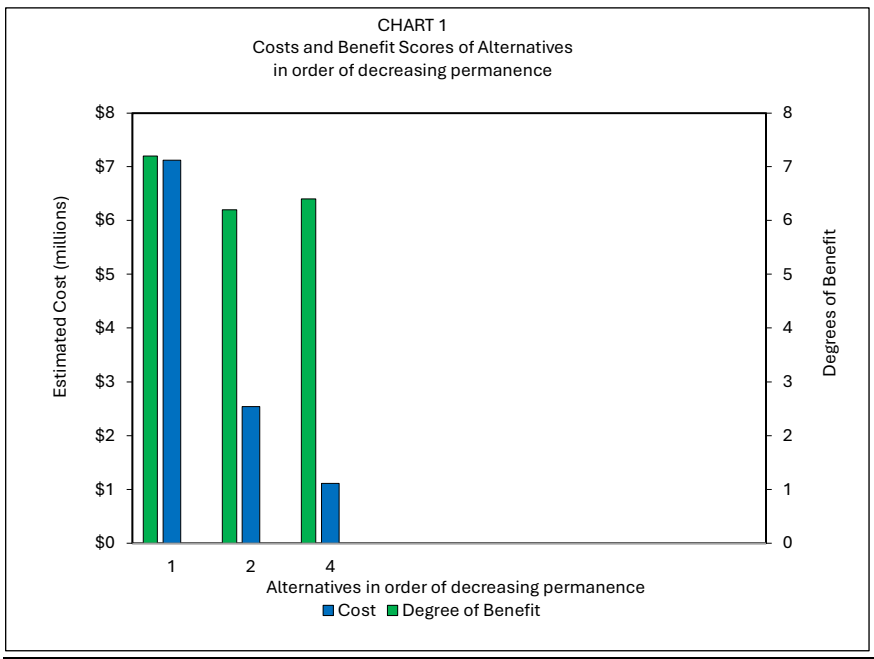
EE = engineer estimate; project actual = cost are based on recent similar projects with assumptions updated by the engineer (noted as EE) for this FS level cost estimate.

ERD = Enhanced in-situ reductive dichlorination; PRB = permeable reactive barrier

LS = lump sum; cy = cubic yard; SF = square feet; LF = linear feet; GAL = gallon

Appendix F - Permanent to the Maximum Extent Practicable (PMEP) Tool Output

Table 1: Input Data and Cost-Effectiveness Calculations									
Site Information	**Alternative name and present value of total cost of each alternative**								
Site Name	**Alternative Name**	**1**	**2**	**3**	**4**	**not used**	**not used**	**not used**	**not used**
Dawn Food Products	**Cost ($ in millions)**	$7.12	$2.54	$4.62	$1.11				
CSID	**Cost-confidence Upper (+)%**								
16678	**Cost-confidence Lower (-)%**								
Benefit Inputs									
DCA Benefit Criteria	**Weight (%)**	**Scores (relative degrees of benefit)**							
Protectiveness	20%	10.0	7.0		5.0				
Permanence (no ties–see cell note)	20%	10.0	7.0		4.0				
Long-term effectiveness	20%	10.0	7.0		3.0				
Implementation Risk Management	20%	3.0	5.0		10.0				
Implementability	20%	3.0	5.0		10.0				
Total weighted degrees of benefit	**100%**	**7.20**	**6.20**	**0.00**	**6.40**	**0.00**	**0.00**	**0.00**	**0.00**
Cost Effectiveness (million dollars per total weighted degrees of benefit)									
Cost Effectiveness ($/B)		**$0.99**	**$0.41**		**$0.17**				



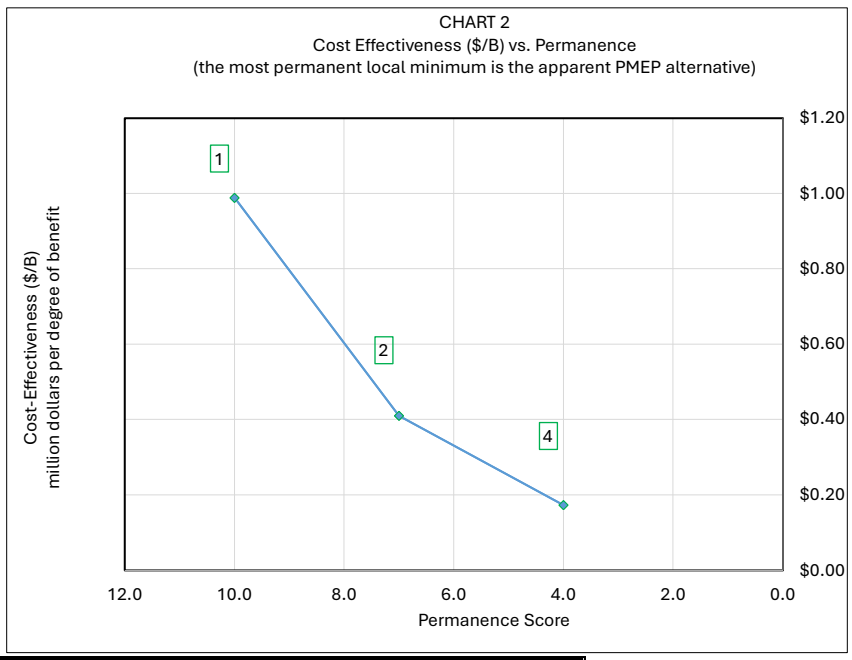


Table 2: DCA Calculations													
	Alternative	Cost ($ millions)	Degrees of Benefit	Permanence		alternatives in order of decreasing permanence	DCA Order	Alternative	Permanence Score	Cost ($ millions)	Degrees of Benefit	**Cost Effectiveness ($/B)**	**Apparent PMEP Alternative**
				Score	Rank								
Estimated costs	**1**	**$7.12**	**7.2**	**10.0**	1		1	**1**	10.0	$7.12	7.2	**$0.99**	**NO**
and	**2**	**$2.54**	**6.2**	**7.0**	2		2	**2**	7.0	$2.54	6.2	**$0.41**	**NO**
degrees of benefit	**3**	**$4.62**					3	**4**	4.0	$1.11	6.4	**$0.17**	**PMEP**
from the	**4**	**$1.11**	**6.4**	**4.0**	3		4		#N/A				
RI/FS	**not used**						5		#N/A				
	not used						6		#N/A				
	not used						7		#N/A				
	not used						8		#N/A				

Table 3: Chart Data & Error Bar Calculations										
Alternative	Permanence Score	Cost Effectiveness ($/B)	Cost ($ millions)	Cost confidence (+) %	Cost confidence (-) %	Degrees of Benefit	High Cost ($/B)	Low Cost ($/B)	Upper error range	Lower error range
1	10.0	$0.99	$7.12	0%	0%	7.2	$0.99	$0.99	$0.00	$0.00
2	7.0	$0.41	$2.54	0%	0%	6.2	$0.41	$0.41	$0.00	$0.00
4	4.0	$0.17	$1.11	0%	0%	6.4	$0.17	$0.17	$0.00	$0.00
	#N/A			Not Found	Not Found		#VALUE!	#VALUE!	#VALUE!	#VALUE!
	#N/A			Not Found	Not Found		#VALUE!	#VALUE!	#VALUE!	#VALUE!
	#N/A			Not Found	Not Found		#VALUE!	#VALUE!	#VALUE!	#VALUE!
	#N/A			Not Found	Not Found		#VALUE!	#VALUE!	#VALUE!	#VALUE!
	#N/A			Not Found	Not Found		#VALUE!	#VALUE!	#VALUE!	#VALUE!