

**2RF-141 - COTTON DRAW
RECYCLING FACILITY ID
[fVV2325636574]**

**[6137] Devon Energy
Production Company, L.P. –
Produced Water Treatment
Research Pilot Project
06.28.2024. Devon Desal
Analytical Reports**

September 06, 2024



ANALYTICAL REPORT

July 23, 2024

¹Cp

²Tc

³Ss

⁴Cn

⁵Gl

⁶Al

⁷Sc

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1751473

Samples Received: 06/28/2024

Project Number: 212C-HN-02831

Description: Desalination Pilot

Site: CCR

Report To: Paul Barbour

333 W Sheridan Avenue

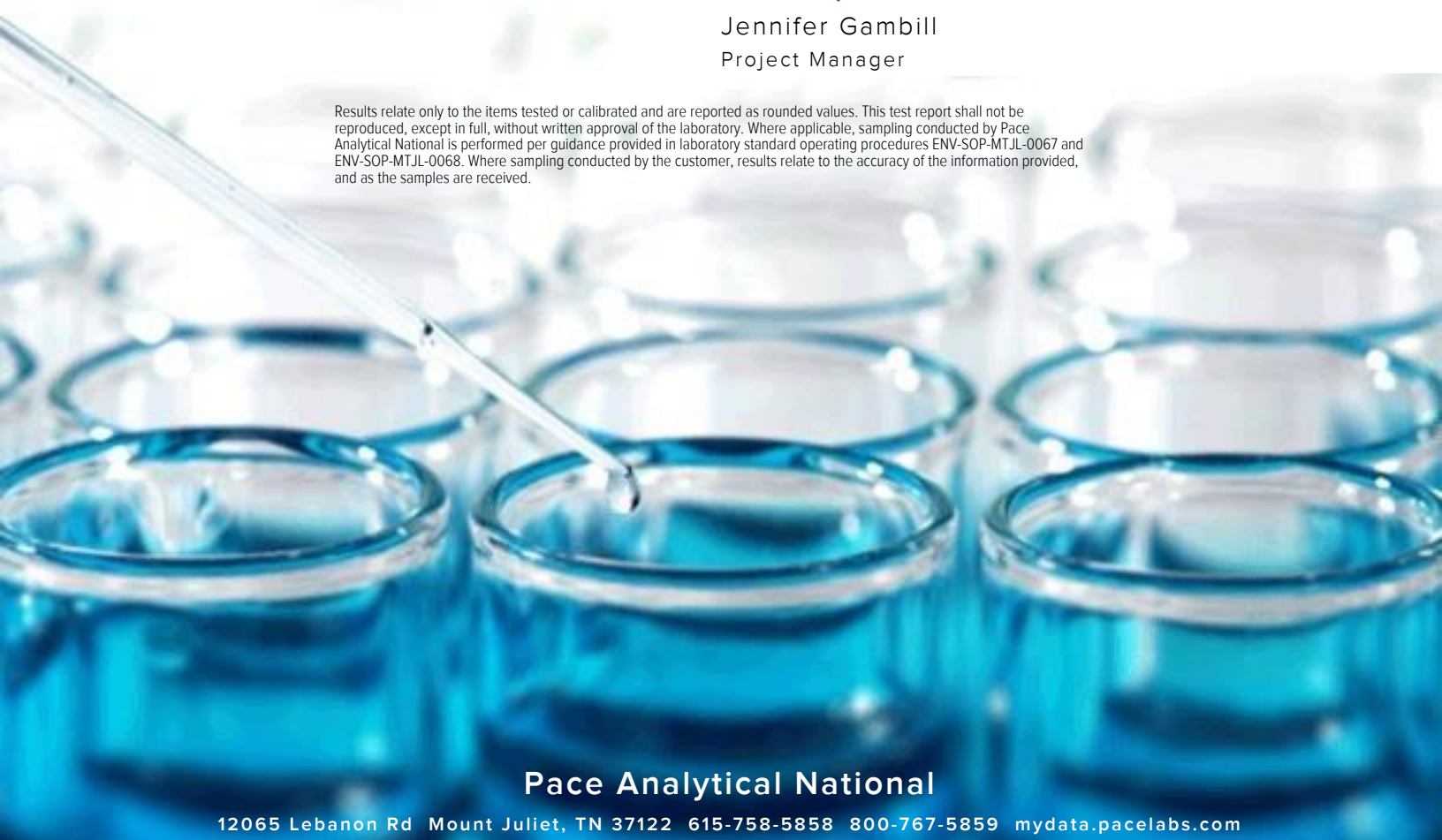
Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

Jennifer Gambill

Jennifer Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Gl: Glossary of Terms	5	³ Ss
Al: Accreditations & Locations	6	⁴ Cn
Sc: Sample Chain of Custody	7	⁵ Gl
		⁶ Al
		⁷ Sc

POST CARBON FILTER PFAS L1751473-01 GW

Collected by
D.D.

Collected date/time
06/27/24 08:00

Received date/time
06/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2314226	1	07/23/24 00:00	07/23/24 00:00	ANF	East Longmeadow, MA 01028

¹Cp

²Tc

³Ss

⁴Cn

⁵Gl

⁶Al

⁷Sc

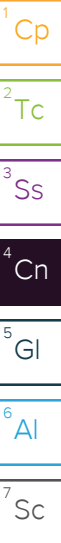
All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jennifer Gambill
Project Manager

Project Narrative

L1751473 -01 contains subout data that is included after the chain of custody.



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

SDG	Sample Delivery Group.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1Cp

2Tc

3Ss

4Cn

5Gl

6Al

7Sc

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹Cp

²Tc

³Ss

⁴Cn

⁵Gl

⁶Al

⁷Sc

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

July 23, 2024

Daphne Richards
Pace National - TN
12065 Lebanon Road
Mt. Juliet, TN 37122

Project Location: NM
Client Job Number:
Project Number: WG2314226
Laboratory Work Order Number: 24G0658

Enclosed are results of analyses for samples as received by the laboratory on July 2, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Kaitlyn".

Kaitlyn A. Feliciano
Project Manager

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Pace National - TN
12065 Lebanon Road
Mt. Juliet, TN 37122
ATTN: Daphne Richards

REPORT DATE: 7/23/2024

PURCHASE ORDER NUMBER: L1751473

PROJECT NUMBER: WG2314226

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24G0658

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: NM

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
POST CARBON FILTER PFAS	24G0658-01	Ground Water		Draft Method 1633	



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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Draft Method 1633

Qualifications:

D-04

Sample extracted at a dilution due to insufficient volume provided.

Analyte & Samples(s) Qualified:

24G0658-01RE1[POST CARBON FILTER PFAS]

H-01

Recommended sample holding time was exceeded, but analysis was performed before 2X the allowable holding time.

Analyte & Samples(s) Qualified:

Total Suspended Solids

24G0658-01[POST CARBON FILTER PFAS]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington", written over a light gray rectangular background.

Lisa A. Worthington
Technical Representative



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: NM

Sample Description:

Work Order: 24G0658

Date Received: 7/2/2024

Field Sample #: POST CARBON FILTER PFAS

Sampled: 6/27/2024 08:00

Sample ID: 24G0658-01

Sample Matrix: Ground Water

Sample Flags: D-04

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	4.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluoropentanoic acid (PFPeA)	ND	2.4	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorooctanoic acid (PFOA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorononanoic acid (PFNA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorodecanoic acid (PFDA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorononanesulfonic acid (PFNS)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.2	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	12	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	12	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	ND	4.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
9Cl-PF3ONS (F53B Minor)	ND	4.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
11Cl-PF3OUs (F53B Major)	ND	4.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	12	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	61	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	61	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.4	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.4	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS



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Project Location: NM

Sample Description:

Work Order: 24G0658

Date Received: 7/2/2024

Field Sample #: POST CARBON FILTER PFAS

Sampled: 6/27/2024 08:00

Sample ID: 24G0658-01

Sample Matrix: Ground Water

Sample Flags: D-04

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.4	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.4	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:24	AMS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	48.4	10-130						7/20/24 15:24	
13C5-PFPeA	93.7	35-150						7/20/24 15:24	
13C5-PFHxA	82.2	55-150						7/20/24 15:24	
13C4-PFHpA	81.9	55-150						7/20/24 15:24	
13C8-PFOA	80.8	60-140						7/20/24 15:24	
13C9-PFNA	72.9	55-140						7/20/24 15:24	
13C6-PFDA	73.5	50-140						7/20/24 15:24	
13C7-PFUnA	71.3	30-140						7/20/24 15:24	
13C2-PFDoA	63.4	10-150						7/20/24 15:24	
13C2-PFTeDA	41.0	10-130						7/20/24 15:24	
13C3-PFBS	80.2	55-150						7/20/24 15:24	
13C3-PFHxS	80.7	55-150						7/20/24 15:24	
13C8-PFOS	75.9	45-140						7/20/24 15:24	
13C2-4:2FTS	77.1	60-200						7/20/24 15:24	
13C2-6:2FTS	73.1	60-200						7/20/24 15:24	
13C2-8:2FTS	66.5	50-200						7/20/24 15:24	
13C8-PFOSA	73.6	30-130						7/20/24 15:24	
D3-NMeFOSA	59.4	15-130						7/20/24 15:24	
D5-NEtFOSA	52.9	10-130						7/20/24 15:24	
D3-NMeFOSAA	71.6	45-200						7/20/24 15:24	
D5-NEtFOSAA	62.3	10-200						7/20/24 15:24	
D7-NMeFOSE	32.6	10-150						7/20/24 15:24	
D9-NEtFOSE	25.7	10-150						7/20/24 15:24	
13C3-HFPO-DA	73.9	25-160						7/20/24 15:24	



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Project Location: NM

Sample Description:

Work Order: 24G0658

Date Received: 7/2/2024

Field Sample #: POST CARBON FILTER PFAS

Sampled: 6/27/2024 08:00

Sample ID: 24G0658-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)									
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1	H-01	Draft Method 1633	7/9/24	7/9/24 14:02	LL



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Sample Extraction Data

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date	
24G0658-01 [POST CARBON FILTER PFAS]	B379464	50.0	07/09/24	

Prep Method:Draft Method 1633 Analytical Method:Draft Method 1633 Leachates were extracted on 7/9/2024 per NO PREP in Batch B379464

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24G0658-01RE1 [POST CARBON FILTER PFAS]	B380495	412	5.00	07/19/24



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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

Blank (B380495-BLK1)

Prepared: 07/19/24 Analyzed: 07/20/24

Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L
Perfluorohexanoic acid (PFHxA)	ND	0.99	ng/L
Perfluoroheptanoic acid (PFHpA)	ND	0.99	ng/L
Perfluorooctanoic acid (PFOA)	ND	0.99	ng/L
Perfluorononanoic acid (PFNA)	ND	0.99	ng/L
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L
Perfluorobutanesulfonic acid (PFBS)	ND	0.99	ng/L
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L
Perfluorohexanesulfonic acid (PFHxS)	ND	0.99	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L
Perfluorooctanesulfonic acid (PFOS)	ND	0.99	ng/L
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.99	ng/L
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	9.9	ng/L
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	ND	2.0	ng/L
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L
Surrogate: 13C4-PFBA	90.7		ng/L

99.2

91.4

10-130



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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

Blank (B380495-BLK1)

Prepared: 07/19/24 Analyzed: 07/20/24

Surrogate: 13C5-PFPeA	50.6		ng/L	49.6		102	35-150			
Surrogate: 13C5-PFHxA	21.9		ng/L	24.8		88.3	55-150			
Surrogate: 13C4-PFHpA	21.5		ng/L	24.8		86.6	55-150			
Surrogate: 13C8-PFOA	22.5		ng/L	24.8		90.7	60-140			
Surrogate: 13C9-PFNA	11.1		ng/L	12.4		89.9	55-140			
Surrogate: 13C6-PFDA	10.5		ng/L	12.4		84.4	50-140			
Surrogate: 13C7-PFUnA	10.2		ng/L	12.4		82.1	30-140			
Surrogate: 13C2-PFDoA	10.2		ng/L	12.4		82.5	10-150			
Surrogate: 13C2-PFTeDA	9.76		ng/L	12.4		78.7	10-130			
Surrogate: 13C3-PFBS	23.3		ng/L	24.8		94.0	55-150			
Surrogate: 13C3-PFHxS	22.0		ng/L	24.8		88.9	55-150			
Surrogate: 13C8-PFOS	22.4		ng/L	24.8		90.4	45-140			
Surrogate: 13C2-4:2FTS	45.4		ng/L	49.6		91.5	60-200			
Surrogate: 13C2-6:2FTS	41.2		ng/L	49.6		83.2	60-200			
Surrogate: 13C2-8:2FTS	40.2		ng/L	49.6		81.0	50-200			
Surrogate: 13C8-PFOSA	20.9		ng/L	24.8		84.4	30-130			
Surrogate: D3-NMeFOSA	16.2		ng/L	24.8		65.5	15-130			
Surrogate: D5-NEtFOSA	17.9		ng/L	24.8		72.1	10-130			
Surrogate: D3-NMeFOSAA	39.6		ng/L	49.6		79.9	45-200			
Surrogate: D5-NEtFOSAA	41.2		ng/L	49.6		83.1	10-200			
Surrogate: D7-NMeFOSE	202		ng/L	248		81.5	10-150			
Surrogate: D9-NEtFOSE	207		ng/L	248		83.5	10-150			
Surrogate: 13C3-HFPO-DA	78.2		ng/L	99.2		78.8	25-160			

LCS (B380495-BS1)

Prepared: 07/19/24 Analyzed: 07/20/24

Perfluorobutanoic acid (PFBA)	99.6	3.9	ng/L	93.6		106	58-148			
Perfluoropentanoic acid (PFPeA)	50.8	2.0	ng/L	46.8		108	54-152			
Perfluorohexanoic acid (PFHxA)	24.6	0.98	ng/L	23.4		105	55-152			
Perfluoroheptanoic acid (PFHpA)	23.7	0.98	ng/L	23.4		101	54-154			
Perfluorooctanoic acid (PFOA)	24.3	0.98	ng/L	23.4		104	52-161			
Perfluorononanoic acid (PFNA)	26.3	0.98	ng/L	23.4		112	59-149			
Perfluorodecanoic acid (PFDA)	25.6	0.98	ng/L	23.4		109	52-147			
Perfluoroundecanoic acid (PFUnA)	24.0	0.98	ng/L	23.4		102	48-159			
Perfluorododecanoic acid (PFDoA)	24.5	0.98	ng/L	23.4		105	64-142			
Perfluorotridecanoic acid (PFTTrDA)	23.6	0.98	ng/L	23.4		101	49-148			
Perfluorotetradecanoic acid (PFTeDA)	25.4	0.98	ng/L	23.4		108	47-161			
Perfluorobutanesulfonic acid (PFBS)	21.7	0.98	ng/L	20.8		105	62-144			
Perfluoropentanesulfonic acid (PFPeS)	22.9	0.98	ng/L	22.0		104	59-151			
Perfluorohexanesulfonic acid (PFHxS)	21.6	0.98	ng/L	21.4		101	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	22.9	0.98	ng/L	22.3		103	55-152			
Perfluorooctanesulfonic acid (PFOS)	21.9	0.98	ng/L	21.7		101	58-149			
Perfluorononanesulfonic acid (PFNS)	23.9	0.98	ng/L	22.5		106	52-148			
Perfluorodecanesulfonic acid (PFDS)	23.2	0.98	ng/L	22.6		103	51-147			
Perfluorododecanesulfonic acid (PFDoS)	22.9	0.98	ng/L	22.7		101	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	93.6	3.9	ng/L	87.8		107	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	96.9	3.9	ng/L	88.9		109	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	96.6	3.9	ng/L	90.1		107	63-152			
Perfluorooctanesulfonamide (PFOSA)	23.9	0.98	ng/L	23.4		102	61-148			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	26.1	0.98	ng/L	23.4		112	63-145			



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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

LCS (B380495-BS1)

Prepared: 07/19/24 Analyzed: 07/20/24

N-ethyl perfluorooctanesulfonamide (NEtFOSA)	25.2	0.98	ng/L	23.4		107	65-139			
N-MeFOSAA (NMeFOSAA)	24.8	0.98	ng/L	23.4		106	58-144			
N-EtFOSAA (NEtFOSAA)	22.7	0.98	ng/L	23.4		96.9	59-146			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	250	9.8	ng/L	234		107	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	245	9.8	ng/L	234		105	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	115	3.9	ng/L	93.6		123	63-144			
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	129	3.9	ng/L	88.3		146	68-146			
9Cl-PF3ONS (F53B Minor)	124	3.9	ng/L	87.8		142	56-156			
11Cl-PF3OUdS (F53B Major)	124	3.9	ng/L	88.3		140	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	215	9.8	ng/L	234		91.7	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1200	49	ng/L	1170		103	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1180	49	ng/L	1170		101	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	51.5	2.0	ng/L	41.7		124	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	46.0	2.0	ng/L	46.8		98.4	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	43.8	2.0	ng/L	46.8		93.5	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	57.6	2.0	ng/L	46.8		123	48-161			

Surrogate: 13C4-PFBA	83.1		ng/L	97.5		85.2	10-130			
Surrogate: 13C5-PFPeA	46.8		ng/L	48.8		96.1	35-150			
Surrogate: 13C5-PFHxA	20.5		ng/L	24.4		84.2	55-150			
Surrogate: 13C4-PFHpA	20.8		ng/L	24.4		85.3	55-150			
Surrogate: 13C8-PFOA	20.9		ng/L	24.4		85.8	60-140			
Surrogate: 13C9-PFNA	9.89		ng/L	12.2		81.2	55-140			
Surrogate: 13C6-PFDA	10.1		ng/L	12.2		83.1	50-140			
Surrogate: 13C7-PFUnA	10.4		ng/L	12.2		85.1	30-140			
Surrogate: 13C2-PFDoA	9.93		ng/L	12.2		81.5	10-150			
Surrogate: 13C2-PFTeDA	9.24		ng/L	12.2		75.8	10-130			
Surrogate: 13C3-PFBS	21.5		ng/L	24.4		88.3	55-150			
Surrogate: 13C3-PFHxS	20.8		ng/L	24.4		85.5	55-150			
Surrogate: 13C8-PFOS	21.0		ng/L	24.4		86.1	45-140			
Surrogate: 13C2-4:2FTS	42.7		ng/L	48.8		87.6	60-200			
Surrogate: 13C2-6:2FTS	41.3		ng/L	48.8		84.7	60-200			
Surrogate: 13C2-8:2FTS	42.3		ng/L	48.8		86.7	50-200			
Surrogate: 13C8-PFOSA	19.4		ng/L	24.4		79.7	30-130			
Surrogate: D3-NMeFOSA	16.7		ng/L	24.4		68.4	15-130			
Surrogate: D5-NEtFOSA	17.5		ng/L	24.4		71.7	10-130			
Surrogate: D3-NMeFOSAA	40.9		ng/L	48.8		83.8	45-200			
Surrogate: D5-NEtFOSAA	38.6		ng/L	48.8		79.3	10-200			
Surrogate: D7-NMeFOSE	191		ng/L	244		78.4	10-150			
Surrogate: D9-NEtFOSE	193		ng/L	244		79.3	10-150			
Surrogate: 13C3-HFPO-DA	72.1		ng/L	97.5		74.0	25-160			

MRL Check (B380495-MRL1)

Prepared: 07/19/24 Analyzed: 07/20/24

Perfluorobutanoic acid (PFBA)	8.65	3.9	ng/L	7.90		110	44-157			
Perfluoropentanoic acid (PFPeA)	4.40	2.0	ng/L	3.95		112	57-148			



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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

MRL Check (B380495-MRL1)

Prepared: 07/19/24 Analyzed: 07/20/24

Perfluorohexanoic acid (PFHxA)	2.21	0.99	ng/L	1.97		112	62-149			
Perfluoroheptanoic acid (PFHpA)	2.04	0.99	ng/L	1.97		103	56-150			
Perfluorooctanoic acid (PFOA)	2.23	0.99	ng/L	1.97		113	57-161			
Perfluorononanoic acid (PFNA)	2.13	0.99	ng/L	1.97		108	53-157			
Perfluorodecanoic acid (PFDA)	2.20	0.99	ng/L	1.97		112	43-158			
Perfluoroundecanoic acid (PFUnA)	2.22	0.99	ng/L	1.97		112	50-155			
Perfluorododecanoic acid (PFDoA)	2.19	0.99	ng/L	1.97		111	60-141			
Perfluorotridecanoic acid (PFTrDA)	2.10	0.99	ng/L	1.97		106	52-140			
Perfluorotetradecanoic acid (PFTeDA)	2.19	0.99	ng/L	1.97		111	52-156			
Perfluorobutanesulfonic acid (PFBS)	1.82	0.99	ng/L	1.75		104	63-145			
Perfluoropentanesulfonic acid (PFPeS)	2.12	0.99	ng/L	1.86		114	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.03	0.99	ng/L	1.81		112	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	2.20	0.99	ng/L	1.88		117	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.03	0.99	ng/L	1.83		111	43-162			
Perfluorononanesulfonic acid (PFNS)	2.13	0.99	ng/L	1.90		112	46-151			
Perfluorodecanesulfonic acid (PFDS)	2.00	0.99	ng/L	1.91		105	50-144			
Perfluorododecanesulfonic acid (PFDoS)	2.16	0.99	ng/L	1.92		113	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.04	3.9	ng/L	7.40		109	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	8.53	3.9	ng/L	7.50		114	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.07	3.9	ng/L	7.60		106	46-165			
Perfluorooctanesulfonamide (PFOSA)	2.09	0.99	ng/L	1.97		106	47-163			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	2.37	0.99	ng/L	1.97		120	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.17	0.99	ng/L	1.97		110	49-156			
N-MeFOSAA (NMeFOSAA)	1.71	0.99	ng/L	1.97		86.8	32-160			
N-EtFOSAA (NEtFOSAA)	2.03	0.99	ng/L	1.97		103	51-154			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	21.5	9.9	ng/L	19.7		109	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	20.8	9.9	ng/L	19.7		105	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.91	3.9	ng/L	7.90		100	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.83	3.9	ng/L	7.45		105	61-148			
9Cl-PF3ONS (F53B Minor)	7.83	3.9	ng/L	7.40		106	44-167			
11Cl-PF3OUDS (F53B Major)	7.41	3.9	ng/L	7.45		99.4	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	14.5	9.9	ng/L	19.7		73.5	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid (FPePA)(5:3FTCA)	80.6	49	ng/L	98.7		81.6	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	78.1	49	ng/L	98.7		79.1	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.02	2.0	ng/L	3.51		114	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.51	2.0	ng/L	3.95		89.0	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.22	2.0	ng/L	3.95		81.5	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.81	2.0	ng/L	3.95		122	47-160			
Surrogate: 13C4-PFBA	86.8		ng/L	98.7		88.0	10-130			
Surrogate: 13C5-PFPeA	50.9		ng/L	49.4		103	35-150			
Surrogate: 13C5-PFHxA	21.5		ng/L	24.7		87.1	55-150			



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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

MRL Check (B380495-MRL1)

Prepared: 07/19/24 Analyzed: 07/20/24

Surrogate: 13C4-PFHpA	22.1		ng/L	24.7		89.5	55-150			
Surrogate: 13C8-PFOA	20.9		ng/L	24.7		84.6	60-140			
Surrogate: 13C9-PFNA	10.1		ng/L	12.3		81.5	55-140			
Surrogate: 13C6-PFDA	10.5		ng/L	12.3		85.4	50-140			
Surrogate: 13C7-PFUnA	10.1		ng/L	12.3		81.6	30-140			
Surrogate: 13C2-PFDoA	9.68		ng/L	12.3		78.4	10-150			
Surrogate: 13C2-PFTeDA	9.02		ng/L	12.3		73.1	10-130			
Surrogate: 13C3-PFBS	21.8		ng/L	24.7		88.5	55-150			
Surrogate: 13C3-PFHxS	20.8		ng/L	24.7		84.4	55-150			
Surrogate: 13C8-PFOS	21.0		ng/L	24.7		84.9	45-140			
Surrogate: 13C2-4:2FTS	42.6		ng/L	49.4		86.2	60-200			
Surrogate: 13C2-6:2FTS	39.3		ng/L	49.4		79.6	60-200			
Surrogate: 13C2-8:2FTS	38.0		ng/L	49.4		76.9	50-200			
Surrogate: 13C8-PFOSA	19.7		ng/L	24.7		80.0	30-130			
Surrogate: D3-NMeFOSA	16.8		ng/L	24.7		67.9	15-130			
Surrogate: D5-NEtFOSA	18.3		ng/L	24.7		74.2	10-130			
Surrogate: D3-NMeFOSAA	41.1		ng/L	49.4		83.3	45-200			
Surrogate: D5-NEtFOSAA	39.7		ng/L	49.4		80.4	10-200			
Surrogate: D7-NMeFOSE	190		ng/L	247		76.9	10-150			
Surrogate: D9-NEtFOSE	197		ng/L	247		79.8	10-150			
Surrogate: 13C3-HFPO-DA	82.4		ng/L	98.7		83.5	25-160			



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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B379464 - Draft Method 1633

Blank (B379464-BLK1)				Prepared & Analyzed: 07/09/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B379464-BS1)				Prepared & Analyzed: 07/09/24						
Total Suspended Solids	216	5.0	mg/L	200		108	51.5-130			



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
D-04	Sample extracted at a dilution due to insufficient volume provided.
H-01	Recommended sample holding time was exceeded, but analysis was performed before 2X the allowable holding time.



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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV,CT
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV,CT
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV,CT
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV,CT
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV,CT
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV,CT
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV,CT
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV,CT
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV,CT
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV,CT
Perfluorotetradecanoic acid (PFTeDA)	NH-P,NY,PA,WV,CT
Perfluorobutanesulfonic acid (PFBS)	NH-P,NY,PA,WV,CT
Perfluoropentanesulfonic acid (PFPeS)	NH-P,NY,PA,WV,CT
Perfluorohexanesulfonic acid (PFHxS)	NH-P,NY,PA,WV,CT
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV,CT
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV,CT
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV,CT
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,NY,PA,WV,CT
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV,CT
N-methyl perfluorooctanesulfonamide (NMeFOSA)	NH-P,PA,WV,CT
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV,CT
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV,CT
N-EtFOSAA (NEtFOSAA)	NH-P,NY,PA,WV,CT
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV,CT
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV,CT
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,NY,PA,WV,CT
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,NY,PA,WV,CT
9Cl-PF3ONS (F53B Minor)	NH-P,NY,PA,WV,CT
11Cl-PF3OUdS (F53B Major)	NH-P,NY,PA,WV,CT
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV,CT
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV,CT
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV,CT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	NH-P,NY,PA,WV,CT
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,NY,PA,WV,CT
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV,CT
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV,CT



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
RI	Rhode Island Department of Health	LAO00373	12/30/2024
NC	North Carolina Div. of Water Quality	652	12/31/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2024

2460658

Sub-Contract Chain of Custody**Batch Date/Time:** 06/28/24 15:05**Sub-Contract Lab:** PACEELMA**Address:** 39 Spruce St**City/State:** East Longmeadow, MA
01028**Contact:**

elonprojectmanagers@pacelabs.com

Owner Lab: PACEMTJL**Address:** 12065 Lebanon Rd.**City/State:** Mt. Juliet, TN 37122**Phone:** (615) 773-9756**Fax:** (615) 758-5859**WO:** WG2314226**Email:** MTJLSuboutTeam@pacelabs.com**Results Due Date:** 07/22/24**ESC Purchase Order #:** L1751473**Send Reports to:** James C Huckaba

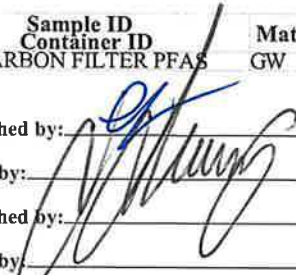
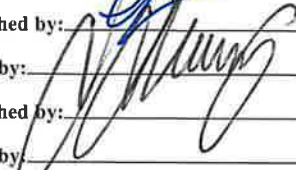
12065 Lebanon Rd.

Mt. Juliet, TN 37122

Phone:(615) 773-9756

Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
POST CARBON FILTER PFAS	GW	NM	06/27/24 08:00	SUBPFAS1633	2. L1751473-01	

Relinquished by:  Date: 7/11/24Recieved by:  4.8 Date: 7/2/24

Relinquished by: _____ Date: _____

Recieved by: _____ Date: _____



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Tuesday

7/2/24 at 9:52 AM

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DELIVERY STATUS

Delivered ✓

🔍 Report missing package

TRACKING ID

777124421422 ✎ ☆

FROM

Mt. Juliet, TN US

Label Created

6/28/24 1:52 PM

MOBILE, AL

6/29/24 1:37 PM

ON THE WAY

WINDSOR LOCKS, CT

7/2/24 8:24 AM

OUT FOR DELIVERY

WINDSOR LOCKS, CT

7/2/24 8:35 AM

DELIVERED

EAST LONGMEADOW, MA US

Delivered

7/2/24 at 9:52 AM

↓ [View travel history](#)

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Your email

SUBMIT

✖ Your email is a required field.

	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

Client Pace - TN
 Project UG2314226
 MCP/RCP Required NO
 Deliverable Package Requirement NO
 Location TN
 PWSID# (When Applicable) NA
 Arrival Method:
 Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐
 Received By / Date / Time MEM 7/12/24 952
 Back-Sheet By / Date / Time SN 7/13/24 1351
 Temperature Method gun # 6
 WV samples: Yes (see note*) / NO follow normal procedure)
 Temp < 6° C Actual Temperature 4.8
 Rush Samples: Yes / NO Notify
 Short Hold: Yes / NO Notify

Notes regarding Samples/COC outside of SOP:

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☐	☒
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐
COC Included: (Check all included)		
Client ☒	Analysis ☒	Sampler Name ☒
Project ☒	IDs ☒	Collection Date/Time ☒
All Samples Proper pH: <u>N/A</u> ☐ ☐		

Additional Container Notes

*Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Page 2 of 2

Sample	Soils Jars (Circle Amb/Clear)				Ambers				Plastics								VOA Vials					Other / Fill in																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter		250rnl		100ml	1 Liter		500mL	250mL						Unpreserved	HCl	MeOH	D.I. Water	BiSulfate	Col/Bact																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					Unpreserved	HCL	Sulfuric	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist	Effective Date: 06/11/2024
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ANALYTICAL REPORT

July 31, 2024

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1751476
Samples Received: 06/28/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot

Report To: Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

Shane Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
POST CARBON FILTER RAD L1751476-01	5	
Qc: Quality Control Summary	6	⁴ Cn
Radiochemistry by Method 900	6	⁵ Sr
Radiochemistry by Method 904/9320	7	
Radiochemistry by Method D3972 U-02	8	⁶ Qc
Radiochemistry by Method SM7500Ra B M	9	
Gl: Glossary of Terms	10	⁷ Gl
Al: Accreditations & Locations	11	⁸ Al
Sc: Sample Chain of Custody	12	⁹ Sc

POST CARBON FILTER RAD L1751476-01 Non-Potable Water

Collected by
Danny Daniels

Collected date/time
06/27/24 08:00

Received date/time
06/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG2316723	1	07/08/24 08:58	07/15/24 13:39	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2319541	1	07/09/24 13:41	07/12/24 18:08	DDD	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG2327890	1	07/23/24 13:53	07/24/24 22:24	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2319521	1	07/10/24 13:03	07/12/24 15:13	ZRG	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Shane Gambill
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Collected date/time: 06/27/24 08:00

L1751476

Radiochemistry by Method 900

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
GROSS ALPHA	0.641	J	0.796	0.810	1.08	0.463	07/15/2024 13:39	WG2316723
GROSS BETA	1.05	J	1.08	1.10	1.40	0.664	07/15/2024 13:39	WG2316723

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.507	U	0.263	0.364	0.542	0.286	07/12/2024 18:08	WG2319541
(T) Barium	110					30.0-143	07/12/2024 18:08	WG2319541
(T) Yttrium	97.0					30.0-136	07/12/2024 18:08	WG2319541

Radiochemistry by Method D3972 U-02

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
URANIUM-234	0.246		0.190	0.324	0.167	0.138	07/24/2024 22:24	WG2327890
URANIUM-235	0.236		0.190	0.324	0.167	0.138	07/24/2024 22:24	WG2327890
URANIUM-238	0.137	J	0.145	0.279	0.167	0.138	07/24/2024 22:24	WG2327890
(T) URANIUM-232	92.5					30.0-110	07/24/2024 22:24	WG2327890

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.240		0.202	0.340	0.191	0.158	07/12/2024 15:13	WG2319521
(T) Barium-133	80.6					30.0-143	07/12/2024 15:13	WG2319521

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Method Blank (MB)

(MB) R4095508-1 07/15/24 13:38

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
GROSS ALPHA	-0.0594	U	0.409	0.657	0.273
GROSS BETA	-0.0548	U	1.17	1.59	0.762

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

L1752343-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752343-01 07/15/24 17:39 • (DUP) R4095508-4 07/15/24 13:39

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
GROSS ALPHA	4.95	8.17	11.4	4.91	7.17	6.30	8.11	3.32	36.6	0.215	J	20	3
GROSS BETA	9.75	5.30	6.55	3.11	5.84	5.01	6.41	3.03	50.2	0.537	J	20	3

Laboratory Control Sample (LCS)

(LCS) R4095508-2 07/15/24 13:38

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	12.8	85.2	80.0-120	
GROSS BETA	40.2	37.6	93.5	80.0-120	

L1751637-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751637-01 07/15/24 17:39 • (MS) R4095508-6 07/16/24 22:40 • (MSD) R4095508-7 07/16/24 22:40

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	15.0	15.8	30.7	39.0	99.3	154	1	70.0-130		J3 J5	23.7		20
GROSS BETA	40.2	10.7	47.4	49.1	91.3	95.4	1	70.0-130			3.44		20

Radiochemistry by Method 904/9320

L1751476-01

Method Blank (MB)

(MB) R4095634-1 07/11/24 19:00

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.511		0.214	0.390	0.204
(T) Barium	90.4		90.4		
(T) Yttrium	90.9		90.9		

L1752797-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752797-01 07/12/24 18:08 • (DUP) R4095634-5 07/11/24 19:00

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.765	0.272	0.506	0.268	1.87	0.419	0.736	0.385	83.7	2.20		20	3
(T) Barium	102				93.3	93.3							
(T) Yttrium	109				93.6	93.6							

Laboratory Control Sample (LCS)

(LCS) R4095634-2 07/11/24 19:00

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.32	106	80.0-120	
(T) Barium			94.5		
(T) Yttrium			89.2		

L1751476-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751476-01 07/12/24 18:08 • (MS) R4095634-3 07/11/24 19:00 • (MSD) R4095634-4 07/11/24 19:00

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	-0.507	17.8	16.7	107	100	1	70.0-130			6.32		20
(T) Barium		110			88.5	97.9							
(T) Yttrium		97.0			95.4	96.0							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4098626-1 07/24/24 22:24

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
URANIUM-234	0.106		0.0424	0.0287	0.0205
URANIUM-235	0.0486		0.0294	0.0239	0.0181
URANIUM-238	0.0980		0.0408	0.0287	0.0205
(T) URANIUM-232	95.7		95.7		

L1756891-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1756891-07 07/24/24 22:24 • (DUP) R4098626-5 07/24/24 22:24

Analyte	Original Result uCi/f	Original 2 sigma CE + / -	Original MDA uCi/f	Original Lc uCi/f	DUP Result uCi/f	DUP 2 sigma CE + / -	DUP MDA uCi/f	DUP Lc uCi/f	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
URANIUM-234	0.000000588	0.000000205	0.000000106	0.0000000802	0.000000641	0.000000235	0.000000127	0.0000000963	8.60	0.170		20	3
URANIUM-235	0.000000141	0.000000109	0.000000106	0.0000000802	0.000000216	0.000000144	0.000000127	0.0000000963	41.7	0.412		20	3
URANIUM-238	0.000000516	0.000000193	0.000000106	0.0000000802	0.000000598	0.000000227	0.000000127	0.0000000963	14.7	0.275		20	3
(T) URANIUM-232	91.6				87.1	87.1							

Laboratory Control Sample (LCS)

(LCS) R4098626-2 07/24/24 22:24

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	5.03	5.17	103	80.0-120	
URANIUM-238	4.90	5.16	105	80.0-120	
(T) URANIUM-232			82.0		

L1750527-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750527-01 07/24/24 22:24 • (MS) R4098626-3 07/24/24 22:24 • (MSD) R4098626-4 07/24/24 22:24

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
URANIUM-234	20.1	0.302	20.6	22.5	101	110	1	75.0-125			8.83		20
URANIUM-238	19.6	0.302	21.7	20.6	109	104	1	75.0-125			5.06		20
(T) URANIUM-232		96.1			72.9	82.1							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method SM7500Ra B M [L1751476-01](#)

Method Blank (MB)

(MB) R4093914-6 07/12/24 15:13

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0103	<u>U</u>	0.0394	0.0726	0.0467
(T) Barium-133	57.2		57.2		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751476-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751476-01 07/12/24 15:13 • (DUP) R4093914-10 07/12/24 15:13

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.240	0.202	0.191	0.158	-0.0342	0.0749	0.266	0.197	200	1.27	<u>U</u>	20	3
(T) Barium-133	80.6				87.9	87.9							

Laboratory Control Sample (LCS)

(LCS) R4093914-7 07/12/24 15:13

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.29	106	75.0-125	
(T) Barium-133			65.0		

L1751656-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751656-06 07/12/24 15:13 • (MS) R4093914-8 07/12/24 15:13 • (MSD) R4093914-9 07/12/24 15:13

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.163	20.8	18.5	103	91.4	1	75.0-125			12.1		20
(T) Barium-133		76.8			65.3	69.7							

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
U	Below Detectable Limits: Indicates that the analyte was not detected.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

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8Al

9Sc

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

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⁸Al

⁹Sc

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM



ANALYTICAL REPORT

July 31, 2024

- ¹Cp
- ²Tc
- ³Ss
- ⁴Cn
- ⁵Sr
- ⁶Qc
- ⁷Gl
- ⁸Al
- ⁹Sc

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1751478
Samples Received: 06/28/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot
Site: CCR
Report To: Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

Shane Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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POST CARBON FILTER L1751478-01 WW

Collected by
Danny Daniels

Collected date/time
06/27/24 08:00

Received date/time
06/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2317953	1	07/15/24 15:17	07/15/24 15:17	ZSA	Mt. Juliet, TN
Calculated Results	WG2318852	1	07/08/24 15:48	07/08/24 15:48	BMD	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2314978	1	07/01/24 08:45	07/01/24 16:13	MMF	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2316255	1	07/03/24 09:10	07/03/24 10:16	DLS	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2316569	1	07/04/24 13:30	07/04/24 13:30	KA	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG2315349	1	07/01/24 12:22	07/02/24 11:18	CAT	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG2314724	1	07/01/24 06:17	07/01/24 13:41	DAL	Mt. Juliet, TN
Wet Chemistry by Method 2120 B-2011	WG2314128	1	06/28/24 15:03	06/28/24 15:03	SJA	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2316349	1	07/03/24 10:24	07/03/24 10:24	BJM	Mt. Juliet, TN
Wet Chemistry by Method 2580	WG2316366	1	07/03/24 14:32	07/03/24 14:32	BJM	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2314005	1	06/28/24 20:24	06/28/24 20:24	JDG	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2318852	50	07/08/24 15:48	07/08/24 15:48	BMD	Mt. Juliet, TN
Wet Chemistry by Method 3500Cr B-2011	WG2314470	1	06/29/24 11:23	06/29/24 11:23	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2315616	10	07/01/24 21:55	07/02/24 15:13	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2315084	1	07/01/24 23:32	07/01/24 23:32	RTW	Mt. Juliet, TN
Wet Chemistry by Method 4500CI G-2011	WG2318605	1	07/07/24 12:24	07/07/24 12:24	CAH	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2315753	1	07/02/24 09:00	07/02/24 21:02	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2315972	1	07/02/24 14:30	07/02/24 14:30	KA	Mt. Juliet, TN
Wet Chemistry by Method 4500O G-2016	WG2316726	1	07/03/24 10:01	07/03/24 10:01	BGE	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG2314125	5	06/28/24 15:44	06/28/24 15:44	SRA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2320202	1	07/10/24 19:57	07/10/24 19:57	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2318650	1	07/07/24 12:00	07/08/24 02:22	ASH	Mt. Juliet, TN
Mercury by Method 245.1	WG2314582	1	07/01/24 14:47	07/02/24 11:49	AKB	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2317953	1	07/15/24 07:38	07/15/24 15:17	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2317953	1	07/15/24 07:38	07/29/24 14:14	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2317977	1	07/14/24 09:19	07/28/24 18:15	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2316293	1	07/02/24 20:30	07/02/24 20:30	DYW	Mt. Juliet, TN
TPH by TCEQ Method 1005	WG2316533	1	07/03/24 06:26	07/03/24 19:21	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2316105	1	07/04/24 06:48	07/05/24 11:42	DSH	Mt. Juliet, TN

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Cp

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Shane Gambill
Project Manager

Sample Delivery Group (SDG) Narrative

The Laboratory is not accredited for specific analytes on the associated Sample/Method. These analytes are flagged in the Sample Results section of the report with an asterisk (*).

Lab Sample ID	Project Sample ID	Method
L1751478-01	POST CARBON FILTER	300.0

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Lab Sample ID	Project Sample ID	Method
L1751478-01	POST CARBON FILTER	1664A, 4500O G-2016

Sample quantity was not sufficient to complete analysis per recommended method guidelines for the following samples.

Lab Sample ID	Project Sample ID	Method
L1751478-01	POST CARBON FILTER	2540 D-2015

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Trivalent	ND	T8	0.0100	1	07/15/2024 15:17	WG2317953
Organic Nitrogen	ND	J	2.50	1	07/08/2024 15:48	WG2318852

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	114		10.0	1	07/01/2024 16:13	WG2314978

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Suspended Solids	ND		3.33	1	07/03/2024 10:16	WG2316255

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	10000		10.0	1	07/04/2024 13:30	WG2316569

Sample Narrative:

L1751478-01 WG2316569: at 25C

Wet Chemistry by Method 130.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hardness (colorimetric) as CaCO3	ND		30.0	1	07/02/2024 11:18	WG2315349

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	ND		5.88	1	07/01/2024 13:41	WG2314724

Wet Chemistry by Method 2120 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Color, Apparent	5.00		1.00	1	06/28/2024 15:03	WG2314128

Sample Narrative:

L1751478-01 WG2314128: 8.36

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	410		20.0	1	07/03/2024 10:24	WG2316349
Alkalinity, Bicarbonate	381		20.0	1	07/03/2024 10:24	WG2316349
Alkalinity, Carbonate	28.8		20.0	1	07/03/2024 10:24	WG2316349

Sample Narrative:

L1751478-01 WG2316349: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 2580

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	mV				

Collected date/time: 06/27/24 08:00

L1751478

Wet Chemistry by Method 2580

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
ORP	167	T8	1	07/03/2024 14:32	WG2316366

1
Cp

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Tc

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Ss

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Cn

5
Sr

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Qc

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Gl

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Al

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Sc

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
*Bromide	2.45		1.00	1	06/28/2024 20:24	WG2314005
Chloride	7.02		1.00	1	06/28/2024 20:24	WG2314005
Fluoride	ND		0.150	1	06/28/2024 20:24	WG2314005
Nitrate as (N)	0.323		0.100	1	06/28/2024 20:24	WG2314005
Sulfate	ND		5.00	1	06/28/2024 20:24	WG2314005

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	88.6		12.5	50	07/08/2024 15:48	WG2318852

Wet Chemistry by Method 3500Cr B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	06/29/2024 11:23	WG2314470

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	90.6		2.50	10	07/02/2024 15:13	WG2315616

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	ND		0.100	1	07/01/2024 23:32	WG2315084

Wet Chemistry by Method 4500Cl G-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chlorine,residual	ND	T8	0.100	1	07/07/2024 12:24	WG2318605

Wet Chemistry by Method 4500CN E-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	07/02/2024 21:02	WG2315753

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.39	T8	1	07/02/2024 14:30	WG2315972

Sample Narrative:

L1751478-01 WG2315972: 8.39 at 21.7C

Wet Chemistry by Method 4500O G-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			

Collected date/time: 06/27/24 08:00

L1751478

Wet Chemistry by Method 45000 G-2016

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Oxygen	8.9 at 7.0c	T8	3	1	07/03/2024 10:01	WG2316726

Wet Chemistry by Method 4500P E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphate,Ortho	1.29		0.150	5	06/28/2024 15:44	WG2314125

Wet Chemistry by Method 5310 B-2014

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	ND	P1	1.00	1	07/10/2024 19:57	WG2320202

Wet Chemistry by Method 5310 B-2014

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
DOC	ND	T8	1.00	1	07/08/2024 02:22	WG2318650

Mercury by Method 245.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	07/02/2024 11:49	WG2314582

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	ND		0.200	1	07/15/2024 15:17	WG2317953
Antimony	ND		0.0100	1	07/15/2024 15:17	WG2317953
Arsenic	ND		0.0100	1	07/15/2024 15:17	WG2317953
Barium	ND		0.00500	1	07/15/2024 15:17	WG2317953
Beryllium	ND		0.00200	1	07/15/2024 15:17	WG2317953
Cadmium	ND		0.00200	1	07/15/2024 15:17	WG2317953
Chromium	ND		0.0100	1	07/15/2024 15:17	WG2317953
Copper	ND		0.0100	1	07/15/2024 15:17	WG2317953
Lead	ND		0.00500	1	07/15/2024 15:17	WG2317953
Lithium	0.0237		0.0150	1	07/15/2024 15:17	WG2317953
Nickel	ND		0.0100	1	07/15/2024 15:17	WG2317953
Selenium	ND		0.0100	1	07/15/2024 15:17	WG2317953
Silicon	6.13		0.200	1	07/29/2024 14:14	WG2317953
Silver	ND		0.00500	1	07/15/2024 15:17	WG2317953
Strontium	0.0101		0.0100	1	07/15/2024 15:17	WG2317953
Thallium	ND		0.0100	1	07/15/2024 15:17	WG2317953
Vanadium	ND		0.0200	1	07/15/2024 15:17	WG2317953
Zinc	ND		0.0500	1	07/15/2024 15:17	WG2317953
Phosphorus	1.61		0.100	1	07/15/2024 15:17	WG2317953

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	0.552		0.0400	1	07/28/2024 18:15	WG2317977
Calcium	ND		1.00	1	07/28/2024 18:15	WG2317977
Cobalt	ND		0.00200	1	07/28/2024 18:15	WG2317977
Iron	ND		0.100	1	07/28/2024 18:15	WG2317977
Magnesium	ND		1.00	1	07/28/2024 18:15	WG2317977

¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

Collected date/time: 06/27/24 08:00

L1751478

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Manganese	ND		0.00500	1	07/28/2024 18:15	WG2317977
Molybdenum	ND		0.00500	1	07/28/2024 18:15	WG2317977
Potassium	2.40		1.00	1	07/28/2024 18:15	WG2317977
Sodium	41.2		2.00	1	07/28/2024 18:15	WG2317977
Tin	ND		0.00400	1	07/28/2024 18:15	WG2317977
Titanium	ND		0.0100	1	07/28/2024 18:15	WG2317977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/02/2024 20:30	WG2316293
Bromodichloromethane	ND		0.00100	1	07/02/2024 20:30	WG2316293
Bromoform	ND		0.00100	1	07/02/2024 20:30	WG2316293
Bromomethane	ND		0.00500	1	07/02/2024 20:30	WG2316293
Carbon tetrachloride	ND		0.00100	1	07/02/2024 20:30	WG2316293
Chlorobenzene	ND		0.00100	1	07/02/2024 20:30	WG2316293
Chlorodibromomethane	ND		0.00100	1	07/02/2024 20:30	WG2316293
Chloroethane	ND		0.00500	1	07/02/2024 20:30	WG2316293
2-Chloroethyl vinyl ether	ND		0.0500	1	07/02/2024 20:30	WG2316293
Chloroform	ND		0.00500	1	07/02/2024 20:30	WG2316293
Chloromethane	ND		0.00250	1	07/02/2024 20:30	WG2316293
1,2-Dichlorobenzene	ND		0.00100	1	07/02/2024 20:30	WG2316293
1,3-Dichlorobenzene	ND		0.00100	1	07/02/2024 20:30	WG2316293
1,4-Dichlorobenzene	ND		0.00100	1	07/02/2024 20:30	WG2316293
Dichlorodifluoromethane	ND		0.00500	1	07/02/2024 20:30	WG2316293
1,1-Dichloroethane	ND		0.00100	1	07/02/2024 20:30	WG2316293
1,2-Dichloroethane	ND		0.00100	1	07/02/2024 20:30	WG2316293
1,1-Dichloroethene	ND		0.00100	1	07/02/2024 20:30	WG2316293
trans-1,2-Dichloroethene	ND		0.00100	1	07/02/2024 20:30	WG2316293
1,2-Dichloropropane	ND		0.00100	1	07/02/2024 20:30	WG2316293
cis-1,3-Dichloropropene	ND		0.00100	1	07/02/2024 20:30	WG2316293
trans-1,3-Dichloropropene	ND		0.00100	1	07/02/2024 20:30	WG2316293
Ethylbenzene	ND		0.00100	1	07/02/2024 20:30	WG2316293
Methylene Chloride	ND		0.00500	1	07/02/2024 20:30	WG2316293
Methyl tert-butyl ether	ND		0.00100	1	07/02/2024 20:30	WG2316293
Naphthalene	ND		0.00500	1	07/02/2024 20:30	WG2316293
1,1,2,2-Tetrachloroethane	ND		0.00100	1	07/02/2024 20:30	WG2316293
Tetrachloroethene	ND		0.00100	1	07/02/2024 20:30	WG2316293
Toluene	ND		0.00100	1	07/02/2024 20:30	WG2316293
1,1,1-Trichloroethane	ND		0.00100	1	07/02/2024 20:30	WG2316293
1,1,2-Trichloroethane	ND		0.00100	1	07/02/2024 20:30	WG2316293
Trichloroethene	ND		0.00100	1	07/02/2024 20:30	WG2316293
Trichlorofluoromethane	ND		0.00500	1	07/02/2024 20:30	WG2316293
Vinyl chloride	ND		0.00100	1	07/02/2024 20:30	WG2316293
o-Xylene	ND		0.00100	1	07/02/2024 20:30	WG2316293
m&p-Xylene	ND		0.00200	1	07/02/2024 20:30	WG2316293
Xylenes, Total	ND		0.00300	1	07/02/2024 20:30	WG2316293
(S) Toluene-d8	111		80.0-120		07/02/2024 20:30	WG2316293
(S) 4-Bromofluorobenzene	105		80.0-120		07/02/2024 20:30	WG2316293
(S) 1,2-Dichloroethane-d4	106		70.0-130		07/02/2024 20:30	WG2316293

Collected date/time: 06/27/24 08:00

L1751478

TPH by TCEQ Method 1005

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH C6 - C12	ND		0.900	1	07/03/2024 19:21	WG2316533
TPH C12 - C28	ND		0.900	1	07/03/2024 19:21	WG2316533
TPH C28 - C35	ND		0.900	1	07/03/2024 19:21	WG2316533
TPH C6 - C35	ND		0.900	1	07/03/2024 19:21	WG2316533
(S) o-Terphenyl	114		70.0-130		07/03/2024 19:21	WG2316533
(S) 1-chlorooctane	95.6		70.0-130		07/03/2024 19:21	WG2316533

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Acenaphthylene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Anthracene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Benzidine	ND		0.0100	1	07/05/2024 11:42	WG2316105
Benzo(a)anthracene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Benzo(b)fluoranthene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Benzo(k)fluoranthene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Benzo(g,h,i)perylene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Benzo(a)pyrene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Bis(2-chlorethoxy)methane	ND		0.0100	1	07/05/2024 11:42	WG2316105
Bis(2-chloroethyl)ether	ND		0.0100	1	07/05/2024 11:42	WG2316105
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	07/05/2024 11:42	WG2316105
4-Bromophenyl-phenylether	ND		0.0100	1	07/05/2024 11:42	WG2316105
2-Chloronaphthalene	ND		0.00100	1	07/05/2024 11:42	WG2316105
4-Chlorophenyl-phenylether	ND		0.0100	1	07/05/2024 11:42	WG2316105
Chrysene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Dibenz(a,h)anthracene	ND		0.00100	1	07/05/2024 11:42	WG2316105
3,3-Dichlorobenzidine	ND		0.0100	1	07/05/2024 11:42	WG2316105
2,4-Dinitrotoluene	ND		0.0100	1	07/05/2024 11:42	WG2316105
2,6-Dinitrotoluene	ND		0.0100	1	07/05/2024 11:42	WG2316105
1,2-Diphenylhydrazine	ND	N2	0.0100	1	07/05/2024 11:42	WG2316105
Fluoranthene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Fluorene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Hexachlorobenzene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Hexachloro-1,3-butadiene	ND		0.0100	1	07/05/2024 11:42	WG2316105
Hexachlorocyclopentadiene	ND		0.0100	1	07/05/2024 11:42	WG2316105
Hexachloroethane	ND		0.0100	1	07/05/2024 11:42	WG2316105
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Isophorone	ND		0.0100	1	07/05/2024 11:42	WG2316105
Naphthalene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Nitrobenzene	ND		0.0100	1	07/05/2024 11:42	WG2316105
n-Nitrosodimethylamine	ND		0.0100	1	07/05/2024 11:42	WG2316105
n-Nitrosodiphenylamine	ND		0.0100	1	07/05/2024 11:42	WG2316105
n-Nitrosodi-n-propylamine	ND		0.0100	1	07/05/2024 11:42	WG2316105
Phenanthrene	ND		0.00100	1	07/05/2024 11:42	WG2316105
Benzylbutyl phthalate	ND		0.00300	1	07/05/2024 11:42	WG2316105
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	07/05/2024 11:42	WG2316105
Di-n-butyl phthalate	ND		0.00300	1	07/05/2024 11:42	WG2316105
Diethyl phthalate	ND		0.00300	1	07/05/2024 11:42	WG2316105
Dimethyl phthalate	ND		0.00300	1	07/05/2024 11:42	WG2316105
Di-n-octyl phthalate	ND		0.00300	1	07/05/2024 11:42	WG2316105
Pyrene	ND		0.00100	1	07/05/2024 11:42	WG2316105
1,2,4-Trichlorobenzene	ND		0.0100	1	07/05/2024 11:42	WG2316105
4-Chloro-3-methylphenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
2-Chlorophenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
2,4-Dichlorophenol	ND		0.0100	1	07/05/2024 11:42	WG2316105

Collected date/time: 06/27/24 08:00 L1751478

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
2,4-Dimethylphenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
4,6-Dinitro-2-methylphenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
2,4-Dinitrophenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
2-Nitrophenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
4-Nitrophenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
Pentachlorophenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
Phenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
2,4,6-Trichlorophenol	ND		0.0100	1	07/05/2024 11:42	WG2316105
(S) Nitrobenzene-d5	63.9		15.0-314		07/05/2024 11:42	WG2316105
(S) 2-Fluorobiphenyl	76.5		22.0-127		07/05/2024 11:42	WG2316105
(S) p-Terphenyl-d14	87.4		29.0-141		07/05/2024 11:42	WG2316105
(S) Phenol-d5	26.6		8.00-424		07/05/2024 11:42	WG2316105
(S) 2-Fluorophenol	37.6		10.0-120		07/05/2024 11:42	WG2316105
(S) 2,4,6-Tribromophenol	88.0		10.0-153		07/05/2024 11:42	WG2316105

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Gravimetric Analysis by Method 2540 C-2011 [L1751478-01](#)

Method Blank (MB)

(MB) R4089832-1 07/01/24 16:13

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1751631-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751631-01 07/01/24 16:13 • (DUP) R4089832-3 07/01/24 16:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	237	251	1	5.74		10

L1751645-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751645-01 07/01/24 16:13 • (DUP) R4089832-4 07/01/24 16:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	391	386	1	1.29		10

Laboratory Control Sample (LCS)

(LCS) R4089832-2 07/01/24 16:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Dissolved Solids	8800	8390	95.3	85.0-115	

Gravimetric Analysis by Method 2540 D-2015 [L1751478-01](#)

Method Blank (MB)

(MB) R4090455-1 07/03/24 10:16

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Suspended Solids	U		2.50	2.50

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1751273-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751273-01 07/03/24 10:16 • (DUP) R4090455-3 07/03/24 10:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Suspended Solids	24.4	22.4	1	8.55		10

L1751421-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751421-01 07/03/24 10:16 • (DUP) R4090455-4 07/03/24 10:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Suspended Solids	151	165	1	8.86		10

Laboratory Control Sample (LCS)

(LCS) R4090455-2 07/03/24 10:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Suspended Solids	773	740	95.7	85.0-115	

Method Blank (MB)

(MB) R4090126-1 07/04/24 13:30

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1751097-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751097-01 07/04/24 13:30 • (DUP) R4090126-3 07/04/24 13:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	122	122	1	0.000		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1752665-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752665-01 07/04/24 13:30 • (DUP) R4090126-4 07/04/24 13:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	492	492	1	0.000		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4090126-2 07/04/24 13:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	721	98.4	85.0-115	

Sample Narrative:
LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Wet Chemistry by Method 130.1

[L1751478-01](#)

Method Blank (MB)

(MB) R4089079-1 07/02/24 11:07

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Hardness (colorimetric) as CaCO3	U		15.0	30.0

L1751602-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-01 07/02/24 11:25 • (DUP) R4089079-5 07/02/24 11:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	110	108	1	1.83		20

L1751602-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-04 07/02/24 11:30 • (DUP) R4089079-6 07/02/24 11:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	85.7	85.5	1	0.234		20

Laboratory Control Sample (LCS)

(LCS) R4089079-2 07/02/24 11:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Hardness (colorimetric) as CaCO3	100	105	105	85.0-115	

L1750497-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750497-01 07/02/24 11:09 • (MS) R4089079-3 07/02/24 11:11 • (MSD) R4089079-4 07/02/24 11:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Hardness (colorimetric) as CaCO3	100	ND	100	100	100	100	1	80.0-120			0.000	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 1664A [L1751478-01](#)

Method Blank (MB)

(MB) R4088754-1 07/01/24 13:41

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	U		1.16	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4088754-2 07/01/24 13:41 • (LCSD) R4088754-3 07/01/24 13:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	35.2	35.3	88.0	88.3	78.0-114			0.284	20

L1751478-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751478-01 07/01/24 13:41 • (MS) R4088754-4 07/01/24 13:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Oil & Grease (Hexane Extr)	40.0	ND	39.4	98.6	1	78.0-114	

Wet Chemistry by Method 2120 B-2011

[L1751478-01](#)

L1751446-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751446-01 06/28/24 15:03 • (DUP) R4087861-1 06/28/24 15:03

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pcu	pcu		%		%
Color, Apparent	1.00	1.00	1	0.000		20

Sample Narrative:

OS: 7.90

DUP: 7.89

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 2320 B-2011

L1751478-01

Method Blank (MB)

(MB) R4089788-2 07/03/24 09:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0
Alkalinity,Bicarbonate	U		8.45	20.0
Alkalinity,Carbonate	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1751438-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751438-01 07/03/24 09:16 • (DUP) R4089788-3 07/03/24 09:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	435	433	1	0.475		20
Alkalinity,Bicarbonate	435	433	1	0.475		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1751529-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751529-01 07/03/24 10:59 • (DUP) R4089788-4 07/03/24 11:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	136	135	1	0.417		20
Alkalinity,Bicarbonate	136	135	1	0.417		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4089788-1 07/03/24 09:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Alkalinity	100	103	103	90.0-110	

Sample Narrative:
LCS: Endpoint pH 4.5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1751210-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1751210-12 07/03/24 14:32 • (DUP) R4089766-3 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	142	136	1	6.10		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751478-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751478-01 07/03/24 14:32 • (DUP) R4089766-4 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	167	170	1	2.80		20

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 07/03/24 14:32 • (DUP) R4089766-5 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	113	110	1	3.20		20

L1751514-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751514-01 07/03/24 14:32 • (DUP) R4089766-6 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	163	166	1	2.90		20

L1751541-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751541-01 07/03/24 14:32 • (DUP) R4089766-7 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	215	215	1	0.000		20

L1752035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752035-01 07/03/24 14:32 • (DUP) R4089766-8 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	134	134	1	0.700		20

Wet Chemistry by Method 2580 [L1751478-01](#)

L1752035-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1752035-02 07/03/24 14:32 • (DUP) R4089766-9 07/03/24 14:32

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	<u>DUP Qualifier</u>	DUP Diff Limits mV
ORP	146	144	1	2.50		20

¹Cp

²Tc

³Ss

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4089766-1 07/03/24 14:32 • (LCSD) R4089766-2 07/03/24 14:32

Analyte	Spike Amount mV	LCS Result mV	LCSD Result mV	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	Diff mV	Diff Limits mV
ORP	238	227	223	95.3	93.8	90.0-110			3.70	20

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 300.0

L1751478-01

Method Blank (MB)

(MB) R4088122-1 06/28/24 09:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Nitrate as (N)	U		0.0480	0.100
Sulfate	U		0.594	5.00

L1751525-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1751525-08 06/28/24 14:22 • (DUP) R4088122-3 06/28/24 14:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	2.56	2.59	1	0.936		15
Fluoride	0.460	0.459	1	0.240		15
Nitrate as (N)	0.811	0.825	1	1.65		15
Sulfate	56.8	56.9	1	0.0781		15

L1751418-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751418-03 06/28/24 18:29 • (DUP) R4088122-6 06/28/24 18:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	0.000		15
Chloride	2.69	2.71	1	0.755		15
Fluoride	ND	ND	1	10.8		15
Nitrate as (N)	1.04	1.05	1	0.775		15
Sulfate	6.94	7.00	1	0.953		15

Laboratory Control Sample (LCS)

(LCS) R4088122-2 06/28/24 10:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	38.6	96.4	90.0-110	
Chloride	40.0	38.7	96.8	90.0-110	
Fluoride	8.00	8.18	102	90.0-110	
Nitrate as (N)	8.00	7.72	96.5	90.0-110	
Sulfate	40.0	38.8	97.0	90.0-110	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 300.0 L1751478-01

L1751525-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751525-08 06/28/24 14:22 • (MS) R4088122-4 06/28/24 14:48 • (MSD) R4088122-5 06/28/24 15:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	2.56	40.4	40.4	94.5	94.6	1	80.0-120			0.0659	15
Fluoride	8.00	0.460	8.67	8.69	103	103	1	80.0-120			0.234	15
Nitrate as (N)	8.00	0.811	8.60	8.64	97.4	97.8	1	80.0-120			0.386	15
Sulfate	40.0	56.8	85.4	85.4	71.4	71.5	1	80.0-120	J6	J6	0.0479	15

L1751418-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751418-03 06/28/24 18:29 • (MS) R4088122-7 06/28/24 18:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	ND	39.8	99.4	1	80.0-120	
Chloride	40.0	2.69	41.1	95.9	1	80.0-120	
Fluoride	8.00	ND	8.32	102	1	80.0-120	
Nitrate as (N)	8.00	1.04	8.71	95.9	1	80.0-120	
Sulfate	40.0	6.94	44.7	94.4	1	80.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 350.1

L1751478-01

Method Blank (MB)

(MB) R4091242-1 07/08/24 15:42

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Ammonia Nitrogen	U		0.117	0.250

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751504-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751504-01 07/08/24 15:51 • (DUP) R4091242-3 07/08/24 15:52

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Ammonia Nitrogen	4.19	4.17	1	0.574		10

L1751602-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-06 07/08/24 16:27 • (DUP) R4091242-6 07/08/24 16:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Ammonia Nitrogen	ND	ND	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R4091242-2 07/08/24 15:43

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Ammonia Nitrogen	7.50	7.31	97.4	90.0-110	

L1751504-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751504-01 07/08/24 15:51 • (MS) R4091242-4 07/08/24 15:54 • (MSD) R4091242-5 07/08/24 15:55

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Ammonia Nitrogen	5.00	4.19	8.95	9.12	95.0	98.6	1	90.0-110			1.96	10

L1751602-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751602-06 07/08/24 16:27 • (MS) R4091242-7 07/08/24 16:30

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Ammonia Nitrogen	5.00	ND	5.02	100	1	90.0-110	

Wet Chemistry by Method 3500Cr B-2011 [L1751478-01](#)

Method Blank (MB)

(MB) R4088099-1 06/29/24 11:20

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Chromium,Hexavalent	U		0.00300	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 06/29/24 11:23 • (DUP) R4088099-5 06/29/24 11:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4088099-2 06/29/24 11:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Chromium,Hexavalent	0.500	0.539	108	80.0-120	

L1751478-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751478-01 06/29/24 11:23 • (MS) R4088099-3 06/29/24 11:23 • (MSD) R4088099-4 06/29/24 11:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chromium,Hexavalent	0.500	ND	0.525	0.493	105	98.6	1	75.0-125			6.29	20

Wet Chemistry by Method 351.2 [L1751478-01](#)

Method Blank (MB)

(MB) R4089234-1 07/02/24 14:52

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Kjeldahl Nitrogen, TKN	U		0.140	0.250

L1750623-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1750623-02 07/02/24 14:55 • (DUP) R4089234-3 07/02/24 14:56

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Kjeldahl Nitrogen, TKN	1.00	0.938	1	6.40		20

Laboratory Control Sample (LCS)

(LCS) R4089234-2 07/02/24 14:54

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Kjeldahl Nitrogen, TKN	12.3	13.5	110	80.0-120	

L1750623-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750623-02 07/02/24 14:55 • (MS) R4089234-4 07/02/24 14:58 • (MSD) R4089234-5 07/02/24 14:59

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Kjeldahl Nitrogen, TKN	5.00	1.00	7.43	7.30	129	126	1	90.0-110	<u>J5</u>	<u>J5</u>	1.77	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4088906-1 07/01/24 22:55

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Nitrate-Nitrite	U		0.0500	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750856-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750856-01 07/01/24 22:58 • (DUP) R4088906-3 07/01/24 23:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	ND	ND	1	0.000		20

L1751283-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751283-03 07/01/24 23:12 • (DUP) R4088906-4 07/01/24 23:14

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	0.480	0.479	1	0.209		20

Laboratory Control Sample (LCS)

(LCS) R4088906-2 07/01/24 22:56

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Nitrate-Nitrite	2.50	2.65	106	90.0-110	

L1751438-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751438-04 07/01/24 23:20 • (MS) R4088906-5 07/01/24 23:21

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Nitrate-Nitrite	2.50	ND	2.60	104	1	90.0-110	

L1751478-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751478-01 07/01/24 23:32 • (MS) R4088906-6 07/01/24 23:33 • (MSD) R4088906-7 07/01/24 23:34

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Nitrate-Nitrite	2.50	ND	2.60	2.64	104	106	1	90.0-110			1.53	20

Wet Chemistry by Method 4500Cl G-2011

[L1751478-01](#)

Method Blank (MB)

(MB) R4090818-1 07/07/24 12:21

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Chlorine,residual	U		0.0260	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1752000-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1752000-05 07/07/24 12:29 • (DUP) R4090818-3 07/07/24 12:29

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Chlorine,residual	ND	0.106	1	10.9		20

Laboratory Control Sample (LCS)

(LCS) R4090818-2 07/07/24 12:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Chlorine,residual	1.00	0.910	91.0	85.0-115	

Wet Chemistry by Method 4500CN E-2016

[L1751478-01](#)

Method Blank (MB)

(MB) R4089412-1 07/02/24 20:24

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.00180	0.00500

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751456-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751456-01 07/02/24 20:55 • (DUP) R4089412-5 07/02/24 20:59

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	ND	1	0.000		20

L1751478-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751478-01 07/02/24 21:02 • (DUP) R4089412-6 07/02/24 21:03

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4089412-2 07/02/24 20:26

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Cyanide	0.100	0.101	101	87.1-120	

L1749742-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749742-01 07/02/24 20:32 • (MS) R4089412-3 07/02/24 20:33 • (MSD) R4089412-4 07/02/24 20:34

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	ND	ND	2.29	2.95	1	90.0-110	<u>J6</u>	<u>J3 J6</u>	25.2	20

Sample Narrative:

- MS: Spike failure due to matrix interference
- MSD: Spike failure due to matrix interference

Wet Chemistry by Method 4500H+ B-2011 [L1751478-01](#)

L1751457-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751457-01 07/02/24 14:30 • (DUP) R4089300-2 07/02/24 14:30

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	5.84	5.83	1	0.171		1

Sample Narrative:
OS: 5.84 at 21.6C
DUP: 5.83 at 21.8C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1752590-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752590-01 07/02/24 14:30 • (DUP) R4089300-4 07/02/24 14:30

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.32	8.35	1	0.360		1

Sample Narrative:
OS: 8.32 at 23.2C
DUP: 8.35 at 23.4C

Laboratory Control Sample (LCS)

(LCS) R4089300-1 07/02/24 14:30

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:
LCS: 10 at 22.9C

Wet Chemistry by Method 4500P E-2011 [L1751478-01](#)

Method Blank (MB)

(MB) R4087876-1 06/28/24 15:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphate,Ortho	U		0.0140	0.0300

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 06/28/24 15:44 • (DUP) R4087876-3 06/28/24 15:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits
Phosphate,Ortho	0.288	0.294	1	2.06	20

Laboratory Control Sample (LCS)

(LCS) R4087876-2 06/28/24 15:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphate,Ortho	0.245	0.274	112	85.0-115	

L1751541-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751541-01 06/28/24 15:45 • (MS) R4087876-4 06/28/24 15:46 • (MSD) R4087876-5 06/28/24 15:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphate,Ortho	0.500	0.0300	0.461	0.444	86.2	82.8	1	80.0-120			3.76	20

Method Blank (MB)

(MB) R4091056-2 07/08/24 01:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
DOC	0.191	⬇	0.106	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751680-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751680-01 07/08/24 05:15 • (DUP) R4091056-5 07/08/24 05:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	12.0	12.0	1	0.667		20

L1754024-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1754024-09 07/08/24 08:39 • (DUP) R4091056-6 07/08/24 08:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	6.95	7.55	1	8.29		20

Laboratory Control Sample (LCS)

(LCS) R4091056-1 07/08/24 01:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
DOC	25.0	25.5	102	85.0-115	

L1754024-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754024-10 07/08/24 09:14 • (MS) R4091056-7 07/08/24 09:43 • (MSD) R4091056-8 07/08/24 10:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
DOC	25.0	3.59	28.2	29.0	98.4	102	1	80.0-120			2.97	20

Method Blank (MB)

(MB) R4092744-2 07/10/24 11:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.141	⬇	0.102	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751478-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751478-01 07/10/24 19:57 • (DUP) R4092744-3 07/10/24 20:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	ND	ND	1	27.5	P1	20

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 07/11/24 00:15 • (DUP) R4092744-4 07/11/24 00:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	1.04	ND	1	8.28		20

Laboratory Control Sample (LCS)

(LCS) R4092744-1 07/10/24 11:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	24.8	99.3	85.0-115	

L1751514-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751514-01 07/11/24 00:55 • (MS) R4092744-5 07/11/24 01:18 • (MSD) R4092744-6 07/11/24 01:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	19.9	43.3	43.5	93.6	94.3	1	85.0-115			0.415	20

L1751481-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751481-01 07/11/24 03:44 • (MS) R4092744-7 07/11/24 04:06 • (MSD) R4092744-8 07/11/24 04:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	9.28	32.3	32.2	92.0	91.6	1	85.0-115			0.279	20

Mercury by Method 245.1 [L1751478-01](#)

Method Blank (MB)

(MB) R4089206-7 07/02/24 12:21

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Mercury	U		0.000100	0.000200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4089206-1 07/02/24 10:56

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Mercury	0.00300	0.00340	113	85.0-115	

L1750960-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750960-01 07/02/24 10:59 • (MS) R4089206-3 07/02/24 11:09 • (MSD) R4089206-4 07/02/24 11:12

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00343	0.00331	110	106	1	70.0-130			3.56	20

L1751456-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751456-01 07/02/24 11:15 • (MS) R4089206-5 07/02/24 11:17 • (MSD) R4089206-6 07/02/24 11:20

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00346	0.00334	111	107	1	70.0-130			3.42	20

Metals (ICP) by Method 200.7 [L1751478-01](#)

Method Blank (MB)

(MB) R4093950-1 07/15/24 14:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum	U		0.0592	0.200
Antimony	U		0.00398	0.0100
Arsenic	U		0.00645	0.0100
Barium	U		0.000795	0.00500
Beryllium	U		0.000401	0.00200
Cadmium	U		0.000552	0.00200
Chromium	U		0.00163	0.0100
Copper	U		0.00226	0.0100
Lead	U		0.00227	0.00500
Lithium	U		0.00689	0.0150
Nickel	U		0.00182	0.0100
Selenium	U		0.00616	0.0100
Silver	0.00163	U	0.00131	0.00500
Strontium	U		0.000683	0.0100
Thallium	U		0.00460	0.0100
Vanadium	U		0.00662	0.0200
Zinc	U		0.00578	0.0500
Phosphorus	U		0.00760	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4099868-1 07/29/24 13:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Silicon	U		0.0771	0.200

Laboratory Control Sample (LCS)

(LCS) R4093950-2 07/15/24 14:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	9.88	98.8	85.0-115	
Antimony	1.00	0.997	99.7	85.0-115	
Arsenic	1.00	1.05	105	85.0-115	
Barium	1.00	1.01	101	85.0-115	
Beryllium	1.00	1.03	103	85.0-115	
Cadmium	1.00	0.980	98.0	85.0-115	
Chromium	1.00	1.00	100	85.0-115	
Copper	1.00	0.988	98.8	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4093950-2 07/15/24 14:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead	1.00	1.00	100	85.0-115	
Lithium	1.00	1.02	102	85.0-115	
Nickel	1.00	1.02	102	85.0-115	
Selenium	1.00	1.01	101	85.0-115	
Silver	0.200	0.207	103	85.0-115	
Strontium	1.00	1.01	101	85.0-115	
Thallium	1.00	1.01	101	85.0-115	
Vanadium	1.00	1.00	100	85.0-115	
Zinc	1.00	1.02	102	85.0-115	
Phosphorus	1.00	1.07	107	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4099868-2 07/29/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silicon	1.00	0.936	93.6	85.0-115	

L1750452-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750452-01 07/15/24 14:34 • (MS) R4093950-4 07/15/24 14:37 • (MSD) R4093950-5 07/15/24 14:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10.0	0.357	10.6	10.6	102	102	1	70.0-130			0.0448	20
Antimony	1.00	ND	1.05	1.05	105	105	1	70.0-130			0.332	20
Arsenic	1.00	ND	1.11	1.11	111	111	1	70.0-130			0.188	20
Barium	1.00	0.0258	1.07	1.07	105	105	1	70.0-130			0.0208	20
Beryllium	1.00	ND	1.06	1.07	106	107	1	70.0-130			0.329	20
Cadmium	1.00	ND	1.03	1.03	103	103	1	70.0-130			0.239	20
Chromium	1.00	ND	1.04	1.04	104	104	1	70.0-130			0.165	20
Copper	1.00	ND	1.03	1.02	103	102	1	70.0-130			0.391	20
Lead	1.00	ND	1.05	1.05	105	105	1	70.0-130			0.423	20
Lithium	1.00	ND	1.05	1.05	105	105	1	70.0-130			0.580	20
Nickel	1.00	ND	1.06	1.07	106	107	1	70.0-130			0.0388	20
Selenium	1.00	ND	1.07	1.07	107	107	1	70.0-130			0.00754	20
Silver	0.200	ND	0.213	0.214	106	106	1	70.0-130			0.411	20
Strontium	1.00	0.100	1.15	1.15	105	105	1	70.0-130			0.551	20
Thallium	1.00	ND	1.05	1.05	105	105	1	70.0-130			0.0172	20
Vanadium	1.00	ND	1.04	1.04	104	104	1	70.0-130			0.230	20

Metals (ICP) by Method 200.7 [L1751478-01](#)

L1750452-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750452-01 07/15/24 14:34 • (MS) R4093950-4 07/15/24 14:37 • (MSD) R4093950-5 07/15/24 14:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Zinc	1.00	ND	1.07	1.07	107	107	1	70.0-130			0.369	20
Phosphorus	1.00	ND	1.12	1.11	111	110	1	70.0-130			0.380	20

¹Cp

²Tc

³Ss

⁴Cn

L1751345-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751345-03 07/15/24 14:40 • (MS) R4093950-6 07/15/24 14:42 • (MSD) R4093950-7 07/15/24 14:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum	10.0	0.226	10.4	10.1	101	98.4	1	70.0-130			2.96	20
Antimony	1.00	ND	1.06	1.03	106	103	1	70.0-130			3.25	20
Arsenic	1.00	ND	1.11	1.09	111	109	1	70.0-130			1.70	20
Barium	1.00	0.00944	1.05	1.03	104	102	1	70.0-130			2.31	20
Beryllium	1.00	ND	1.07	1.03	107	103	1	70.0-130			3.33	20
Cadmium	1.00	ND	1.03	1.01	103	101	1	70.0-130			2.62	20
Chromium	1.00	ND	1.04	1.02	104	102	1	70.0-130			2.54	20
Copper	1.00	ND	1.03	1.00	102	99.5	1	70.0-130			2.99	20
Lead	1.00	ND	1.06	1.02	106	102	1	70.0-130			3.47	20
Lithium	1.00	ND	1.05	1.02	105	102	1	70.0-130			2.65	20
Nickel	1.00	ND	1.07	1.05	107	105	1	70.0-130			2.68	20
Selenium	1.00	ND	1.08	1.05	108	105	1	70.0-130			2.59	20
Silver	0.200	ND	0.214	0.209	106	104	1	70.0-130			2.13	20
Strontium	1.00	0.0689	1.13	1.09	106	102	1	70.0-130			3.20	20
Thallium	1.00	ND	1.07	1.03	107	103	1	70.0-130			4.06	20
Vanadium	1.00	ND	1.04	1.01	104	101	1	70.0-130			3.67	20
Zinc	1.00	0.0631	1.13	1.10	107	104	1	70.0-130			2.39	20
Phosphorus	1.00	0.549	1.65	1.64	110	109	1	70.0-130			0.687	20

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750452-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750452-01 07/29/24 13:55 • (MS) R4099868-4 07/29/24 14:00 • (MSD) R4099868-5 07/29/24 14:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Silicon	1.00	0.372	1.34	1.34	97.2	96.5	1	70.0-130			0.519	20

Metals (ICP) by Method 200.7 [L1751478-01](#)

L1751345-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751345-03 07/29/24 14:06 • (MS) R4099868-6 07/29/24 14:09 • (MSD) R4099868-7 07/29/24 14:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Silicon	1.00	2.73	3.78	3.68	105	95.4	1	70.0-130			2.71	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Metals (ICPMS) by Method 200.8 [L1751478-01](#)

Method Blank (MB)

(MB) R4099390-1 07/28/24 16:31

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0177	0.0400
Calcium	U		0.112	1.00
Cobalt	U		0.000142	0.00200
Magnesium	U		0.0690	1.00
Manganese	U		0.000982	0.00500
Molybdenum	U		0.000841	0.00500
Potassium	U		0.151	1.00
Sodium	U		0.513	2.00
Tin	U		0.00106	0.00400
Titanium	U		0.00172	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

Method Blank (MB)

(MB) R4099398-1 07/28/24 17:19

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Iron	U		0.0447	0.100

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4099390-2 07/28/24 16:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Boron	0.0500	0.0534	107	85.0-115	
Calcium	5.00	5.28	106	85.0-115	
Cobalt	0.0500	0.0549	110	85.0-115	
Magnesium	5.00	5.24	105	85.0-115	
Manganese	0.0500	0.0526	105	85.0-115	
Molybdenum	0.0500	0.0525	105	85.0-115	
Potassium	5.00	5.17	103	85.0-115	
Sodium	5.00	5.34	107	85.0-115	
Tin	0.0500	0.0539	108	85.0-115	
Titanium	0.0500	0.0545	109	85.0-115	

Metals (ICPMS) by Method 200.8 [L1751478-01](#)

Laboratory Control Sample (LCS)

(LCS) R4099398-2 07/28/24 17:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Iron	1.00	1.05	105	85.0-115	

L1751551-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751551-01 07/28/24 16:45 • (MS) R4099390-4 07/28/24 16:49 • (MSD) R4099390-5 07/28/24 16:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Boron	0.0500		0.140	0.137	109	103	1	70.0-130			2.25	20
Calcium	5.00		45.2	42.4	118	61.7	1	70.0-130		V	6.41	20
Cobalt	0.0500		0.0559	0.0532	105	99.3	1	70.0-130			5.02	20
Magnesium	5.00		24.1	22.7	112	84.2	1	70.0-130			5.85	20
Manganese	0.0500		1.77	1.67	137	0.000	1	70.0-130	V	V	6.31	20
Molybdenum	0.0500		0.0506	0.0525	101	105	1	70.0-130			3.75	20
Potassium	5.00		9.87	9.24	108	95.1	1	70.0-130			6.54	20
Sodium	5.00		20.7	19.5	114	89.1	1	70.0-130			6.28	20
Tin	0.0500		0.0514	0.0543	103	109	1	70.0-130			5.45	20
Titanium	0.0500		0.0510	0.0507	102	101	1	70.0-130			0.632	20

L1751703-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751703-02 07/28/24 17:01 • (MS) R4099390-6 07/28/24 17:04 • (MSD) R4099390-7 07/28/24 17:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Boron	0.0500	0.130	0.185	0.186	111	113	1	70.0-130			0.645	20
Calcium	5.00	11.9	17.0	17.0	103	102	1	70.0-130			0.111	20
Cobalt	0.0500	ND	0.0519	0.0541	104	108	1	70.0-130			4.16	20
Magnesium	5.00	4.33	9.59	9.79	105	109	1	70.0-130			2.11	20
Manganese	0.0500	0.00846	0.0575	0.0602	98.2	104	1	70.0-130			4.58	20
Molybdenum	0.0500	ND	0.0552	0.0557	107	108	1	70.0-130			0.886	20
Potassium	5.00	22.3	27.6	27.6	106	106	1	70.0-130			0.00795	20
Sodium	5.00	259	256	264	0.000	97.3	1	70.0-130	V		3.07	20
Tin	0.0500	ND	0.0551	0.0563	110	113	1	70.0-130			2.16	20
Titanium	0.0500	ND	0.0524	0.0507	105	101	1	70.0-130			3.42	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Metals (ICPMS) by Method 200.8 [L1751478-01](#)

L1751551-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751551-01 07/28/24 17:26 • (MS) R4099398-4 07/28/24 17:32 • (MSD) R4099398-5 07/28/24 17:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Iron	1.00	1.03	2.03	2.02	99.8	99.2	1	70.0-130			0.321	20

L1751703-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751703-02 07/28/24 17:39 • (MS) R4099398-6 07/28/24 17:42 • (MSD) R4099398-7 07/28/24 17:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Iron	1.00	ND	1.03	1.03	103	103	1	70.0-130			0.693	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 624.1

L1751478-01

Method Blank (MB)

(MB) R4090590-4 07/02/24 16:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
2-Chloroethyl vinyl ether	U		0.000575	0.0500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
Ethylbenzene	U		0.000137	0.00100
Methylene Chloride	U		0.000430	0.00500
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
Vinyl chloride	U		0.000234	0.00100
o-Xylene	U		0.000174	0.00100
m&p-Xylene	U		0.000430	0.00200
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	111			80.0-120
(S) 4-Bromofluorobenzene	106			80.0-120
(S) 1,2-Dichloroethane-d4	106			70.0-130

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4090590-1 07/02/24 15:23 • (LCSD) R4090590-2 07/02/24 15:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00515	0.00532	103	106	65.0-135			3.25	20
Bromodichloromethane	0.00500	0.00490	0.00497	98.0	99.4	65.0-135			1.42	20
Bromoform	0.00500	0.00428	0.00439	85.6	87.8	70.0-130			2.54	20
Bromomethane	0.00500	0.00166	0.00181	33.2	36.2	15.0-185			8.65	20
Carbon tetrachloride	0.00500	0.00527	0.00528	105	106	70.0-130			0.190	20
Chlorobenzene	0.00500	0.00477	0.00497	95.4	99.4	65.0-135			4.11	20
Chlorodibromomethane	0.00500	0.00450	0.00462	90.0	92.4	70.0-135			2.63	20
Chloroethane	0.00500	0.00704	0.00711	141	142	40.0-160			0.989	20
2-Chloroethyl vinyl ether	0.0250	0.00788	0.00697	31.5	27.9	0.100-225			12.3	20
Chloroform	0.00500	0.00515	0.00521	103	104	70.0-135			1.16	20
Chloromethane	0.00500	0.00520	0.00512	104	102	0.100-205			1.55	20
1,2-Dichlorobenzene	0.00500	0.00498	0.00497	99.6	99.4	65.0-135			0.201	20
1,3-Dichlorobenzene	0.00500	0.00445	0.00460	89.0	92.0	70.0-130			3.31	20
1,4-Dichlorobenzene	0.00500	0.00466	0.00460	93.2	92.0	65.0-135			1.30	20
Dichlorodifluoromethane	0.00500	0.00667	0.00670	133	134	49.0-155			0.449	20
1,1-Dichloroethane	0.00500	0.00558	0.00571	112	114	70.0-130			2.30	20
1,2-Dichloroethane	0.00500	0.00525	0.00537	105	107	70.0-130			2.26	20
1,1-Dichloroethene	0.00500	0.00506	0.00532	101	106	50.0-150			5.01	20
trans-1,2-Dichloroethene	0.00500	0.00494	0.00507	98.8	101	70.0-130			2.60	20
1,2-Dichloropropane	0.00500	0.00554	0.00551	111	110	35.0-165			0.543	20
cis-1,3-Dichloropropene	0.00500	0.00502	0.00494	100	98.8	25.0-175			1.61	20
trans-1,3-Dichloropropene	0.00500	0.00461	0.00481	92.2	96.2	50.0-150			4.25	20
Ethylbenzene	0.00500	0.00478	0.00490	95.6	98.0	60.0-140			2.48	20
Methylene Chloride	0.00500	0.00500	0.00505	100	101	60.0-140			0.995	20
Methyl tert-butyl ether	0.00500	0.00530	0.00551	106	110	64.0-123			3.89	20
Naphthalene	0.00500	0.00363	0.00376	72.6	75.2	62.0-128			3.52	20
1,1,2,2-Tetrachloroethane	0.00500	0.00455	0.00446	91.0	89.2	60.0-140			2.00	20
Tetrachloroethene	0.00500	0.00478	0.00521	95.6	104	70.0-130			8.61	20
Toluene	0.00500	0.00482	0.00495	96.4	99.0	70.0-130			2.66	20
1,1,1-Trichloroethane	0.00500	0.00519	0.00524	104	105	70.0-130			0.959	20
1,1,2-Trichloroethane	0.00500	0.00490	0.00507	98.0	101	70.0-130			3.41	20
Trichloroethene	0.00500	0.00541	0.00557	108	111	65.0-135			2.91	20
Trichlorofluoromethane	0.00500	0.00589	0.00599	118	120	50.0-150			1.68	20
Vinyl chloride	0.00500	0.00612	0.00631	122	126	5.00-195			3.06	20
o-Xylene	0.00500	0.00455	0.00472	91.0	94.4	78.0-120			3.67	20
m&p-Xylene	0.0100	0.00946	0.00956	94.6	95.6	77.0-120			1.05	20
Xylenes, Total	0.0150	0.0140	0.0143	93.3	95.3	77.0-120			2.12	20
(S) Toluene-d8				104	106	80.0-120				
(S) 4-Bromofluorobenzene				103	103	80.0-120				
(S) 1,2-Dichloroethane-d4				105	105	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

TPH by TCEQ Method 1005

L1751478-01

Method Blank (MB)

(MB) R4090295-1 07/03/24 17:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH C6 - C12	U		0.600	0.900
TPH C12 - C28	U		0.600	0.900
TPH C28 - C35	U		0.600	0.900
TPH C6 - C35	U		0.600	0.900
(S) o-Terphenyl	86.9			70.0-130
(S) 1-chlorooctane	72.5			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4090295-2 07/03/24 17:25 • (LCSD) R4090295-3 07/03/24 17:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH C6 - C12	41.7	37.8	36.6	90.6	87.8	75.0-125			3.23	20
TPH C12 - C28	41.7	43.9	42.1	105	101	75.0-125			4.19	20
TPH C6 - C35	83.4	81.7	78.7	98.0	94.4	75.0-125			3.74	20
(S) o-Terphenyl				103	103	70.0-130				
(S) 1-chlorooctane				98.2	94.9	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751478-01

Method Blank (MB)

(MB) R4090525-2 07/04/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.0000886	0.00100
Acenaphthylene	U		0.0000921	0.00100
Anthracene	U		0.0000804	0.00100
Benzidine	U		0.00374	0.0100
Benzo(a)anthracene	U		0.000199	0.00100
Benzo(b)fluoranthene	U		0.000130	0.00100
Benzo(k)fluoranthene	U		0.000120	0.00100
Benzo(g,h,i)perylene	U		0.000121	0.00100
Benzo(a)pyrene	U		0.0000381	0.00100
Bis(2-chlorethoxy)methane	U		0.000116	0.0100
Bis(2-chloroethyl)ether	U		0.000137	0.0100
2,2-Oxybis(1-Chloropropane)	U		0.000210	0.0100
4-Bromophenyl-phenylether	U		0.0000877	0.0100
2-Chloronaphthalene	U		0.0000648	0.00100
4-Chlorophenyl-phenylether	U		0.0000926	0.0100
Chrysene	U		0.000130	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.00100
3,3-Dichlorobenzidine	U		0.000212	0.0100
2,4-Dinitrotoluene	U		0.0000983	0.0100
2,6-Dinitrotoluene	U		0.000250	0.0100
1,2-Diphenylhydrazine	U	N2	0.000105	0.0100
Fluoranthene	U		0.000102	0.00100
Fluorene	U		0.0000844	0.00100
Hexachlorobenzene	U		0.0000755	0.00100
Hexachloro-1,3-butadiene	U		0.0000968	0.0100
Hexachlorocyclopentadiene	U		0.0000598	0.0100
Hexachloroethane	U		0.000127	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000143	0.0100
Naphthalene	U		0.000159	0.00100
Nitrobenzene	U		0.000297	0.0100
n-Nitrosodimethylamine	U		0.000998	0.0100
n-Nitrosodiphenylamine	U		0.00237	0.0100
n-Nitrosodi-n-propylamine	U		0.000261	0.0100
Phenanthrene	U		0.000112	0.00100
Benzylbutyl phthalate	U		0.000765	0.00300
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300
Di-n-butyl phthalate	U		0.000453	0.00300
Diethyl phthalate	U		0.000287	0.00300
Dimethyl phthalate	U		0.000260	0.00300

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751478-01

Method Blank (MB)

(MB) R4090525-2 07/04/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Di-n-octyl phthalate	U		0.000932	0.00300
Pyrene	U		0.000107	0.00100
1,2,4-Trichlorobenzene	U		0.0000698	0.0100
4-Chloro-3-methylphenol	U		0.000131	0.0100
2-Chlorophenol	U		0.000133	0.0100
2,4-Dichlorophenol	U		0.000102	0.0100
2,4-Dimethylphenol	U		0.0000636	0.0100
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100
2,4-Dinitrophenol	U		0.00593	0.0100
2-Nitrophenol	U		0.000117	0.0100
4-Nitrophenol	U		0.000143	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.00433	0.0100
2,4,6-Trichlorophenol	U		0.000100	0.0100
(S) Nitrobenzene-d5	57.3			15.0-314
(S) 2-Fluorobiphenyl	61.3			22.0-127
(S) p-Terphenyl-d14	81.2			29.0-141
(S) Phenol-d5	19.4			8.00-424
(S) 2-Fluorophenol	25.4			10.0-120
(S) 2,4,6-Tribromophenol	63.5			10.0-153

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0432	86.4	47.0-145	
Acenaphthylene	0.0500	0.0467	93.4	33.0-145	
Anthracene	0.0500	0.0464	92.8	27.0-133	
Benzidine	0.100	0.00535	5.35	1.00-120	
Benzo(a)anthracene	0.0500	0.0494	98.8	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0500	100	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0502	100	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0492	98.4	1.00-219	
Benzo(a)pyrene	0.0500	0.0489	97.8	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0395	79.0	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0426	85.2	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0387	77.4	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0515	103	53.0-127	

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751478-01

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0411	82.2	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0546	109	25.0-158	
Chrysene	0.0500	0.0483	96.6	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0495	99.0	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0977	97.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0627	125	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0562	112	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0441	88.2	37.0-125	N2
Fluoranthene	0.0500	0.0540	108	26.0-137	
Fluorene	0.0500	0.0500	100	59.0-121	
Hexachlorobenzene	0.0500	0.0508	102	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0363	72.6	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0278	55.6	10.0-120	
Hexachloroethane	0.0500	0.0316	63.2	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0460	92.0	1.00-171	
Isophorone	0.0500	0.0394	78.8	21.0-196	
Naphthalene	0.0500	0.0358	71.6	21.0-133	
Nitrobenzene	0.0500	0.0362	72.4	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0216	43.2	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0449	89.8	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0439	87.8	1.00-230	
Phenanthrene	0.0500	0.0447	89.4	54.0-120	
Benzylbutyl phthalate	0.0500	0.0433	86.6	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0431	86.2	8.00-158	
Di-n-butyl phthalate	0.0500	0.0487	97.4	1.00-120	
Diethyl phthalate	0.0500	0.0514	103	1.00-120	
Dimethyl phthalate	0.0500	0.0507	101	1.00-120	
Di-n-octyl phthalate	0.0500	0.0447	89.4	4.00-146	
Pyrene	0.0500	0.0440	88.0	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0381	76.2	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0387	77.4	22.0-147	
2-Chlorophenol	0.0500	0.0325	65.0	23.0-134	
2,4-Dichlorophenol	0.0500	0.0393	78.6	39.0-135	
2,4-Dimethylphenol	0.0500	0.0449	89.8	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0645	129	1.00-181	
2,4-Dinitrophenol	0.0500	0.0681	136	1.00-191	
2-Nitrophenol	0.0500	0.0430	86.0	29.0-182	
4-Nitrophenol	0.0500	0.0236	47.2	1.00-132	
Pentachlorophenol	0.0500	0.0407	81.4	14.0-176	
Phenol	0.0500	0.0165	33.0	5.00-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751478-01

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,6-Trichlorophenol	0.0500	0.0472	94.4	37.0-144	
(S) Nitrobenzene-d5			72.6	15.0-314	
(S) 2-Fluorobiphenyl			90.2	22.0-127	
(S) p-Terphenyl-d14			104	29.0-141	
(S) Phenol-d5			34.4	8.00-424	
(S) 2-Fluorophenol			45.0	10.0-120	
(S) 2,4,6-Tribromophenol			115	10.0-153	

L1752168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752168-01 07/07/24 08:55 • (MS) R4091172-1 07/07/24 09:16 • (MSD) R4091172-2 07/07/24 09:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	ND	0.0395	0.0357	79.0	71.4	1	47.0-145			10.1	48
Acenaphthylene	0.0500	ND	0.0430	0.0382	86.0	76.4	1	33.0-145			11.8	74
Anthracene	0.0500	ND	0.0406	0.0359	81.2	71.8	1	27.0-133			12.3	66
Benzydine	0.100	ND	0.0119	ND	11.9	4.72	1	1.00-120		J3	86.4	40
Benzo(a)anthracene	0.0500	ND	0.0410	0.0378	82.0	75.6	1	33.0-143			8.12	53
Benzo(b)fluoranthene	0.0500	ND	0.0408	0.0370	81.6	74.0	1	24.0-159			9.77	71
Benzo(k)fluoranthene	0.0500	ND	0.0407	0.0368	81.4	73.6	1	11.0-162			10.1	63
Benzo(g,h,i)perylene	0.0500	ND	0.0390	0.0341	78.0	68.2	1	1.00-219			13.4	97
Benzo(a)pyrene	0.0500	ND	0.0411	0.0369	82.2	73.8	1	17.0-163			10.8	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0383	0.0338	76.6	67.6	1	33.0-184			12.5	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0377	0.0338	75.4	67.6	1	12.0-158			10.9	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0342	0.0311	68.4	62.2	1	36.0-166			9.49	76
4-Bromophenyl-phenylether	0.0500	ND	0.0506	0.0459	101	91.8	1	53.0-127			9.74	43
2-Chloronaphthalene	0.0500	ND	0.0395	0.0357	79.0	71.4	1	60.0-120			10.1	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0497	0.0447	99.4	89.4	1	25.0-158			10.6	61
Chrysene	0.0500	ND	0.0396	0.0366	79.2	73.2	1	17.0-168			7.87	87
Dibenz(a,h)anthracene	0.0500	ND	0.0389	0.0340	77.8	68.0	1	1.00-227			13.4	126
3,3-Dichlorobenzydine	0.100	ND	0.0648	0.0582	64.8	58.2	1	1.00-262			10.7	108
2,4-Dinitrotoluene	0.0500	ND	0.0534	0.0485	107	97.0	1	39.0-139			9.62	42
2,6-Dinitrotoluene	0.0500	ND	0.0498	0.0456	99.6	91.2	1	50.0-158			8.81	48
1,2-Diphenylhydrazine	0.0500	ND	0.0361	0.0323	72.2	64.6	1	18.0-156	N2	N2	11.1	34
Fluoranthene	0.0500	ND	0.0437	0.0397	87.4	79.4	1	26.0-137			9.59	66
Fluorene	0.0500	ND	0.0441	0.0395	88.2	79.0	1	59.0-121			11.0	38
Hexachlorobenzene	0.0500	ND	0.0482	0.0432	96.4	86.4	1	1.00-152			10.9	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0417	0.0366	83.4	73.2	1	24.0-120			13.0	62
Hexachlorocyclopentadiene	0.0500	ND	0.0239	0.0280	47.8	56.0	1	10.0-146			15.8	34

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625.1 L1751478-01

L1752168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752168-01 07/07/24 08:55 • (MS) R4091172-1 07/07/24 09:16 • (MSD) R4091172-2 07/07/24 09:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexachloroethane	0.0500	ND	0.0306	0.0274	61.2	54.8	1	40.0-120			11.0	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0376	0.0327	75.2	65.4	1	1.00-171			13.9	99
Isophorone	0.0500	ND	0.0362	0.0326	72.4	65.2	1	21.0-196			10.5	93
Naphthalene	0.0500	ND	0.0356	0.0320	71.2	64.0	1	21.0-133			10.7	65
Nitrobenzene	0.0500	ND	0.0338	0.0318	67.6	63.6	1	35.0-180			6.10	62
n-Nitrosodimethylamine	0.0500	ND	0.0181	0.0159	36.2	31.8	1	10.0-120			12.9	40
n-Nitrosodiphenylamine	0.0500	ND	0.0429	0.0388	85.8	77.6	1	16.0-160			10.0	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0345	0.0315	69.0	63.0	1	1.00-230			9.09	87
Phenanthrene	0.0500	ND	0.0408	0.0371	81.6	74.2	1	54.0-120			9.50	39
Benzylbutyl phthalate	0.0500	ND	0.0369	0.0354	73.8	70.8	1	1.00-152			4.15	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0355	0.0307	71.0	61.4	1	8.00-158			14.5	82
Di-n-butyl phthalate	0.0500	ND	0.0411	0.0376	82.2	75.2	1	1.00-120			8.89	47
Diethyl phthalate	0.0500	ND	0.0437	0.0398	87.4	79.6	1	1.00-120			9.34	100
Dimethyl phthalate	0.0500	ND	0.0448	0.0405	89.6	81.0	1	1.00-120			10.1	183
Di-n-octyl phthalate	0.0500	ND	0.0349	0.0303	69.8	60.6	1	4.00-146			14.1	69
Pyrene	0.0500	ND	0.0417	0.0385	83.4	77.0	1	52.0-120			7.98	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0398	0.0362	79.6	72.4	1	44.0-142			9.47	50
4-Chloro-3-methylphenol	0.0500	ND	0.0391	0.0298	78.2	59.6	1	22.0-147			27.0	73
2-Chlorophenol	0.0500	ND	0.0290	0.0223	58.0	44.6	1	23.0-134			26.1	61
2,4-Dichlorophenol	0.0500	ND	0.0412	0.0305	82.4	61.0	1	39.0-135			29.8	50
2,4-Dimethylphenol	0.0500	ND	0.0464	0.0351	87.5	64.9	1	32.0-120			27.7	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0646	0.0526	129	105	1	1.00-181			20.5	203
2,4-Dinitrophenol	0.0500	ND	0.0745	0.0578	149	116	1	1.00-191			25.2	132
2-Nitrophenol	0.0500	ND	0.0437	0.0343	87.4	68.6	1	29.0-182			24.1	55
4-Nitrophenol	0.0500	ND	0.0203	0.0113	40.6	22.6	1	1.00-132			57.0	131
Pentachlorophenol	0.0500	ND	0.0433	0.0359	86.6	71.8	1	14.0-176			18.7	86
Phenol	0.0500	ND	0.0189	0.0151	37.8	30.2	1	5.00-120			22.4	64
2,4,6-Trichlorophenol	0.0500	ND	0.0434	0.0348	86.8	69.6	1	37.0-144			22.0	58
(S) Nitrobenzene-d5					74.6	64.3		15.0-314				
(S) 2-Fluorobiphenyl					87.8	79.2		22.0-127				
(S) p-Terphenyl-d14					94.7	86.6		29.0-141				
(S) Phenol-d5					28.0	23.3		8.00-424				
(S) 2-Fluorophenol					38.6	31.4		10.0-120				
(S) 2,4,6-Tribromophenol					108	88.5		10.0-153				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
N2	Analyte reported using a calibration and validation based on Azobenzene (CAS 103-33-3). 1,2-Diphenylhydrazine decomposes into Azobenzene during the analysis.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1Cp

2Tc

3Ss

4Cn

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Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹Cp

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⁸Al

⁹Sc

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM



ANALYTICAL REPORT

July 31, 2024

- ¹Cp
- ²Tc
- ³Ss
- ⁴Cn
- ⁵Sr
- ⁶Qc
- ⁷Gl
- ⁸Al
- ⁹Sc

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1751492
Samples Received: 06/28/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot
Site: CCR
Report To: Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

Shane Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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Cn: Case Narrative	4	
Sr: Sample Results	5	3 Ss
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POST POLISHED NO AMMONIA L1751492-01 WW

Collected by
Danny Daniels

Collected date/time
06/27/24 10:30

Received date/time
06/28/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2317955	1	07/12/24 08:07	07/12/24 08:07	JTM	Mt. Juliet, TN
Calculated Results	WG2318852	1	07/08/24 15:49	07/08/24 15:49	BMD	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2314305	1	06/28/24 17:04	07/01/24 12:06	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2316255	1	07/03/24 09:10	07/03/24 10:16	DLS	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2316569	1	07/04/24 13:30	07/04/24 13:30	KA	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG2315349	1	07/01/24 12:22	07/02/24 11:22	CAT	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG2314724	1	07/01/24 06:17	07/01/24 13:41	DAL	Mt. Juliet, TN
Wet Chemistry by Method 2120 B-2011	WG2314128	1	06/28/24 15:03	06/28/24 15:03	SJA	Mt. Juliet, TN
Wet Chemistry by Method 2130 B-2011	WG2314112	1	06/28/24 13:51	06/28/24 13:51	SJA	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2316363	1	07/03/24 09:34	07/03/24 09:34	BJM	Mt. Juliet, TN
Wet Chemistry by Method 2580	WG2316366	1	07/03/24 14:32	07/03/24 14:32	BJM	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2314005	1	06/28/24 20:37	06/28/24 20:37	JDG	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2318852	1	07/08/24 15:49	07/08/24 15:49	BMD	Mt. Juliet, TN
Wet Chemistry by Method 3500Cr B-2011	WG2314470	1	06/29/24 11:23	06/29/24 11:23	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2315616	1	07/01/24 21:55	07/02/24 15:04	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2315085	1	07/02/24 00:09	07/02/24 00:09	RTW	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG2318209	1	07/05/24 18:00	07/05/24 22:45	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500CI G-2011	WG2318605	1	07/07/24 12:24	07/07/24 12:24	CAH	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2317409	1	07/04/24 06:00	07/05/24 14:29	JAS	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2316202	1	07/03/24 18:15	07/03/24 18:15	KRB	Mt. Juliet, TN
Wet Chemistry by Method 4500O G-2016	WG2319029	1	07/08/24 12:08	07/08/24 12:08	BGE	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG2314125	1	06/28/24 15:44	06/28/24 15:44	SRA	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2315368	1	07/01/24 13:52	07/01/24 13:52	SJA	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2314884	1	07/07/24 10:15	07/07/24 10:15	SJA	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2314123	1	06/28/24 15:35	07/03/24 12:49	HMH	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2314223	1	06/28/24 16:07	07/03/24 13:11	HMH	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2318650	1	07/07/24 12:00	07/08/24 02:36	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2320202	1	07/11/24 00:15	07/11/24 00:15	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5540 C-2011	WG2314111	1	06/28/24 12:49	06/28/24 14:06	JAR	Mt. Juliet, TN
Mercury by Method 245.1	WG2314582	1	07/01/24 14:47	07/02/24 11:52	AKB	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2317955	1	07/11/24 22:23	07/12/24 08:07	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2317977	1	07/14/24 09:19	07/28/24 18:18	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2316293	1	07/02/24 20:50	07/02/24 20:50	DYW	Mt. Juliet, TN
TPH by TCEQ Method 1005	WG2316533	1	07/03/24 06:26	07/03/24 19:40	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2316105	1	07/04/24 06:48	07/05/24 12:03	DSH	Mt. Juliet, TN

1

Cp

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Tc

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Shane Gambill
Project Manager

Sample Delivery Group (SDG) Narrative

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Lab Sample ID	Project Sample ID	Method
L1751492-01	POST POLISHED NO AMMONIA	1664A, 4500O G-2016

The Laboratory is not accredited for specific analytes on the associated Sample/Method. These analytes are flagged in the Sample Results section of the report with an asterisk (*).

Lab Sample ID	Project Sample ID	Method
L1751492-01	POST POLISHED NO AMMONIA	300.0

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Trivalent	ND	T8	0.0100	1	07/12/2024 08:07	WG2317955
Organic Nitrogen	0.443		0.250	1	07/08/2024 15:49	WG2318852

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	381		10.0	1	07/01/2024 12:06	WG2314305

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Suspended Solids	ND		2.50	1	07/03/2024 10:16	WG2316255

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	687		10.0	1	07/04/2024 13:30	WG2316569

Sample Narrative:
L1751492-01 WG2316569: at 25C

Wet Chemistry by Method 130.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hardness (colorimetric) as CaCO3	ND		30.0	1	07/02/2024 11:22	WG2315349

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	ND		5.56	1	07/01/2024 13:41	WG2314724

Wet Chemistry by Method 2120 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Color, Apparent	1.00		1.00	1	06/28/2024 15:03	WG2314128

Sample Narrative:
L1751492-01 WG2314128: 9.25

Wet Chemistry by Method 2130 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Turbidity	0.689		0.400	1	06/28/2024 13:51	WG2314112

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	375		20.0	1	07/03/2024 09:34	WG2316363
Alkalinity, Bicarbonate	297		20.0	1	07/03/2024 09:34	WG2316363
Alkalinity, Carbonate	77.4		20.0	1	07/03/2024 09:34	WG2316363

Sample Narrative:

Collected date/time: 06/27/24 10:30

L1751492

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
L1751492-01 WG2316363: Endpoint pH 4.5 Headspace						

¹Cp

²Tc

Wet Chemistry by Method 2580

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	113	T8	1	07/03/2024 14:32	WG2316366

³Ss

⁴Cn

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	2.42		1.00	1	06/28/2024 20:37	WG2314005
Chloride	4.64		1.00	1	06/28/2024 20:37	WG2314005
Fluoride	ND		0.150	1	06/28/2024 20:37	WG2314005
Nitrate as (N)	0.149		0.100	1	06/28/2024 20:37	WG2314005
Nitrite as (N)	ND		0.100	1	06/28/2024 20:37	WG2314005
Sulfate	ND		5.00	1	06/28/2024 20:37	WG2314005

⁵Sr

⁶Qc

⁷Gl

⁸Al

Wet Chemistry by Method 350.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	ND		0.250	1	07/08/2024 15:49	WG2318852

⁹Sc

Wet Chemistry by Method 3500Cr B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	06/29/2024 11:23	WG2314470

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.443		0.250	1	07/02/2024 15:04	WG2315616

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	ND		0.100	1	07/02/2024 00:09	WG2315085

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	ND		20.0	1	07/05/2024 22:45	WG2318209

Wet Chemistry by Method 4500Cl G-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chlorine,residual	ND	T8	0.100	1	07/07/2024 12:24	WG2318605

Wet Chemistry by Method 4500CN E-2016

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	07/05/2024 14:29	WG2317409

Collected date/time: 06/27/24 10:30

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.22	T8	1	07/03/2024 18:15	WG2316202

Sample Narrative:
L1751492-01 WG2316202: 9.22 at 23.1C

Wet Chemistry by Method 4500O G-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Oxygen	11.8 at 7.2c	T8	3	1	07/08/2024 12:08	WG2319029

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Phosphate,Ortho	0.288		0.0300	1	06/28/2024 15:44	WG2314125

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfide	ND		0.0500	1	07/01/2024 13:52	WG2315368

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfite	ND	T8	3.00	1	07/07/2024 10:15	WG2314884

Wet Chemistry by Method 5210 B-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
BOD	ND		3.33	1	07/03/2024 12:49	WG2314123
CBOD	ND		3.33	1	07/03/2024 13:11	WG2314223

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
DOC	1.19	B T8	1.00	1	07/08/2024 02:36	WG2318650

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	1.04	B	1.00	1	07/11/2024 00:15	WG2320202

Wet Chemistry by Method 5540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
MBAS	ND		0.100	1	06/28/2024 14:06	WG2314111

Mercury by Method 245.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	07/02/2024 11:52	WG2314582

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 06/27/24 10:30

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Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	ND		0.200	1	07/12/2024 08:07	WG2317955
Antimony	ND		0.0100	1	07/12/2024 08:07	WG2317955
Arsenic	ND		0.0100	1	07/12/2024 08:07	WG2317955
Barium	ND		0.00500	1	07/12/2024 08:07	WG2317955
Beryllium	ND		0.00200	1	07/12/2024 08:07	WG2317955
Cadmium	ND		0.00200	1	07/12/2024 08:07	WG2317955
Chromium	ND		0.0100	1	07/12/2024 08:07	WG2317955
Copper	ND		0.0100	1	07/12/2024 08:07	WG2317955
Lead	ND		0.00500	1	07/12/2024 08:07	WG2317955
Lithium	ND		0.0150	1	07/12/2024 08:07	WG2317955
Nickel	ND		0.0100	1	07/12/2024 08:07	WG2317955
Selenium	ND		0.0100	1	07/12/2024 08:07	WG2317955
Silicon	3.86		0.200	1	07/12/2024 08:07	WG2317955
Silver	ND		0.00500	1	07/12/2024 08:07	WG2317955
Strontium	ND		0.0100	1	07/12/2024 08:07	WG2317955
Thallium	ND		0.0100	1	07/12/2024 08:07	WG2317955
Vanadium	ND		0.0200	1	07/12/2024 08:07	WG2317955
Zinc	ND		0.0500	1	07/12/2024 08:07	WG2317955
Phosphorus	0.571		0.100	1	07/12/2024 08:07	WG2317955

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	0.628		0.0400	1	07/28/2024 18:18	WG2317977
Calcium	ND		1.00	1	07/28/2024 18:18	WG2317977
Cobalt	ND		0.00200	1	07/28/2024 18:18	WG2317977
Iron	ND		0.100	1	07/28/2024 18:18	WG2317977
Magnesium	ND		1.00	1	07/28/2024 18:18	WG2317977
Manganese	ND		0.00500	1	07/28/2024 18:18	WG2317977
Molybdenum	ND		0.00500	1	07/28/2024 18:18	WG2317977
Potassium	ND		1.00	1	07/28/2024 18:18	WG2317977
Sodium	167		2.00	1	07/28/2024 18:18	WG2317977
Tin	ND		0.00400	1	07/28/2024 18:18	WG2317977
Titanium	ND		0.0100	1	07/28/2024 18:18	WG2317977

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/02/2024 20:50	WG2316293
Bromodichloromethane	ND		0.00100	1	07/02/2024 20:50	WG2316293
Bromoform	ND		0.00100	1	07/02/2024 20:50	WG2316293
Bromomethane	ND		0.00500	1	07/02/2024 20:50	WG2316293
Carbon tetrachloride	ND		0.00100	1	07/02/2024 20:50	WG2316293
Chlorobenzene	ND		0.00100	1	07/02/2024 20:50	WG2316293
Chlorodibromomethane	ND		0.00100	1	07/02/2024 20:50	WG2316293
Chloroethane	ND		0.00500	1	07/02/2024 20:50	WG2316293
2-Chloroethyl vinyl ether	ND		0.0500	1	07/02/2024 20:50	WG2316293
Chloroform	ND		0.00500	1	07/02/2024 20:50	WG2316293
Chloromethane	ND		0.00250	1	07/02/2024 20:50	WG2316293
1,2-Dichlorobenzene	ND		0.00100	1	07/02/2024 20:50	WG2316293
1,3-Dichlorobenzene	ND		0.00100	1	07/02/2024 20:50	WG2316293
1,4-Dichlorobenzene	ND		0.00100	1	07/02/2024 20:50	WG2316293
Dichlorodifluoromethane	ND		0.00500	1	07/02/2024 20:50	WG2316293
1,1-Dichloroethane	ND		0.00100	1	07/02/2024 20:50	WG2316293
1,2-Dichloroethane	ND		0.00100	1	07/02/2024 20:50	WG2316293

Collected date/time: 06/27/24 10:30

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Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	ND		0.00100	1	07/02/2024 20:50	WG2316293
trans-1,2-Dichloroethene	ND		0.00100	1	07/02/2024 20:50	WG2316293
1,2-Dichloropropane	ND		0.00100	1	07/02/2024 20:50	WG2316293
cis-1,3-Dichloropropene	ND		0.00100	1	07/02/2024 20:50	WG2316293
trans-1,3-Dichloropropene	ND		0.00100	1	07/02/2024 20:50	WG2316293
Ethylbenzene	ND		0.00100	1	07/02/2024 20:50	WG2316293
Methylene Chloride	ND		0.00500	1	07/02/2024 20:50	WG2316293
Methyl tert-butyl ether	ND		0.00100	1	07/02/2024 20:50	WG2316293
Naphthalene	ND		0.00500	1	07/02/2024 20:50	WG2316293
1,1,2,2-Tetrachloroethane	ND		0.00100	1	07/02/2024 20:50	WG2316293
Tetrachloroethene	ND		0.00100	1	07/02/2024 20:50	WG2316293
Toluene	0.00276		0.00100	1	07/02/2024 20:50	WG2316293
1,1,1-Trichloroethane	ND		0.00100	1	07/02/2024 20:50	WG2316293
1,1,2-Trichloroethane	ND		0.00100	1	07/02/2024 20:50	WG2316293
Trichloroethene	ND		0.00100	1	07/02/2024 20:50	WG2316293
Trichlorofluoromethane	ND		0.00500	1	07/02/2024 20:50	WG2316293
Vinyl chloride	ND		0.00100	1	07/02/2024 20:50	WG2316293
o-Xylene	ND		0.00100	1	07/02/2024 20:50	WG2316293
m&p-Xylene	ND		0.00200	1	07/02/2024 20:50	WG2316293
Xylenes, Total	ND		0.00300	1	07/02/2024 20:50	WG2316293
(S) Toluene-d8	111		80.0-120		07/02/2024 20:50	WG2316293
(S) 4-Bromofluorobenzene	104		80.0-120		07/02/2024 20:50	WG2316293
(S) 1,2-Dichloroethane-d4	107		70.0-130		07/02/2024 20:50	WG2316293

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

TPH by TCEQ Method 1005

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH C6 - C12	ND		0.900	1	07/03/2024 19:40	WG2316533
TPH C12 - C28	ND		0.900	1	07/03/2024 19:40	WG2316533
TPH C28 - C35	ND		0.900	1	07/03/2024 19:40	WG2316533
TPH C6 - C35	ND		0.900	1	07/03/2024 19:40	WG2316533
(S) o-Terphenyl	112		70.0-130		07/03/2024 19:40	WG2316533
(S) 1-chlorooctane	94.0		70.0-130		07/03/2024 19:40	WG2316533

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

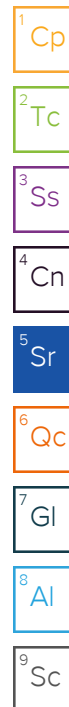
Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Acenaphthylene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Anthracene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Benzidine	ND		0.0100	1	07/05/2024 12:03	WG2316105
Benzo(a)anthracene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Benzo(b)fluoranthene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Benzo(k)fluoranthene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Benzo(g,h,i)perylene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Benzo(a)pyrene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Bis(2-chlorethoxy)methane	ND		0.0100	1	07/05/2024 12:03	WG2316105
Bis(2-chloroethyl)ether	ND		0.0100	1	07/05/2024 12:03	WG2316105
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	07/05/2024 12:03	WG2316105
4-Bromophenyl-phenylether	ND		0.0100	1	07/05/2024 12:03	WG2316105
2-Chloronaphthalene	ND		0.00100	1	07/05/2024 12:03	WG2316105
4-Chlorophenyl-phenylether	ND		0.0100	1	07/05/2024 12:03	WG2316105
Chrysene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Dibenz(a,h)anthracene	ND		0.00100	1	07/05/2024 12:03	WG2316105
3,3-Dichlorobenzidine	ND		0.0100	1	07/05/2024 12:03	WG2316105

Collected date/time: 06/27/24 10:30

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Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
2,4-Dinitrotoluene	ND		0.0100	1	07/05/2024 12:03	WG2316105
2,6-Dinitrotoluene	ND		0.0100	1	07/05/2024 12:03	WG2316105
1,2-Diphenylhydrazine	ND	N2	0.0100	1	07/05/2024 12:03	WG2316105
Fluoranthene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Fluorene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Hexachlorobenzene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Hexachloro-1,3-butadiene	ND		0.0100	1	07/05/2024 12:03	WG2316105
Hexachlorocyclopentadiene	ND		0.0100	1	07/05/2024 12:03	WG2316105
Hexachloroethane	ND		0.0100	1	07/05/2024 12:03	WG2316105
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Isophorone	ND		0.0100	1	07/05/2024 12:03	WG2316105
Naphthalene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Nitrobenzene	ND		0.0100	1	07/05/2024 12:03	WG2316105
n-Nitrosodimethylamine	ND		0.0100	1	07/05/2024 12:03	WG2316105
n-Nitrosodiphenylamine	ND		0.0100	1	07/05/2024 12:03	WG2316105
n-Nitrosodi-n-propylamine	ND		0.0100	1	07/05/2024 12:03	WG2316105
Phenanthrene	ND		0.00100	1	07/05/2024 12:03	WG2316105
Benzylbutyl phthalate	ND		0.00300	1	07/05/2024 12:03	WG2316105
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	07/05/2024 12:03	WG2316105
Di-n-butyl phthalate	0.00873		0.00300	1	07/05/2024 12:03	WG2316105
Diethyl phthalate	ND		0.00300	1	07/05/2024 12:03	WG2316105
Dimethyl phthalate	ND		0.00300	1	07/05/2024 12:03	WG2316105
Di-n-octyl phthalate	ND		0.00300	1	07/05/2024 12:03	WG2316105
Pyrene	ND		0.00100	1	07/05/2024 12:03	WG2316105
1,2,4-Trichlorobenzene	ND		0.0100	1	07/05/2024 12:03	WG2316105
4-Chloro-3-methylphenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
2-Chlorophenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
2,4-Dichlorophenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
2,4-Dimethylphenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
4,6-Dinitro-2-methylphenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
2,4-Dinitrophenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
2-Nitrophenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
4-Nitrophenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
Pentachlorophenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
Phenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
2,4,6-Trichlorophenol	ND		0.0100	1	07/05/2024 12:03	WG2316105
(S) Nitrobenzene-d5	60.9		15.0-314		07/05/2024 12:03	WG2316105
(S) 2-Fluorobiphenyl	71.8		22.0-127		07/05/2024 12:03	WG2316105
(S) p-Terphenyl-d14	92.4		29.0-141		07/05/2024 12:03	WG2316105
(S) Phenol-d5	23.6		8.00-424		07/05/2024 12:03	WG2316105
(S) 2-Fluorophenol	32.2		10.0-120		07/05/2024 12:03	WG2316105
(S) 2,4,6-Tribromophenol	98.4		10.0-153		07/05/2024 12:03	WG2316105



Gravimetric Analysis by Method 2540 C-2011 [L1751492-01](#)

Method Blank (MB)

(MB) R4089421-1 07/01/24 12:06

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751418-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751418-03 07/01/24 12:06 • (DUP) R4089421-3 07/01/24 12:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	366	370	1	1.09		10

L1751425-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751425-01 07/01/24 12:06 • (DUP) R4089421-4 07/01/24 12:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	187	198	1	5.71		10

Laboratory Control Sample (LCS)

(LCS) R4089421-2 07/01/24 12:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8470	96.3	85.0-115	

Method Blank (MB)

(MB) R4090455-1 07/03/24 10:16

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Suspended Solids	U		2.50	2.50

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1751273-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751273-01 07/03/24 10:16 • (DUP) R4090455-3 07/03/24 10:16

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Suspended Solids	24.4	22.4	1	8.55		10

L1751421-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751421-01 07/03/24 10:16 • (DUP) R4090455-4 07/03/24 10:16

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Suspended Solids	151	165	1	8.86		10

Laboratory Control Sample (LCS)

(LCS) R4090455-2 07/03/24 10:16

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Suspended Solids	773	740	95.7	85.0-115	

Method Blank (MB)

(MB) R4090126-1 07/04/24 13:30

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1751097-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751097-01 07/04/24 13:30 • (DUP) R4090126-3 07/04/24 13:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	122	122	1	0.000		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1752665-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752665-01 07/04/24 13:30 • (DUP) R4090126-4 07/04/24 13:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	492	492	1	0.000		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4090126-2 07/04/24 13:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	721	98.4	85.0-115	

Sample Narrative:
LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4089079-1 07/02/24 11:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hardness (colorimetric) as CaCO3	U		15.0	30.0

L1751602-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-01 07/02/24 11:25 • (DUP) R4089079-5 07/02/24 11:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	110	108	1	1.83		20

L1751602-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-04 07/02/24 11:30 • (DUP) R4089079-6 07/02/24 11:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	85.7	85.5	1	0.234		20

Laboratory Control Sample (LCS)

(LCS) R4089079-2 07/02/24 11:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hardness (colorimetric) as CaCO3	100	105	105	85.0-115	

L1750497-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750497-01 07/02/24 11:09 • (MS) R4089079-3 07/02/24 11:11 • (MSD) R4089079-4 07/02/24 11:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hardness (colorimetric) as CaCO3	100	ND	100	100	100	100	1	80.0-120			0.000	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4088754-1 07/01/24 13:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	U		1.16	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4088754-2 07/01/24 13:41 • (LCSD) R4088754-3 07/01/24 13:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	35.2	35.3	88.0	88.3	78.0-114			0.284	20

L1751478-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751478-01 07/01/24 13:41 • (MS) R4088754-4 07/01/24 13:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	ND	39.4	98.6	1	78.0-114	

Wet Chemistry by Method 2120 B-2011

[L1751492-01](#)

L1751446-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751446-01 06/28/24 15:03 • (DUP) R4087861-1 06/28/24 15:03

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pcu	pcu		%		%
Color, Apparent	1.00	1.00	1	0.000		20

Sample Narrative:

OS: 7.90

DUP: 7.89

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 2130 B-2011

[L1751492-01](#)

Method Blank (MB)

(MB) R4087822-1 06/28/24 13:51

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	NTU		NTU	NTU
Turbidity	U		0.200	0.400

L1751446-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751446-01 06/28/24 13:51 • (DUP) R4087822-3 06/28/24 13:51

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	NTU	NTU		%		%
Turbidity	ND	ND	1	0.358		20

L1751503-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751503-01 06/28/24 13:51 • (DUP) R4087822-4 06/28/24 13:51

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	NTU	NTU		%		%
Turbidity	0.855	0.815	1	4.79		20

Laboratory Control Sample (LCS)

(LCS) R4087822-2 06/28/24 13:51

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	NTU	NTU	%	%	
Turbidity	40.0	43.2	108	90.0-110	

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Wet Chemistry by Method 2320 B-2011

L1751492-01

Method Blank (MB)

(MB) R4089808-2 07/03/24 09:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0
Alkalinity,Bicarbonate	U		8.45	20.0
Alkalinity,Carbonate	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1751454-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751454-01 07/03/24 09:18 • (DUP) R4089808-3 07/03/24 09:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	188	189	1	0.396		20
Alkalinity,Bicarbonate	188	189	1	0.396		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1752590-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752590-01 07/03/24 11:02 • (DUP) R4089808-4 07/03/24 11:07

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	163	165	1	1.60		20
Alkalinity,Bicarbonate	160	163	1	1.75		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4089808-1 07/03/24 09:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Alkalinity	100	101	101	90.0-110	

Sample Narrative:
LCS: Endpoint pH 4.5

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751210-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1751210-12 07/03/24 14:32 • (DUP) R4089766-3 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	142	136	1	6.10		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751478-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751478-01 07/03/24 14:32 • (DUP) R4089766-4 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	167	170	1	2.80		20

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 07/03/24 14:32 • (DUP) R4089766-5 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	113	110	1	3.20		20

L1751514-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751514-01 07/03/24 14:32 • (DUP) R4089766-6 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	163	166	1	2.90		20

L1751541-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751541-01 07/03/24 14:32 • (DUP) R4089766-7 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	215	215	1	0.000		20

L1752035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752035-01 07/03/24 14:32 • (DUP) R4089766-8 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	134	134	1	0.700		20

L1752035-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1752035-02 07/03/24 14:32 • (DUP) R4089766-9 07/03/24 14:32

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	<u>DUP Qualifier</u>	DUP Diff Limits mV
ORP	146	144	1	2.50		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4089766-1 07/03/24 14:32 • (LCSD) R4089766-2 07/03/24 14:32

Analyte	Spike Amount mV	LCS Result mV	LCSD Result mV	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	Diff mV	Diff Limits mV
ORP	238	227	223	95.3	93.8	90.0-110			3.70	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 300.0

L1751492-01

Method Blank (MB)

(MB) R4088122-1 06/28/24 09:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Nitrate as (N)	U		0.0480	0.100
Nitrite as (N)	U		0.0420	0.100
Sulfate	U		0.594	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751525-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1751525-08 06/28/24 14:22 • (DUP) R4088122-3 06/28/24 14:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	2.56	2.59	1	0.936		15
Fluoride	0.460	0.459	1	0.240		15
Nitrate as (N)	0.811	0.825	1	1.65		15
Nitrite as (N)	ND	ND	1	200	P1	15
Sulfate	56.8	56.9	1	0.0781		15

L1751418-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751418-03 06/28/24 18:29 • (DUP) R4088122-6 06/28/24 18:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	0.000		15
Chloride	2.69	2.71	1	0.755		15
Fluoride	ND	ND	1	10.8		15
Nitrate as (N)	1.04	1.05	1	0.775		15
Nitrite as (N)	ND	ND	1	0.000		15
Sulfate	6.94	7.00	1	0.953		15

Laboratory Control Sample (LCS)

(LCS) R4088122-2 06/28/24 10:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	38.6	96.4	90.0-110	
Chloride	40.0	38.7	96.8	90.0-110	

Laboratory Control Sample (LCS)

(LCS) R4088122-2 06/28/24 10:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluoride	8.00	8.18	102	90.0-110	
Nitrate as (N)	8.00	7.72	96.5	90.0-110	
Nitrite as (N)	8.00	8.23	103	90.0-110	
Sulfate	40.0	38.8	97.0	90.0-110	

L1751525-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751525-08 06/28/24 14:22 • (MS) R4088122-4 06/28/24 14:48 • (MSD) R4088122-5 06/28/24 15:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Bromide	40.0	2.56	40.4	40.4	94.5	94.6	1	80.0-120			0.0659	15
Fluoride	8.00	0.460	8.67	8.69	103	103	1	80.0-120			0.234	15
Nitrate as (N)	8.00	0.811	8.60	8.64	97.4	97.8	1	80.0-120			0.386	15
Nitrite as (N)	8.00	ND	8.31	8.33	103	103	1	80.0-120			0.161	15
Sulfate	40.0	56.8	85.4	85.4	71.4	71.5	1	80.0-120	J6	J6	0.0479	15

L1751418-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751418-03 06/28/24 18:29 • (MS) R4088122-7 06/28/24 18:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Bromide	40.0	ND	39.8	99.4	1	80.0-120	
Chloride	40.0	2.69	41.1	95.9	1	80.0-120	
Fluoride	8.00	ND	8.32	102	1	80.0-120	
Nitrate as (N)	8.00	1.04	8.71	95.9	1	80.0-120	
Nitrite as (N)	8.00	ND	8.15	102	1	80.0-120	
Sulfate	40.0	6.94	44.7	94.4	1	80.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 350.1

L1751492-01

Method Blank (MB)

(MB) R4091242-1 07/08/24 15:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	U		0.117	0.250

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751504-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751504-01 07/08/24 15:51 • (DUP) R4091242-3 07/08/24 15:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	4.19	4.17	1	0.574		10

L1751602-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-06 07/08/24 16:27 • (DUP) R4091242-6 07/08/24 16:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	ND	ND	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R4091242-2 07/08/24 15:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.31	97.4	90.0-110	

L1751504-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751504-01 07/08/24 15:51 • (MS) R4091242-4 07/08/24 15:54 • (MSD) R4091242-5 07/08/24 15:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	4.19	8.95	9.12	95.0	98.6	1	90.0-110			1.96	10

L1751602-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751602-06 07/08/24 16:27 • (MS) R4091242-7 07/08/24 16:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	ND	5.02	100	1	90.0-110	

Wet Chemistry by Method 3500Cr B-2011

[L1751492-01](#)

Method Blank (MB)

(MB) R4088099-1 06/29/24 11:20

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Chromium,Hexavalent	U		0.00300	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 06/29/24 11:23 • (DUP) R4088099-5 06/29/24 11:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4088099-2 06/29/24 11:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Chromium,Hexavalent	0.500	0.539	108	80.0-120	

L1751478-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751478-01 06/29/24 11:23 • (MS) R4088099-3 06/29/24 11:23 • (MSD) R4088099-4 06/29/24 11:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chromium,Hexavalent	0.500	ND	0.525	0.493	105	98.6	1	75.0-125			6.29	20

Method Blank (MB)

(MB) R4089234-1 07/02/24 14:52

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Kjeldahl Nitrogen, TKN	U		0.140	0.250

L1750623-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1750623-02 07/02/24 14:55 • (DUP) R4089234-3 07/02/24 14:56

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Kjeldahl Nitrogen, TKN	1.00	0.938	1	6.40		20

Laboratory Control Sample (LCS)

(LCS) R4089234-2 07/02/24 14:54

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Kjeldahl Nitrogen, TKN	12.3	13.5	110	80.0-120	

L1750623-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750623-02 07/02/24 14:55 • (MS) R4089234-4 07/02/24 14:58 • (MSD) R4089234-5 07/02/24 14:59

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Kjeldahl Nitrogen, TKN	5.00	1.00	7.43	7.30	129	126	1	90.0-110	<u>J5</u>	<u>J5</u>	1.77	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4088907-1 07/01/24 23:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate-Nitrite	U		0.0500	0.100

L1751481-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-03 07/02/24 00:03 • (DUP) R4088907-3 07/02/24 00:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits %
Nitrate-Nitrite	0.458	0.455	1	0.657	20

L1751561-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751561-01 07/02/24 00:20 • (DUP) R4088907-6 07/02/24 00:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits %
Nitrate-Nitrite	1.20	1.24	1	3.28	20

Laboratory Control Sample (LCS)

(LCS) R4088907-2 07/02/24 00:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.65	106	90.0-110	

L1751492-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751492-01 07/02/24 00:09 • (MS) R4088907-4 07/02/24 00:15 • (MSD) R4088907-5 07/02/24 00:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	2.50	ND	2.52	2.60	101	104	1	90.0-110			3.13	20

L1751763-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751763-02 07/02/24 00:39 • (MS) R4088907-7 07/02/24 00:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	0.621	3.20	103	1	90.0-110	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 410.4 [L1751492-01](#)

Method Blank (MB)

(MB) R4090611-1 07/05/24 22:45

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
COD	U		11.7	20.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1752003-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752003-01 07/05/24 22:46 • (DUP) R4090611-5 07/05/24 22:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
COD	445	411	1	8.02		20

L1752014-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752014-01 07/05/24 22:47 • (DUP) R4090611-6 07/05/24 22:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
COD	503	502	1	0.163		20

Laboratory Control Sample (LCS)

(LCS) R4090611-2 07/05/24 22:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
COD	500	507	101	90.0-110	

L1751492-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751492-01 07/05/24 22:45 • (MS) R4090611-3 07/05/24 22:45 • (MSD) R4090611-4 07/05/24 22:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
COD	500	ND	497	500	99.4	100	1	90.0-110			0.678	20

Wet Chemistry by Method 4500Cl G-2011 [L1751492-01](#)

Method Blank (MB)

(MB) R4090818-1 07/07/24 12:21

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Chlorine,residual	U		0.0260	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1752000-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1752000-05 07/07/24 12:29 • (DUP) R4090818-3 07/07/24 12:29

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Chlorine,residual	ND	0.106	1	10.9		20

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R4090818-2 07/07/24 12:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Chlorine,residual	1.00	0.910	91.0	85.0-115	

⁹Sc

Method Blank (MB)

(MB) R4090492-1 07/05/24 14:18

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.00180	0.00500

L1751481-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-06 07/05/24 14:26 • (DUP) R4090492-3 07/05/24 14:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	ND	1	0.000		20

L1751604-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751604-03 07/05/24 14:41 • (DUP) R4090492-6 07/05/24 14:42

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4090492-2 07/05/24 14:19

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Cyanide	0.100	0.102	102	87.1-120	

L1751604-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751604-02 07/05/24 14:36 • (MS) R4090492-4 07/05/24 14:38 • (MSD) R4090492-5 07/05/24 14:39

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0908	0.0983	90.8	98.3	1	90.0-110			7.93	20

L1753243-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753243-01 07/05/24 15:04 • (MS) R4090492-7 07/05/24 15:05 • (MSD) R4090492-8 07/05/24 15:09

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0893	0.0943	89.3	94.3	1	90.0-110	J6		5.45	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751481-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-01 07/03/24 18:15 • (DUP) R4089964-2 07/03/24 18:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.70	7.70	1	0.000		1

Sample Narrative:

OS: 7.7 at 22.8C

DUP: 7.7 at 22.9C

L1751602-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-03 07/03/24 18:15 • (DUP) R4089964-3 07/03/24 18:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.36	7.36	1	0.000		1

Sample Narrative:

OS: 7.36 at 23C

DUP: 7.36 at 23.8C

Laboratory Control Sample (LCS)

(LCS) R4089964-1 07/03/24 18:15

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 23.7C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 4500P E-2011

[L1751492-01](#)

Method Blank (MB)

(MB) R4087876-1 06/28/24 15:26

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Phosphate,Ortho	U		0.0140	0.0300

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 06/28/24 15:44 • (DUP) R4087876-3 06/28/24 15:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Phosphate,Ortho	0.288	0.294	1	2.06		20

Laboratory Control Sample (LCS)

(LCS) R4087876-2 06/28/24 15:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Phosphate,Ortho	0.245	0.274	112	85.0-115	

L1751541-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751541-01 06/28/24 15:45 • (MS) R4087876-4 06/28/24 15:46 • (MSD) R4087876-5 06/28/24 15:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Phosphate,Ortho	0.500	0.0300	0.461	0.444	86.2	82.8	1	80.0-120			3.76	20

Method Blank (MB)

(MB) R4088721-1 07/01/24 13:48

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Sulfide	U		0.0250	0.0500

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751362-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751362-03 07/01/24 13:49 • (DUP) R4088721-3 07/01/24 13:50

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Sulfide	ND	ND	1	200	P1	20

L1752169-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1752169-03 07/01/24 13:55 • (DUP) R4088721-6 07/01/24 13:55

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Sulfide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4088721-2 07/01/24 13:49

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Sulfide	0.500	0.466	93.2	85.0-115	

L1751407-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751407-02 07/01/24 13:50 • (MS) R4088721-4 07/01/24 13:51 • (MSD) R4088721-5 07/01/24 13:51

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Sulfide	1.00	0.394	0.953	1.05	55.9	66.0	2	80.0-120	J6	J6	10.1	20

Wet Chemistry by Method 4500SO3 B-2011

L1751492-01

Method Blank (MB)

(MB) R4090829-1 07/07/24 10:15

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Sulfite	U		1.19	3.00

L1751541-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751541-01 07/07/24 10:15 • (DUP) R4090829-4 07/07/24 10:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Sulfite	65.0	65.0	5	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4090829-2 07/07/24 10:15 • (LCSD) R4090829-3 07/07/24 10:15

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Sulfite	20.0	17.5	17.0	87.5	85.0	85.0-115			2.90	20

L1752123-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752123-01 07/07/24 10:15 • (MS) R4090829-5 07/07/24 10:15 • (MSD) R4090829-6 07/07/24 10:15

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Sulfite	20.0	ND	16.5	16.5	82.5	82.5	1	85.0-115	J6	J6	0.000	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 5210 B-2016

[L1751492-01](#)

Method Blank (MB)

(MB) R4089929-1 07/03/24 08:24

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
BOD	U		0.200	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751481-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-01 07/03/24 11:45 • (DUP) R4089929-3 07/03/24 11:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
BOD	ND	ND	1	0		30

L1751681-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1751681-02 07/03/24 12:33 • (DUP) R4089929-4 07/03/24 12:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
BOD	13.9	12.7	1	9.01		30

Laboratory Control Sample (LCS)

(LCS) R4089929-2 07/03/24 11:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
BOD	198	197	99.4	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4089929-5 07/03/24 12:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
BOD	198	194	97.8	84.6-115	

Wet Chemistry by Method 5210 B-2016

[L1751492-01](#)

Method Blank (MB)

(MB) R4089930-1 07/03/24 08:24

Analyte	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
	mg/l		mg/l	mg/l
CBOD	U		0.200	0.200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1751130-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1751130-02 07/03/24 12:59 • (DUP) R4089930-3 07/03/24 13:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
	mg/l	mg/l		%		%
CBOD	ND	ND	1	0		30

Laboratory Control Sample (LCS)

(LCS) R4089930-2 07/03/24 08:36

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	mg/l	mg/l	%	%	
CBOD	198	199	100	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4089930-4 07/03/24 13:19

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	mg/l	mg/l	%	%	
CBOD	198	197	99.3	84.6-115	

Wet Chemistry by Method 5310 B-2014

[L1751492-01](#)

Method Blank (MB)

(MB) R4091056-2 07/08/24 01:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
DOC	0.191	⬇	0.106	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751680-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751680-01 07/08/24 05:15 • (DUP) R4091056-5 07/08/24 05:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	12.0	12.0	1	0.667		20

L1754024-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1754024-09 07/08/24 08:39 • (DUP) R4091056-6 07/08/24 08:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	6.95	7.55	1	8.29		20

Laboratory Control Sample (LCS)

(LCS) R4091056-1 07/08/24 01:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
DOC	25.0	25.5	102	85.0-115	

L1754024-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754024-10 07/08/24 09:14 • (MS) R4091056-7 07/08/24 09:43 • (MSD) R4091056-8 07/08/24 10:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
DOC	25.0	3.59	28.2	29.0	98.4	102	1	80.0-120			2.97	20

Method Blank (MB)

(MB) R4092744-2 07/10/24 11:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.141	⬇	0.102	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751478-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751478-01 07/10/24 19:57 • (DUP) R4092744-3 07/10/24 20:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	ND	ND	1	27.5	P1	20

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 07/11/24 00:15 • (DUP) R4092744-4 07/11/24 00:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	1.04	ND	1	8.28		20

Laboratory Control Sample (LCS)

(LCS) R4092744-1 07/10/24 11:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	24.8	99.3	85.0-115	

L1751514-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751514-01 07/11/24 00:55 • (MS) R4092744-5 07/11/24 01:18 • (MSD) R4092744-6 07/11/24 01:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	19.9	43.3	43.5	93.6	94.3	1	85.0-115			0.415	20

L1751481-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751481-01 07/11/24 03:44 • (MS) R4092744-7 07/11/24 04:06 • (MSD) R4092744-8 07/11/24 04:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	9.28	32.3	32.2	92.0	91.6	1	85.0-115			0.279	20

Method Blank (MB)

(MB) R4087820-1 06/28/24 14:01

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
MBAS	U		0.0190	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751529-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751529-01 06/28/24 14:11 • (DUP) R4087820-5 06/28/24 14:12

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
MBAS	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4087820-2 06/28/24 14:01

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
MBAS	1.00	0.956	95.6	85.0-115	

L1751514-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751514-01 06/28/24 14:06 • (MS) R4087820-3 06/28/24 14:09 • (MSD) R4087820-4 06/28/24 14:10

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
MBAS	1.00	ND	0.925	0.866	92.5	86.6	1	85.0-115			6.59	20

Method Blank (MB)

(MB) R4089206-7 07/02/24 12:21

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Mercury	U		0.000100	0.000200

Laboratory Control Sample (LCS)

(LCS) R4089206-1 07/02/24 10:56

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Mercury	0.00300	0.00340	113	85.0-115	

L1750960-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750960-01 07/02/24 10:59 • (MS) R4089206-3 07/02/24 11:09 • (MSD) R4089206-4 07/02/24 11:12

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00343	0.00331	110	106	1	70.0-130			3.56	20

L1751456-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751456-01 07/02/24 11:15 • (MS) R4089206-5 07/02/24 11:17 • (MSD) R4089206-6 07/02/24 11:20

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00346	0.00334	111	107	1	70.0-130			3.42	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Metals (ICP) by Method 200.7

L1751492-01

Method Blank (MB)

(MB) R4093057-1 07/12/24 07:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum	U		0.0592	0.200
Antimony	U		0.00398	0.0100
Arsenic	U		0.00645	0.0100
Barium	U		0.000795	0.00500
Beryllium	U		0.000401	0.00200
Cadmium	U		0.000552	0.00200
Chromium	U		0.00163	0.0100
Copper	U		0.00226	0.0100
Lead	U		0.00227	0.00500
Lithium	U		0.00689	0.0150
Nickel	U		0.00182	0.0100
Selenium	U		0.00616	0.0100
Silicon	U		0.0771	0.200
Silver	0.00480	U	0.00131	0.00500
Strontium	U		0.000683	0.0100
Thallium	U		0.00460	0.0100
Vanadium	U		0.00662	0.0200
Zinc	U		0.00578	0.0500
Phosphorus	U		0.00760	0.100

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4093057-2 07/12/24 07:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	10.6	106	85.0-115	
Antimony	1.00	1.04	104	85.0-115	
Arsenic	1.00	1.05	105	85.0-115	
Barium	1.00	1.01	101	85.0-115	
Beryllium	1.00	1.07	107	85.0-115	
Cadmium	1.00	1.05	105	85.0-115	
Chromium	1.00	1.07	107	85.0-115	
Copper	1.00	1.05	105	85.0-115	
Lead	1.00	1.01	101	85.0-115	
Lithium	1.00	1.04	104	85.0-115	
Nickel	1.00	0.974	97.4	85.0-115	
Selenium	1.00	1.01	101	85.0-115	
Silicon	1.00	0.992	99.2	85.0-115	
Silver	0.200	0.201	100	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4093057-2 07/12/24 07:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Strontium	1.00	1.07	107	85.0-115	
Thallium	1.00	1.08	108	85.0-115	
Vanadium	1.00	1.05	105	85.0-115	
Zinc	1.00	1.07	107	85.0-115	
Phosphorus	1.00	1.05	105	85.0-115	

L1751498-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751498-01 07/12/24 07:55 • (MS) R4093057-4 07/12/24 07:58 • (MSD) R4093057-5 07/12/24 08:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum	10.0	ND	10.6	10.5	106	105	1	70.0-130			0.629	20
Antimony	1.00	ND	1.05	1.04	105	104	1	70.0-130			1.03	20
Arsenic	1.00	ND	1.07	1.05	107	105	1	70.0-130			1.90	20
Barium	1.00	0.00588	1.03	1.02	102	101	1	70.0-130			1.28	20
Beryllium	1.00	ND	1.07	1.06	107	106	1	70.0-130			0.466	20
Cadmium	1.00	ND	1.06	1.05	106	105	1	70.0-130			0.338	20
Chromium	1.00	ND	1.07	1.07	107	107	1	70.0-130			0.208	20
Copper	1.00	ND	1.05	1.06	105	106	1	70.0-130			0.742	20
Lead	1.00	ND	1.02	1.02	102	102	1	70.0-130			0.0928	20
Lithium	1.00	ND	1.04	1.04	104	104	1	70.0-130			0.0627	20
Nickel	1.00	ND	0.987	0.990	98.7	99.0	1	70.0-130			0.262	20
Selenium	1.00	ND	1.04	1.03	104	103	1	70.0-130			0.741	20
Silicon	1.00	0.571	1.54	1.53	96.6	95.8	1	70.0-130			0.509	20
Silver	0.200	ND	0.198	0.196	97.0	95.8	1	70.0-130			1.29	20
Strontium	1.00	0.0306	1.09	1.09	106	106	1	70.0-130			0.172	20
Thallium	1.00	ND	1.11	1.09	111	109	1	70.0-130			1.33	20
Vanadium	1.00	ND	1.05	1.04	105	104	1	70.0-130			0.434	20
Zinc	1.00	ND	1.08	1.07	108	107	1	70.0-130			0.909	20
Phosphorus	1.00	ND	1.09	1.06	108	105	1	70.0-130			2.89	20

L1751515-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751515-01 07/12/24 10:07 • (MS) R4093057-8 07/12/24 10:08 • (MSD) R4093057-9 07/12/24 10:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum	10.0	2.44	11.9	11.9	94.6	94.8	5	70.0-130			0.189	20
Antimony	1.00	ND	0.997	0.971	96.0	93.3	5	70.0-130			2.67	20
Arsenic	1.00	ND	0.924	0.967	92.4	96.7	5	70.0-130			4.48	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Metals (ICP) by Method 200.7 [L1751492-01](#)

L1751515-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751515-01 07/12/24 10:07 • (MS) R4093057-8 07/12/24 10:08 • (MSD) R4093057-9 07/12/24 10:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Barium	1.00	0.117	1.03	1.03	91.3	90.9	5	70.0-130			0.423	20
Beryllium	1.00	ND	0.946	0.942	94.6	94.2	5	70.0-130			0.426	20
Cadmium	1.00	ND	0.924	0.911	92.4	91.1	5	70.0-130			1.46	20
Chromium	1.00	ND	0.964	0.960	96.4	96.0	5	70.0-130			0.426	20
Copper	1.00	ND	0.959	0.953	94.5	93.9	5	70.0-130			0.631	20
Lead	1.00	ND	0.991	0.973	99.1	97.3	5	70.0-130			1.78	20
Lithium	1.00	ND	0.928	0.928	92.8	92.8	5	70.0-130			0.0504	20
Nickel	1.00	0.262	1.22	1.22	95.9	95.5	5	70.0-130			0.303	20
Selenium	1.00	ND	0.968	0.958	93.2	92.2	5	70.0-130			1.05	20
Silicon	1.00	3.24	3.98	3.99	73.4	75.1	5	70.0-130			0.417	20
Silver	0.200	ND	0.173	0.170	86.7	84.8	5	70.0-130			2.19	20
Strontium	1.00	0.0899	1.04	1.03	94.6	93.9	5	70.0-130			0.662	20
Thallium	1.00	ND	1.09	1.08	109	108	5	70.0-130			1.35	20
Vanadium	1.00	ND	1.01	1.00	92.5	91.7	5	70.0-130			0.802	20
Zinc	1.00	ND	1.08	1.08	95.1	94.8	5	70.0-130			0.282	20
Phosphorus	1.00	ND	1.14	1.12	91.5	89.3	5	70.0-130			1.89	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Metals (ICPMS) by Method 200.8 [L1751492-01](#)

Method Blank (MB)

(MB) R4099390-1 07/28/24 16:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0177	0.0400
Calcium	U		0.112	1.00
Cobalt	U		0.000142	0.00200
Magnesium	U		0.0690	1.00
Manganese	U		0.000982	0.00500
Molybdenum	U		0.000841	0.00500
Potassium	U		0.151	1.00
Sodium	U		0.513	2.00
Tin	U		0.00106	0.00400
Titanium	U		0.00172	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4099398-1 07/28/24 17:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Iron	U		0.0447	0.100

Laboratory Control Sample (LCS)

(LCS) R4099390-2 07/28/24 16:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	0.0500	0.0534	107	85.0-115	
Calcium	5.00	5.28	106	85.0-115	
Cobalt	0.0500	0.0549	110	85.0-115	
Magnesium	5.00	5.24	105	85.0-115	
Manganese	0.0500	0.0526	105	85.0-115	
Molybdenum	0.0500	0.0525	105	85.0-115	
Potassium	5.00	5.17	103	85.0-115	
Sodium	5.00	5.34	107	85.0-115	
Tin	0.0500	0.0539	108	85.0-115	
Titanium	0.0500	0.0545	109	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4099398-2 07/28/24 17:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Iron	1.00	1.05	105	85.0-115	

L1751551-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751551-01 07/28/24 16:45 • (MS) R4099390-4 07/28/24 16:49 • (MSD) R4099390-5 07/28/24 16:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Boron	0.0500		0.140	0.137	109	103	1	70.0-130			2.25	20
Calcium	5.00		45.2	42.4	118	61.7	1	70.0-130		V	6.41	20
Cobalt	0.0500		0.0559	0.0532	105	99.3	1	70.0-130			5.02	20
Magnesium	5.00		24.1	22.7	112	84.2	1	70.0-130			5.85	20
Manganese	0.0500		1.77	1.67	137	0.000	1	70.0-130	V	V	6.31	20
Molybdenum	0.0500		0.0506	0.0525	101	105	1	70.0-130			3.75	20
Potassium	5.00		9.87	9.24	108	95.1	1	70.0-130			6.54	20
Sodium	5.00		20.7	19.5	114	89.1	1	70.0-130			6.28	20
Tin	0.0500		0.0514	0.0543	103	109	1	70.0-130			5.45	20
Titanium	0.0500		0.0510	0.0507	102	101	1	70.0-130			0.632	20

L1751703-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751703-02 07/28/24 17:01 • (MS) R4099390-6 07/28/24 17:04 • (MSD) R4099390-7 07/28/24 17:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Boron	0.0500	0.130	0.185	0.186	111	113	1	70.0-130			0.645	20
Calcium	5.00	11.9	17.0	17.0	103	102	1	70.0-130			0.111	20
Cobalt	0.0500	ND	0.0519	0.0541	104	108	1	70.0-130			4.16	20
Magnesium	5.00	4.33	9.59	9.79	105	109	1	70.0-130			2.11	20
Manganese	0.0500	0.00846	0.0575	0.0602	98.2	104	1	70.0-130			4.58	20
Molybdenum	0.0500	ND	0.0552	0.0557	107	108	1	70.0-130			0.886	20
Potassium	5.00	22.3	27.6	27.6	106	106	1	70.0-130			0.00795	20
Sodium	5.00	259	256	264	0.000	97.3	1	70.0-130	V		3.07	20
Tin	0.0500	ND	0.0551	0.0563	110	113	1	70.0-130			2.16	20
Titanium	0.0500	ND	0.0524	0.0507	105	101	1	70.0-130			3.42	20

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

L1751703-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751703-02 07/28/24 17:39 • (MS) R4099398-6 07/28/24 17:42 • (MSD) R4099398-7 07/28/24 17:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Iron	1.00	ND	1.03	1.03	103	103	1	70.0-130			0.693	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 624.1

L1751492-01

Method Blank (MB)

(MB) R4090590-4 07/02/24 16:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
2-Chloroethyl vinyl ether	U		0.000575	0.0500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
Ethylbenzene	U		0.000137	0.00100
Methylene Chloride	U		0.000430	0.00500
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
Vinyl chloride	U		0.000234	0.00100
o-Xylene	U		0.000174	0.00100
m&p-Xylene	U		0.000430	0.00200
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	111			80.0-120
(S) 4-Bromofluorobenzene	106			80.0-120
(S) 1,2-Dichloroethane-d4	106			70.0-130

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4090590-1 07/02/24 15:23 • (LCSD) R4090590-2 07/02/24 15:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00515	0.00532	103	106	65.0-135			3.25	20
Bromodichloromethane	0.00500	0.00490	0.00497	98.0	99.4	65.0-135			1.42	20
Bromoform	0.00500	0.00428	0.00439	85.6	87.8	70.0-130			2.54	20
Bromomethane	0.00500	0.00166	0.00181	33.2	36.2	15.0-185			8.65	20
Carbon tetrachloride	0.00500	0.00527	0.00528	105	106	70.0-130			0.190	20
Chlorobenzene	0.00500	0.00477	0.00497	95.4	99.4	65.0-135			4.11	20
Chlorodibromomethane	0.00500	0.00450	0.00462	90.0	92.4	70.0-135			2.63	20
Chloroethane	0.00500	0.00704	0.00711	141	142	40.0-160			0.989	20
2-Chloroethyl vinyl ether	0.0250	0.00788	0.00697	31.5	27.9	0.100-225			12.3	20
Chloroform	0.00500	0.00515	0.00521	103	104	70.0-135			1.16	20
Chloromethane	0.00500	0.00520	0.00512	104	102	0.100-205			1.55	20
1,2-Dichlorobenzene	0.00500	0.00498	0.00497	99.6	99.4	65.0-135			0.201	20
1,3-Dichlorobenzene	0.00500	0.00445	0.00460	89.0	92.0	70.0-130			3.31	20
1,4-Dichlorobenzene	0.00500	0.00466	0.00460	93.2	92.0	65.0-135			1.30	20
Dichlorodifluoromethane	0.00500	0.00667	0.00670	133	134	49.0-155			0.449	20
1,1-Dichloroethane	0.00500	0.00558	0.00571	112	114	70.0-130			2.30	20
1,2-Dichloroethane	0.00500	0.00525	0.00537	105	107	70.0-130			2.26	20
1,1-Dichloroethene	0.00500	0.00506	0.00532	101	106	50.0-150			5.01	20
trans-1,2-Dichloroethene	0.00500	0.00494	0.00507	98.8	101	70.0-130			2.60	20
1,2-Dichloropropane	0.00500	0.00554	0.00551	111	110	35.0-165			0.543	20
cis-1,3-Dichloropropene	0.00500	0.00502	0.00494	100	98.8	25.0-175			1.61	20
trans-1,3-Dichloropropene	0.00500	0.00461	0.00481	92.2	96.2	50.0-150			4.25	20
Ethylbenzene	0.00500	0.00478	0.00490	95.6	98.0	60.0-140			2.48	20
Methylene Chloride	0.00500	0.00500	0.00505	100	101	60.0-140			0.995	20
Methyl tert-butyl ether	0.00500	0.00530	0.00551	106	110	64.0-123			3.89	20
Naphthalene	0.00500	0.00363	0.00376	72.6	75.2	62.0-128			3.52	20
1,1,2,2-Tetrachloroethane	0.00500	0.00455	0.00446	91.0	89.2	60.0-140			2.00	20
Tetrachloroethene	0.00500	0.00478	0.00521	95.6	104	70.0-130			8.61	20
Toluene	0.00500	0.00482	0.00495	96.4	99.0	70.0-130			2.66	20
1,1,1-Trichloroethane	0.00500	0.00519	0.00524	104	105	70.0-130			0.959	20
1,1,2-Trichloroethane	0.00500	0.00490	0.00507	98.0	101	70.0-130			3.41	20
Trichloroethene	0.00500	0.00541	0.00557	108	111	65.0-135			2.91	20
Trichlorofluoromethane	0.00500	0.00589	0.00599	118	120	50.0-150			1.68	20
Vinyl chloride	0.00500	0.00612	0.00631	122	126	5.00-195			3.06	20
o-Xylene	0.00500	0.00455	0.00472	91.0	94.4	78.0-120			3.67	20
m&p-Xylene	0.0100	0.00946	0.00956	94.6	95.6	77.0-120			1.05	20
Xylenes, Total	0.0150	0.0140	0.0143	93.3	95.3	77.0-120			2.12	20
(S) Toluene-d8				104	106	80.0-120				
(S) 4-Bromofluorobenzene				103	103	80.0-120				
(S) 1,2-Dichloroethane-d4				105	105	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

TPH by TCEQ Method 1005 [L1751492-01](#)

Method Blank (MB)

(MB) R4090295-1 07/03/24 17:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH C6 - C12	U		0.600	0.900
TPH C12 - C28	U		0.600	0.900
TPH C28 - C35	U		0.600	0.900
TPH C6 - C35	U		0.600	0.900
(S) o-Terphenyl	86.9			70.0-130
(S) 1-chlorooctane	72.5			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4090295-2 07/03/24 17:25 • (LCSD) R4090295-3 07/03/24 17:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH C6 - C12	41.7	37.8	36.6	90.6	87.8	75.0-125			3.23	20
TPH C12 - C28	41.7	43.9	42.1	105	101	75.0-125			4.19	20
TPH C6 - C35	83.4	81.7	78.7	98.0	94.4	75.0-125			3.74	20
(S) o-Terphenyl				103	103	70.0-130				
(S) 1-chlorooctane				98.2	94.9	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4090525-2 07/04/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.0000886	0.00100
Acenaphthylene	U		0.0000921	0.00100
Anthracene	U		0.0000804	0.00100
Benzidine	U		0.00374	0.0100
Benzo(a)anthracene	U		0.000199	0.00100
Benzo(b)fluoranthene	U		0.000130	0.00100
Benzo(k)fluoranthene	U		0.000120	0.00100
Benzo(g,h,i)perylene	U		0.000121	0.00100
Benzo(a)pyrene	U		0.0000381	0.00100
Bis(2-chlorethoxy)methane	U		0.000116	0.0100
Bis(2-chloroethyl)ether	U		0.000137	0.0100
2,2-Oxybis(1-Chloropropane)	U		0.000210	0.0100
4-Bromophenyl-phenylether	U		0.0000877	0.0100
2-Chloronaphthalene	U		0.0000648	0.00100
4-Chlorophenyl-phenylether	U		0.0000926	0.0100
Chrysene	U		0.000130	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.00100
3,3-Dichlorobenzidine	U		0.000212	0.0100
2,4-Dinitrotoluene	U		0.0000983	0.0100
2,6-Dinitrotoluene	U		0.000250	0.0100
1,2-Diphenylhydrazine	U	N2	0.000105	0.0100
Fluoranthene	U		0.000102	0.00100
Fluorene	U		0.0000844	0.00100
Hexachlorobenzene	U		0.0000755	0.00100
Hexachloro-1,3-butadiene	U		0.0000968	0.0100
Hexachlorocyclopentadiene	U		0.0000598	0.0100
Hexachloroethane	U		0.000127	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000143	0.0100
Naphthalene	U		0.000159	0.00100
Nitrobenzene	U		0.000297	0.0100
n-Nitrosodimethylamine	U		0.000998	0.0100
n-Nitrosodiphenylamine	U		0.00237	0.0100
n-Nitrosodi-n-propylamine	U		0.000261	0.0100
Phenanthrene	U		0.000112	0.00100
Benzylbutyl phthalate	U		0.000765	0.00300
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300
Di-n-butyl phthalate	U		0.000453	0.00300
Diethyl phthalate	U		0.000287	0.00300
Dimethyl phthalate	U		0.000260	0.00300

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Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751492-01

Method Blank (MB)

(MB) R4090525-2 07/04/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Di-n-octyl phthalate	U		0.000932	0.00300
Pyrene	U		0.000107	0.00100
1,2,4-Trichlorobenzene	U		0.0000698	0.0100
4-Chloro-3-methylphenol	U		0.000131	0.0100
2-Chlorophenol	U		0.000133	0.0100
2,4-Dichlorophenol	U		0.000102	0.0100
2,4-Dimethylphenol	U		0.0000636	0.0100
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100
2,4-Dinitrophenol	U		0.00593	0.0100
2-Nitrophenol	U		0.000117	0.0100
4-Nitrophenol	U		0.000143	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.00433	0.0100
2,4,6-Trichlorophenol	U		0.000100	0.0100
(S) Nitrobenzene-d5	57.3			15.0-314
(S) 2-Fluorobiphenyl	61.3			22.0-127
(S) p-Terphenyl-d14	81.2			29.0-141
(S) Phenol-d5	19.4			8.00-424
(S) 2-Fluorophenol	25.4			10.0-120
(S) 2,4,6-Tribromophenol	63.5			10.0-153

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Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0432	86.4	47.0-145	
Acenaphthylene	0.0500	0.0467	93.4	33.0-145	
Anthracene	0.0500	0.0464	92.8	27.0-133	
Benzidine	0.100	0.00535	5.35	1.00-120	
Benzo(a)anthracene	0.0500	0.0494	98.8	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0500	100	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0502	100	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0492	98.4	1.00-219	
Benzo(a)pyrene	0.0500	0.0489	97.8	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0395	79.0	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0426	85.2	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0387	77.4	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0515	103	53.0-127	

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751492-01

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0411	82.2	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0546	109	25.0-158	
Chrysene	0.0500	0.0483	96.6	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0495	99.0	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0977	97.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0627	125	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0562	112	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0441	88.2	37.0-125	N2
Fluoranthene	0.0500	0.0540	108	26.0-137	
Fluorene	0.0500	0.0500	100	59.0-121	
Hexachlorobenzene	0.0500	0.0508	102	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0363	72.6	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0278	55.6	10.0-120	
Hexachloroethane	0.0500	0.0316	63.2	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0460	92.0	1.00-171	
Isophorone	0.0500	0.0394	78.8	21.0-196	
Naphthalene	0.0500	0.0358	71.6	21.0-133	
Nitrobenzene	0.0500	0.0362	72.4	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0216	43.2	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0449	89.8	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0439	87.8	1.00-230	
Phenanthrene	0.0500	0.0447	89.4	54.0-120	
Benzylbutyl phthalate	0.0500	0.0433	86.6	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0431	86.2	8.00-158	
Di-n-butyl phthalate	0.0500	0.0487	97.4	1.00-120	
Diethyl phthalate	0.0500	0.0514	103	1.00-120	
Dimethyl phthalate	0.0500	0.0507	101	1.00-120	
Di-n-octyl phthalate	0.0500	0.0447	89.4	4.00-146	
Pyrene	0.0500	0.0440	88.0	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0381	76.2	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0387	77.4	22.0-147	
2-Chlorophenol	0.0500	0.0325	65.0	23.0-134	
2,4-Dichlorophenol	0.0500	0.0393	78.6	39.0-135	
2,4-Dimethylphenol	0.0500	0.0449	89.8	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0645	129	1.00-181	
2,4-Dinitrophenol	0.0500	0.0681	136	1.00-191	
2-Nitrophenol	0.0500	0.0430	86.0	29.0-182	
4-Nitrophenol	0.0500	0.0236	47.2	1.00-132	
Pentachlorophenol	0.0500	0.0407	81.4	14.0-176	
Phenol	0.0500	0.0165	33.0	5.00-120	

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Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,6-Trichlorophenol	0.0500	0.0472	94.4	37.0-144	
(S) Nitrobenzene-d5			72.6	15.0-314	
(S) 2-Fluorobiphenyl			90.2	22.0-127	
(S) p-Terphenyl-d14			104	29.0-141	
(S) Phenol-d5			34.4	8.00-424	
(S) 2-Fluorophenol			45.0	10.0-120	
(S) 2,4,6-Tribromophenol			115	10.0-153	

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L1752168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752168-01 07/07/24 08:55 • (MS) R4091172-1 07/07/24 09:16 • (MSD) R4091172-2 07/07/24 09:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	ND	0.0395	0.0357	79.0	71.4	1	47.0-145			10.1	48
Acenaphthylene	0.0500	ND	0.0430	0.0382	86.0	76.4	1	33.0-145			11.8	74
Anthracene	0.0500	ND	0.0406	0.0359	81.2	71.8	1	27.0-133			12.3	66
Benzydine	0.100	ND	0.0119	ND	11.9	4.72	1	1.00-120		J3	86.4	40
Benzo(a)anthracene	0.0500	ND	0.0410	0.0378	82.0	75.6	1	33.0-143			8.12	53
Benzo(b)fluoranthene	0.0500	ND	0.0408	0.0370	81.6	74.0	1	24.0-159			9.77	71
Benzo(k)fluoranthene	0.0500	ND	0.0407	0.0368	81.4	73.6	1	11.0-162			10.1	63
Benzo(g,h,i)perylene	0.0500	ND	0.0390	0.0341	78.0	68.2	1	1.00-219			13.4	97
Benzo(a)pyrene	0.0500	ND	0.0411	0.0369	82.2	73.8	1	17.0-163			10.8	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0383	0.0338	76.6	67.6	1	33.0-184			12.5	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0377	0.0338	75.4	67.6	1	12.0-158			10.9	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0342	0.0311	68.4	62.2	1	36.0-166			9.49	76
4-Bromophenyl-phenylether	0.0500	ND	0.0506	0.0459	101	91.8	1	53.0-127			9.74	43
2-Chloronaphthalene	0.0500	ND	0.0395	0.0357	79.0	71.4	1	60.0-120			10.1	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0497	0.0447	99.4	89.4	1	25.0-158			10.6	61
Chrysene	0.0500	ND	0.0396	0.0366	79.2	73.2	1	17.0-168			7.87	87
Dibenz(a,h)anthracene	0.0500	ND	0.0389	0.0340	77.8	68.0	1	1.00-227			13.4	126
3,3-Dichlorobenzidine	0.100	ND	0.0648	0.0582	64.8	58.2	1	1.00-262			10.7	108
2,4-Dinitrotoluene	0.0500	ND	0.0534	0.0485	107	97.0	1	39.0-139			9.62	42
2,6-Dinitrotoluene	0.0500	ND	0.0498	0.0456	99.6	91.2	1	50.0-158			8.81	48
1,2-Diphenylhydrazine	0.0500	ND	0.0361	0.0323	72.2	64.6	1	18.0-156	N2	N2	11.1	34
Fluoranthene	0.0500	ND	0.0437	0.0397	87.4	79.4	1	26.0-137			9.59	66
Fluorene	0.0500	ND	0.0441	0.0395	88.2	79.0	1	59.0-121			11.0	38
Hexachlorobenzene	0.0500	ND	0.0482	0.0432	96.4	86.4	1	1.00-152			10.9	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0417	0.0366	83.4	73.2	1	24.0-120			13.0	62
Hexachlorocyclopentadiene	0.0500	ND	0.0239	0.0280	47.8	56.0	1	10.0-146			15.8	34

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QUALITY CONTROL SUMMARY

Semi Volatile Organic Compounds (GC/MS) by Method 625.1 L1751492-01

L1752168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752168-01 07/07/24 08:55 • (MS) R4091172-1 07/07/24 09:16 • (MSD) R4091172-2 07/07/24 09:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexachloroethane	0.0500	ND	0.0306	0.0274	61.2	54.8	1	40.0-120			11.0	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0376	0.0327	75.2	65.4	1	1.00-171			13.9	99
Isophorone	0.0500	ND	0.0362	0.0326	72.4	65.2	1	21.0-196			10.5	93
Naphthalene	0.0500	ND	0.0356	0.0320	71.2	64.0	1	21.0-133			10.7	65
Nitrobenzene	0.0500	ND	0.0338	0.0318	67.6	63.6	1	35.0-180			6.10	62
n-Nitrosodimethylamine	0.0500	ND	0.0181	0.0159	36.2	31.8	1	10.0-120			12.9	40
n-Nitrosodiphenylamine	0.0500	ND	0.0429	0.0388	85.8	77.6	1	16.0-160			10.0	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0345	0.0315	69.0	63.0	1	1.00-230			9.09	87
Phenanthrene	0.0500	ND	0.0408	0.0371	81.6	74.2	1	54.0-120			9.50	39
Benzylbutyl phthalate	0.0500	ND	0.0369	0.0354	73.8	70.8	1	1.00-152			4.15	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0355	0.0307	71.0	61.4	1	8.00-158			14.5	82
Di-n-butyl phthalate	0.0500	ND	0.0411	0.0376	82.2	75.2	1	1.00-120			8.89	47
Diethyl phthalate	0.0500	ND	0.0437	0.0398	87.4	79.6	1	1.00-120			9.34	100
Dimethyl phthalate	0.0500	ND	0.0448	0.0405	89.6	81.0	1	1.00-120			10.1	183
Di-n-octyl phthalate	0.0500	ND	0.0349	0.0303	69.8	60.6	1	4.00-146			14.1	69
Pyrene	0.0500	ND	0.0417	0.0385	83.4	77.0	1	52.0-120			7.98	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0398	0.0362	79.6	72.4	1	44.0-142			9.47	50
4-Chloro-3-methylphenol	0.0500	ND	0.0391	0.0298	78.2	59.6	1	22.0-147			27.0	73
2-Chlorophenol	0.0500	ND	0.0290	0.0223	58.0	44.6	1	23.0-134			26.1	61
2,4-Dichlorophenol	0.0500	ND	0.0412	0.0305	82.4	61.0	1	39.0-135			29.8	50
2,4-Dimethylphenol	0.0500	ND	0.0464	0.0351	87.5	64.9	1	32.0-120			27.7	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0646	0.0526	129	105	1	1.00-181			20.5	203
2,4-Dinitrophenol	0.0500	ND	0.0745	0.0578	149	116	1	1.00-191			25.2	132
2-Nitrophenol	0.0500	ND	0.0437	0.0343	87.4	68.6	1	29.0-182			24.1	55
4-Nitrophenol	0.0500	ND	0.0203	0.0113	40.6	22.6	1	1.00-132			57.0	131
Pentachlorophenol	0.0500	ND	0.0433	0.0359	86.6	71.8	1	14.0-176			18.7	86
Phenol	0.0500	ND	0.0189	0.0151	37.8	30.2	1	5.00-120			22.4	64
2,4,6-Trichlorophenol	0.0500	ND	0.0434	0.0348	86.8	69.6	1	37.0-144			22.0	58
(S) Nitrobenzene-d5					74.6	64.3		15.0-314				
(S) 2-Fluorobiphenyl					87.8	79.2		22.0-127				
(S) p-Terphenyl-d14					94.7	86.6		29.0-141				
(S) Phenol-d5					28.0	23.3		8.00-424				
(S) 2-Fluorophenol					38.6	31.4		10.0-120				
(S) 2,4,6-Tribromophenol					108	88.5		10.0-153				

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
N2	Analyte reported using a calibration and validation based on Azobenzene (CAS 103-33-3). 1,2-Diphenylhydrazine decomposes into Azobenzene during the analysis.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

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Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM



ANALYTICAL REPORT

July 23, 2024

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Cp

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Tc

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Gl

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Al

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Sc

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1751493

Samples Received: 06/28/2024

Project Number: 212C-HN-02831

Description: Desalination Pilot

Site: CCR

Report To: Paul Barbour

333 W Sheridan Avenue

Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

Jennifer Gambill

Jennifer Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Gl: Glossary of Terms	5	³ Ss
Al: Accreditations & Locations	6	⁴ Cn
Sc: Sample Chain of Custody	7	⁵ Gl
		⁶ Al
		⁷ Sc

POST POLISHED NO AMMONIA L1751493-01 WW

Collected by
Danny Daniels

Collected date/time
06/27/24 10:30

Received date/time
06/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2314174	1	07/09/24 00:00	07/09/24 00:00	-	Indianapolis, IN 46268
Subcontracted Analyses	WG2315353	1	07/03/24 00:00	07/03/24 00:00	ANF	Beaver, WV 25813
Subcontracted Analyses	WG2315357	1	07/08/24 00:00	07/08/24 00:00	-	Green Bay, WI 54302

POST ELECTROLYSIS PFAS L1751493-02 GW

Collected by
Danny Daniels

Collected date/time
06/27/24 10:30

Received date/time
06/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2315430	1	07/23/24 00:00	07/23/24 00:00	ANF	East Longmeadow, MA 01028

1Cp

2Tc

3Ss

4Cn

5Gl

6Al

7Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jennifer Gambill
Project Manager

Project Narrative

L1751493 -01, -02 contains subout data that is included after the chain of custody.

1Cp

2Tc

3Ss

4Cn

5Gl

6Al

7Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

SDG	Sample Delivery Group.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1Cp

2Tc

3Ss

4Cn

5Gl

6Al

7Sc

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹Cp

²Tc

³Ss

⁴Cn

⁵Gl

⁶Al

⁷Sc

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM



July 03, 2024

Subout Team
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L.1751493
Pace Project No.: 30696893

Dear Subout Team:

Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Beaver

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nikayla M. Yasurek

Nikayla M. Yasurek
nikayla.yasurek@pacelabs.com
(724)850-5600
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



CERTIFICATIONS

Project: L.1751493

Pace Project No.: 30696893

Pace Analytical Services Beaver

225 Industrial Park Road, Beaver, WV 25813

Virginia VELAP 460148

West Virginia DEP 060

West Virginia DHHR 00412CM

North Carolina DEQ 466

Kentucky Wastewater Certification KY90039

Pennsylvania DEP 68-00839

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: L.1751493

Pace Project No.: 30696893

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30696893001	L.1751493-01	Water	06/27/24 10:30	07/02/24 10:14

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.



SAMPLE ANALYTE COUNT

Project: L.1751493

Pace Project No.: 30696893

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30696893001	L.1751493-01	SM 5910B-11	SDW	1	PASI-BV

PASI-BV = Pace Analytical Services - Beaver

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L.1751493

Pace Project No.: 30696893

Sample: L.1751493-01		Lab ID: 30696893001		Collected: 06/27/24 10:30		Received: 07/02/24 10:14		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
UV254 SUVA Absorbing Organincs		Analytical Method: SM 5910B-11 Pace Analytical Services - Beaver							
U254 UV Absorbing Organic		0.010	cm-1	0.0030	1		07/02/24 14:07		H3,N2

REPORT OF LABORATORY ANALYSIS

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Date: 07/03/2024 03:17 PM

Page 5 of 10

**QUALITY CONTROL DATA**

Project: L.1751493

Pace Project No.: 30696893

QC Batch: 679668

Analysis Method: SM 5910B-11

QC Batch Method: SM 5910B-11

Analysis Description: UV254 SUVA Absorbing Organincs

Laboratory: Pace Analytical Services - Beaver

Associated Lab Samples: 30696893001

METHOD BLANK: 3309190

Matrix: Water

Associated Lab Samples: 30696893001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
U254 UV Absorbing Organic	cm-1	ND	0.0030	07/02/24 13:55	N2

LABORATORY CONTROL SAMPLE: 3309191

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
U254 UV Absorbing Organic	cm-1	0.072	0.070	98	80-120	N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Date: 07/03/2024 03:17 PM

Page 6 of 10



QUALIFIERS

Project: L.1751493
Pace Project No.: 30696893

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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Date: 07/03/2024 03:17 PM

Page 7 of 10



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L.1751493

Pace Project No.: 30696893

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30696893001	L.1751493-01	SM 5910B-11	679668		

REPORT OF LABORATORY ANALYSIS

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Date: 07/03/2024 03:17 PM

Page 8 of 10

Sub-Contract Chain of Custody

Batch Date/Time: 07/01/24 11:42
Sub-Contract Lab: PACEBWV
Address: 225 Industrial Park Road
City/State: Beaver, WV 25813

Contact:

Nikayla Yasurek@pacelabs.com
Owner Lab: PACEMTL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG2315353

Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/08/24
ESC Purchase Order #: L1751493
Send Reports to: Angela Ford

 Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

Sample ID Container ID	Matrix/State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
POST POLISHED NO AMMONIA 48226140 48226141	WW NM	06/27/24 10:30	UV-254 (Amber glass container)	1. L1751493-01	UV-254 (Amber glass container)

*= Container used for multiple Samples and/or Analyses

Relinquished by:

Date

 7/11/24

Received by:

Date

7/2/24 1014

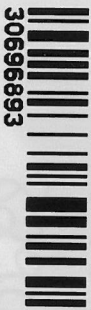
Relinquished by:

Date

Received by:

Date

WO#: 30696893



30696893

DC#_Title: ENV-FRM-BEAV-0058 v03_Pace WV Sample Condition Upon Receipt
Effective Date: 2/8/2023

W0#: 30696893

PM: NMY Due Date: 07/17/24
CLIENT: ESC

LIMS30 Lab Sample Condition Upon Receipt (West Virginia)

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ 3rd Party Courier ☐ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box/Containers Present: ☐ yes ☒ no

Seals intact: ☐ yes ☒ no

Thermometer Used 24 Type of Ice ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 3.8 °C Correction Factor: 0.0 °C Final Temp: 3.8 °C

Thermal Preservation Requirement Met Yes ☒ No ☐

pH paper Lot# — Date and Initials of person examining contents: RC 7/2/24

	Yes	No	N/A
Chain of Custody Present:	☒	☐	☐
Chain of Custody Filled Out:	☒	☐	☐
Chain of Custody Relinquished:	☒	☐	☐
Sampler Name & Signature on COC:	☒	☐	☐
Sample Labels match COC:	☒	☐	☐
-Includes date/time/ID	☒	☐	☐
Matrix: <u>WW</u>			
Samples Arrived within Hold Time:	☒	☐	☐
Short Hold Time Analysis (<72hr remaining):	☐	☒	☐
Rush Turn Around Time Requested:	☐	☒	☐
Sufficient Volume:	☒	☐	☐
Correct Containers Used:	☒	☐	☐
-Pace Containers Used:	☒	☐	☐
Containers Intact:	☒	☐	☐
Orthophosphate field filtered:	☐	☐	☒
Hex Cr Aqueous sample field filtered:	☐	☐	☒
-pH adjusted within 24 hours? (If yes, indicate acid lot #)	☐	☐	☒
Filtered volume received for Dissolved tests:	☐	☐	☒
All containers have been checked for chemical preservation:	☐	☐	☒
exceptions: VOA, coliform, O&G, LLMercury, Non-aqueous matrix			
All containers meet method/chemical preservation requirements:	☐	☐	☒
Initial when completed	☐	☐	☒
Date: <u>7-2-24</u>			
Tests not preserved:			
Headspace in VOA Vials:	☐	☐	☒
Trip Blank Present:	☐	☐	☒
Initial when completed:	☐	☐	☒
Date: <u>7-2-24</u>			

Comments:

*PM review is documented electronically in LIMS, when the Project Manager closes the SRF Review schedule in LIMS. The status may be reviewed in the Status section of the Workorder Edit Screen.



July 08, 2024

MTJLSuboutTeam
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1751493 WG2315357
Pace Project No.: 40280527

Dear MTJLSuboutTeam:

Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Angela Lane".

Angela Lane
angela.lane@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Jimmy Huckaba, Pace Analytical Allen
Pace National Subout Team, Pace National



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: L1751493 WG2315357

Pace Project No.: 40280527

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-21-8

Virginia VELAP Certification ID: 11873

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-21-00008

Federal Fish & Wildlife Permit #: 51774A

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: L1751493 WG2315357

Pace Project No.: 40280527

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40280527001	POST POLISHED NO AMMONIA	Water	06/27/24 10:30	07/02/24 09:50

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: L1751493 WG2315357

Pace Project No.: 40280527

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40280527001	POST POLISHED NO AMMONIA	SM 2710F	HML	2

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1751493 WG2315357
Pace Project No.: 40280527

Sample: POST POLISHED NO AMMONIA		Lab ID: 40280527001		Collected: 06/27/24 10:30		Received: 07/02/24 09:50		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Specific Gravity /Bulk Density		Analytical Method: SM 2710F Pace Analytical Services - Green Bay							
Density	0.99	g/mL			1		07/08/24 14:39		
Specific Gravity	1.0	no units			1		07/08/24 14:39		

REPORT OF LABORATORY ANALYSIS

Date: 07/08/2024 03:31 PM
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QUALITY CONTROL DATA

Project: L1751493 WG2315357

Pace Project No.: 40280527

QC Batch: 478937

QC Batch Method: SM 2710F

Analysis Method: SM 2710F

Analysis Description: Specific Gravity /Bulk Density

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40280527001

SAMPLE DUPLICATE: 2743267

Parameter	Units	40280525001 Result	Dup Result	RPD	Max RPD	Qualifiers
Density	g/mL	1.1	1.1	1	20	
Specific Gravity	no units	1.1	1.1	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Date: 07/08/2024 03:31 PM

Page 6 of 11



QUALIFIERS

Project: L1751493 WG2315357

Pace Project No.: 40280527

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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Date: 07/08/2024 03:31 PM

Page 7 of 11



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1751493 WG2315357
Pace Project No.: 40280527

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40280527001	POST POLISHED NO AMMONIA	SM 2710F	478937		

REPORT OF LABORATORY ANALYSIS

Date: 07/08/2024 03:31 PM

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40280521

Sub-Contract Chain of Custody

Batch Date/Time: 07/01/24 11:49
Sub-Contract Lab: PACEGBWI
Address: 1241 Bellvue Street, Suite 9

City/State: Green Bay, WI 54302

Contact:
 Angela.Lane@pacelabs.com

Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG2315357
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/08/24
ESC Purchase Order #: L1751493
Send Reports to: Angela Ford



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 Phone (615) 773-9756
 Fax: (615) 758-5859

Sample ID Container ID	Matrix State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
POST POLISHED NO AMMONIA 48226142	WW NM	06/27/24 10:30	Specific Gravity	1. L1751493-01	001

*= Container used for multiple Samples and/or Analyses

Relinquished by: [Signature] Date 7/11/24

Received by: _____ Date _____

Relinquished by: Fedex Date 7/11/24 09:50

Received by: [Signature] Date 7/11/24 09:50

DC#_Title: ENV-FRM-GBAY-0035 v03_Sample Preservation Receipt Form

Effective Date: 8/16/2022

Client Name: Pace National

Sample Preservation Receipt Form

Project # 40280527

All containers needing preservation have been checked and noted below:

☐ Yes ☐ No ☒ N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when
completed:Date/
Time:

Pace Lab #	Glass						Plastic						Vials					Jars				General				VOA Vials (>6mm) *	H ₂ SO ₄ pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO ₃ pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2					
001																																2.5 / 5
002																																2.5 / 5
003																																2.5 / 5
004																																2.5 / 5
005																																2.5 / 5
006																																2.5 / 5
007																																2.5 / 5
008																																2.5 / 5
009																																2.5 / 5
010																																2.5 / 5
011																																2.5 / 5
012																																2.5 / 5
013																																2.5 / 5
014																																2.5 / 5
015																																2.5 / 5
016																																2.5 / 5
017																																2.5 / 5
018																																2.5 / 5
019																																2.5 / 5
020																																2.5 / 5

Exceptions to preservation check VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm) : ☐ Yes ☐ No ☒ N/A

*If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H ₂ SO ₄	BP3N	250 mL plastic HNO ₃	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H ₂ SO ₄	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H ₂ SO ₄	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of 2

DC#_Title: ENV-FRM-GBAY-0014 v03_SCUR

Effective Date: 8/17/2022

Sample Condition Upon Receipt Form (SCUR)

Project #:

Client Name: Pace NationalCourier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Walco☐ Client ☐ Pace Other: _____Tracking #: 7464 0832 7996Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ noCustody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ noPacking Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____Thermometer Used SR - 120 Type of Ice: Wet Blue Dry None ☐ Meltwater OnlyCooler Temperature Uncorr: 2.0 /Corr: 2.0Temp Blank Present: ☒ yes ☐ noBiological Tissue is Frozen: ☐ yes ☐ no

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:

Date: 7/2/24 /Initials: mtLabeled By Initials: mt

Chain of Custody Present: ☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out: ☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished: ☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC: ☐ Yes ☐ No ☒ N/A	4. <u>12/20 mt 7/2/24</u>
Samples Arrived within Hold Time: ☒ Yes ☐ No	5.
- DI VOA Samples frozen upon receipt ☐ Yes ☐ No	Date/Time:
Short Hold Time Analysis (<72hr): ☐ Yes ☒ No	6.
Rush Turn Around Time Requested: ☐ Yes ☒ No	7.
Sufficient Volume:	8.
For Analysis: ☒ Yes ☐ No MS/MSD: ☐ Yes ☒ No ☐ N/A	
Correct Containers Used: ☒ Yes ☐ No	9.
Correct Type: Pace Green Bay <u>Pace IR</u> , Non-Pace	
Containers Intact: ☒ Yes ☐ No	10.
Filtered volume received for Dissolved tests ☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC: ☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>	
Trip Blank Present: ☐ Yes ☐ No ☒ N/A	13.
Trip Blank Custody Seals Present ☐ Yes ☐ No ☒ N/A	
Pace Trip Blank Lot # (if purchased): _____	

Client Notification/ Resolution:

If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample log in

Page 2 of 2



July 10, 2024

Jimmy Huckaba
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: Desalination Pilot/WG2314174
Pace Project No.: 50377168

Dear Jimmy Huckaba:

Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Randal Rastorfer".

Randal Rastorfer
randal.rastorfer@pacelabs.com
(614)301-3304
Project Manager

Enclosures

cc: Pace National Subout Team, Pace National



REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.



7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Desalination Pilot/WG2314174

Pace Project No.: 50377168

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Washington Dept of Ecology #: C1081

Wisconsin Laboratory #: 999788130

USDA Foreign Soil Permit #: 525-23-13-23119

USDA Compliance Agreement #: IN-SL-22-001

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Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Desalination Pilot/WG2314174

Pace Project No.: 50377168

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50377168001	POST POLISHED NO AMMONIA	Water	06/27/24 10:30	07/02/24 09:00

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Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: Desalination Pilot/WG2314174

Pace Project No.: 50377168

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50377168001	POST POLISHED NO AMMONIA	EPA 9056	ADM	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Desalination Pilot/WG2314174
Pace Project No.: 50377168

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
50377168001	POST POLISHED NO AMMONIA					
EPA 9056	Iodide	0.63	mg/L	0.50	07/09/24 13:10	

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ANALYTICAL RESULTS

Project: Desalination Pilot/WG2314174
Pace Project No.: 50377168

Sample: POST POLISHED NO AMMONIA		Lab ID: 50377168001	Collected: 06/27/24 10:30	Received: 07/02/24 09:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

9056 Iodide by IC
Analytical Method: EPA 9056
Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL
Pace Analytical Services - Indianapolis

Iodide	0.63	mg/L	0.50	1		07/09/24 13:10		
--------	------	------	------	---	--	----------------	--	--

REPORT OF LABORATORY ANALYSIS

Date: 07/10/2024 03:26 PM
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QUALITY CONTROL DATA

Project: Desalination Pilot/WG2314174

Pace Project No.: 50377168

QC Batch: 799271

Analysis Method: EPA 9056

QC Batch Method: EPA 9056

Analysis Description: 9056 Iodide by IC

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50377168001

METHOD BLANK: 3656519

Matrix: Water

Associated Lab Samples: 50377168001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iodide	mg/L	ND	0.50	07/09/24 12:29	

LABORATORY CONTROL SAMPLE: 3656520

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iodide	mg/L	5	5.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3656521 3656522

Parameter	Units	50377168001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iodide	mg/L	0.63	5	5	5.5	5.5	98	98	80-120	0	15	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Date: 07/10/2024 03:26 PM

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QUALIFIERS

Project: Desalination Pilot/WG2314174

Pace Project No.: 50377168

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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Date: 07/10/2024 03:26 PM

Page 8 of 12



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Desalination Pilot/WG2314174
Pace Project No.: 50377168

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50377168001	POST POLISHED NO AMMONIA	EPA 9056	799271		

REPORT OF LABORATORY ANALYSIS

Date: 07/10/2024 03:26 PM

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Sub-Contract

W0# : 50377168

Batch Date/Time: 06/28/24 14:20

Sub-Contract Lab: PACEIIN

Address: 7726 Moller Rd.

City/State: Indianapolis, IN 46268

Contact:

Randal.Rastorfer@pacelabs.com

Owner Lab: PACEMTJL

Address: 12065 Lebanon Rd.

City/State: Mt. Juliet, TN 37122

Phone: (615) 773-9756

Fax: (615) 758-5859



WO: WG2314174

Email: MTJLSuboutTeam@pacelabs.com

Results Due Date: 07/08/24

ESC Purchase Order #: L1751493

Send Reports to: Angela Ford



12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
POST POLISHED NO AMMONIA 48226139	WW	NM	06/27/24 10:30	Iodide	1. L1751493-01	

* = Container used for multiple Samples and/or Analyses

Relinquished by: [Signature] Date 6/28/24

Received by: FedEx Date _____

Relinquished by: FedEx Date 7/2/24 900

Received by: [Signature] PACE Date 7/2/24 900

F-IN-Q-290-rev.27, 13Jun2024



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents:

TW 7/2/24 1240

1. Courier: ☒ FED EX ☐ UPS ☐ CLIENT ☐ PACE ☐ NOW/JETT ☐ OTHER2. Custody Seal on Cooler/Box Present: ☒ Yes ☐ No(If yes) Seals Intact: ☒ Yes ☐ No (leave blank if no seals were present)

3. Thermometer: 1 2 3 4 5 6 7 8 9 A B C D E F G H I

4. Cooler Temperature(s): 3.4 3.2

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. Packing Material:

☒ Bubble Wrap ☒ Bubble Bags☐ None ☐ Other6. Ice Type: ☒ Wet ☐ Blue ☐ None7. Was the PM notified of out of temp cooler?: ☐ Yes ☐ No

Cooler temp should be above freezing to 6°C

8. EZ Bottle Order? ☐ Yes ☒ NoIf yes but not on COC
what is the EZ Bottle
Order Number?:

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		☒	All containers needing acid/base preservation have been pH CHECKED?: Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)?		☒	Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)			
Analysis:		☒	Any non-conformance to pH recommendations will be noted on the container count form			
Time 5035A TC placed in Freezer or Short Holds To Lab			Time:	Present	Absent	N/A
Rush TAT Requested (4 days or less):		☒	Residual Chlorine Check (SVOC 625 Pest/PCB 608)			
		☒	Residual Chlorine Check (Total/Amenable/Free Cyanide)			
Custody Signatures Present?	☒		Headspace Wisconsin Sulfide?			
Containers Intact?:	☒		Headspace in VOA Vials (>6mm): See Container Count form for details	Present	Absent	No VOA Vials Sept
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	☒		Trip Blank Present?			
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			

COMMENTS:

COC PAGE ____ of ____

Sample Container Count

** Place a PINK dot on containers

that are out of conformance **

COC Line Item	WG FU	WG KU	BG 1U	MeOH (only)	DG 9H	VG 9H	VOA VIAL HS (≥6mm)	VG 9U	DG 9U	VG 9T	AMBER GLASS						PLASTIC								OTHER				Matrix	Nitric Red	Sulfuric Yellow	Sodium Hydroxide Green	Sodium Hydroxide/ ZnAc Black
				SBS																													
				DI																													
R											AG 0U	AG 1H	AG 1U	AG 3U	AG 3S	AG 3SF	AG 3B	BP 1U	BP 1N	BP 2U	BP 3U	BP 3N	BP 3F	BP 3S	BP 3B	BP 3Z	CG 3H	CG 3F	Syringe Kit				
1																																	
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

BP4U
- 51

Container Codes

Glass				Plastic			
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	NT3U	Non Teflon 250mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4U	125mL unpreserved plastic
DG9S	40mL H2SO4 amber vial	CG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4N	125mL HNO3 plastic
DG9T	40mL Na Thio amber vial	CG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	BP4S	125mL H2SO4 plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	Miscellaneous	
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic		
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	Syringe Kit	LL Cr+6 sampling kit
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	ZPLC	Ziploc Bag
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	R	Terracore Kit
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	SP5T	120mL Coliform Sodium Thiosulfate
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	GN	General Container
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered	U	Summa Can (air sample)
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT	Water
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic	SL	Solid
BG1S	1L H2SO4 clear glass	AG3B	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	OL:	Oil
						NAL	Non-aqueous liquid
						WP	Wipe



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

July 23, 2024

Daphne Richards
Pace National - TN
12065 Lebanon Road
Mt. Juliet, TN 37122

Project Location: NM
Client Job Number:
Project Number: WG2315430
Laboratory Work Order Number: 24G0667

Enclosed are results of analyses for samples as received by the laboratory on July 2, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Kaitlyn". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Kaitlyn A. Feliciano
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Pace National - TN
12065 Lebanon Road
Mt. Juliet, TN 37122
ATTN: Daphne Richards

REPORT DATE: 7/23/2024

PURCHASE ORDER NUMBER: L1751493

PROJECT NUMBER: WG2315430

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24G0667

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: NM

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
POST ELECTROLYSIS PFAS	24G0667-01	Ground Water		Draft Method 1633	



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Draft Method 1633

Qualifications:

H-01

Recommended sample holding time was exceeded, but analysis was performed before 2X the allowable holding time.

Analyte & Samples(s) Qualified:

Total Suspended Solids

24G0667-01[POST ELECTROLYSIS PFAS]

PF-18

Re-analysis confirmed Extracted Internal Standard failure due to matrix effects.

Analyte & Samples(s) Qualified:

13C4-PFBA

24G0667-01RE1[POST ELECTROLYSIS PFAS]

Perfluorobutanoic acid (PFBA)

24G0667-01RE1[POST ELECTROLYSIS PFAS]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa Worthington", written over a light gray rectangular background.

Lisa A. Worthington

Technical Representative



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: NM

Sample Description:

Work Order: 24G0667

Date Received: 7/2/2024

Field Sample #: POST ELECTROLYSIS PFAS

Sampled: 6/27/2024 10:30

Sample ID: 24G0667-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	3.8	ng/L	1	PF-18	Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorooctanoic acid (PFOA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorononanoic acid (PFNA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorodecanoic acid (PFDA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.95	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	9.5	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.5	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.8	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	ND	3.8	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.8	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
11Cl-PF3OUs (F53B Major)	ND	3.8	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.5	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
2H,2H,3H,3H-Perfluorooctanoic acid (FPePA)(5:3FTCA)	ND	48	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	48	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: NM

Sample Description:

Work Order: 24G0667

Date Received: 7/2/2024

Field Sample #: POST ELECTROLYSIS PFAS

Sampled: 6/27/2024 10:30

Sample ID: 24G0667-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	7/19/24	7/20/24 15:39	AMS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	3.63 *	10-130	PF-18					7/20/24 15:39	
13C5-PFPeA	78.2	35-150						7/20/24 15:39	
13C5-PFHxA	77.5	55-150						7/20/24 15:39	
13C4-PFHpA	76.9	55-150						7/20/24 15:39	
13C8-PFOA	74.2	60-140						7/20/24 15:39	
13C9-PFNA	73.7	55-140						7/20/24 15:39	
13C6-PFDA	71.0	50-140						7/20/24 15:39	
13C7-PFUnA	68.4	30-140						7/20/24 15:39	
13C2-PFDoA	64.6	10-150						7/20/24 15:39	
13C2-PFTeDA	41.7	10-130						7/20/24 15:39	
13C3-PFBS	79.6	55-150						7/20/24 15:39	
13C3-PFHxS	74.0	55-150						7/20/24 15:39	
13C8-PFOS	71.8	45-140						7/20/24 15:39	
13C2-4:2FTS	93.7	60-200						7/20/24 15:39	
13C2-6:2FTS	72.1	60-200						7/20/24 15:39	
13C2-8:2FTS	65.1	50-200						7/20/24 15:39	
13C8-PFOSA	68.6	30-130						7/20/24 15:39	
D3-NMeFOSA	57.7	15-130						7/20/24 15:39	
D5-NEtFOSA	53.1	10-130						7/20/24 15:39	
D3-NMeFOSAA	66.9	45-200						7/20/24 15:39	
D5-NEtFOSAA	62.3	10-200						7/20/24 15:39	
D7-NMeFOSE	37.7	10-150						7/20/24 15:39	
D9-NEtFOSE	31.6	10-150						7/20/24 15:39	
13C3-HFPO-DA	71.3	25-160						7/20/24 15:39	



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: NM

Sample Description:

Work Order: 24G0667

Date Received: 7/2/2024

Field Sample #: POST ELECTROLYSIS PFAS

Sampled: 6/27/2024 10:30

Sample ID: 24G0667-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1	H-01	Draft Method 1633	7/9/24	7/9/24 14:02	LL



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Sample Extraction Data

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date	
24G0667-01 [POST ELECTROLYSIS PFAS]	B379464	50.0	07/09/24	

Prep Method:Draft Method 1633 Analytical Method:Draft Method 1633 Leachates were extracted on 7/9/2024 per NO PREP in Batch B379464

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24G0667-01RE1 [POST ELECTROLYSIS PFAS]	B380495	525	5.00	07/19/24



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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

Blank (B380495-BLK1)

Prepared: 07/19/24 Analyzed: 07/20/24

Perfluorobutanoic acid (PFBA)	ND	4.0	ng/L
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L
Perfluorohexanoic acid (PFHxA)	ND	0.99	ng/L
Perfluoroheptanoic acid (PFHpA)	ND	0.99	ng/L
Perfluorooctanoic acid (PFOA)	ND	0.99	ng/L
Perfluorononanoic acid (PFNA)	ND	0.99	ng/L
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L
Perfluorobutanesulfonic acid (PFBS)	ND	0.99	ng/L
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L
Perfluorohexanesulfonic acid (PFHxS)	ND	0.99	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L
Perfluorooctanesulfonic acid (PFOS)	ND	0.99	ng/L
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	4.0	ng/L
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	4.0	ng/L
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	4.0	ng/L
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.99	ng/L
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	9.9	ng/L
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	50	ng/L
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	50	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	ND	2.0	ng/L
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	2.0	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L
Surrogate: 13C4-PFBA	90.7		ng/L

99.2

91.4

10-130



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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

Blank (B380495-BLK1)

Prepared: 07/19/24 Analyzed: 07/20/24

Surrogate: 13C5-PFPeA	50.6		ng/L	49.6		102	35-150			
Surrogate: 13C5-PFHxA	21.9		ng/L	24.8		88.3	55-150			
Surrogate: 13C4-PFHpA	21.5		ng/L	24.8		86.6	55-150			
Surrogate: 13C8-PFOA	22.5		ng/L	24.8		90.7	60-140			
Surrogate: 13C9-PFNA	11.1		ng/L	12.4		89.9	55-140			
Surrogate: 13C6-PFDA	10.5		ng/L	12.4		84.4	50-140			
Surrogate: 13C7-PFUnA	10.2		ng/L	12.4		82.1	30-140			
Surrogate: 13C2-PFDoA	10.2		ng/L	12.4		82.5	10-150			
Surrogate: 13C2-PFTeDA	9.76		ng/L	12.4		78.7	10-130			
Surrogate: 13C3-PFBS	23.3		ng/L	24.8		94.0	55-150			
Surrogate: 13C3-PFHxS	22.0		ng/L	24.8		88.9	55-150			
Surrogate: 13C8-PFOS	22.4		ng/L	24.8		90.4	45-140			
Surrogate: 13C2-4:2FTS	45.4		ng/L	49.6		91.5	60-200			
Surrogate: 13C2-6:2FTS	41.2		ng/L	49.6		83.2	60-200			
Surrogate: 13C2-8:2FTS	40.2		ng/L	49.6		81.0	50-200			
Surrogate: 13C8-PFOA	20.9		ng/L	24.8		84.4	30-130			
Surrogate: D3-NMeFOSA	16.2		ng/L	24.8		65.5	15-130			
Surrogate: D5-NEtFOSA	17.9		ng/L	24.8		72.1	10-130			
Surrogate: D3-NMeFOSAA	39.6		ng/L	49.6		79.9	45-200			
Surrogate: D5-NEtFOSAA	41.2		ng/L	49.6		83.1	10-200			
Surrogate: D7-NMeFOSE	202		ng/L	248		81.5	10-150			
Surrogate: D9-NEtFOSE	207		ng/L	248		83.5	10-150			
Surrogate: 13C3-HFPO-DA	78.2		ng/L	99.2		78.8	25-160			

LCS (B380495-BS1)

Prepared: 07/19/24 Analyzed: 07/20/24

Perfluorobutanoic acid (PFBA)	99.6	3.9	ng/L	93.6		106	58-148			
Perfluoropentanoic acid (PFPeA)	50.8	2.0	ng/L	46.8		108	54-152			
Perfluorohexanoic acid (PFHxA)	24.6	0.98	ng/L	23.4		105	55-152			
Perfluoroheptanoic acid (PFHpA)	23.7	0.98	ng/L	23.4		101	54-154			
Perfluorooctanoic acid (PFOA)	24.3	0.98	ng/L	23.4		104	52-161			
Perfluorononanoic acid (PFNA)	26.3	0.98	ng/L	23.4		112	59-149			
Perfluorodecanoic acid (PFDA)	25.6	0.98	ng/L	23.4		109	52-147			
Perfluoroundecanoic acid (PFUnA)	24.0	0.98	ng/L	23.4		102	48-159			
Perfluorododecanoic acid (PFDoA)	24.5	0.98	ng/L	23.4		105	64-142			
Perfluorotridecanoic acid (PFTTrDA)	23.6	0.98	ng/L	23.4		101	49-148			
Perfluorotetradecanoic acid (PFTeDA)	25.4	0.98	ng/L	23.4		108	47-161			
Perfluorobutanesulfonic acid (PFBS)	21.7	0.98	ng/L	20.8		105	62-144			
Perfluoropentanesulfonic acid (PFPeS)	22.9	0.98	ng/L	22.0		104	59-151			
Perfluorohexanesulfonic acid (PFHxS)	21.6	0.98	ng/L	21.4		101	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	22.9	0.98	ng/L	22.3		103	55-152			
Perfluorooctanesulfonic acid (PFOS)	21.9	0.98	ng/L	21.7		101	58-149			
Perfluorononanesulfonic acid (PFNS)	23.9	0.98	ng/L	22.5		106	52-148			
Perfluorodecanesulfonic acid (PFDS)	23.2	0.98	ng/L	22.6		103	51-147			
Perfluorododecanesulfonic acid (PFDoS)	22.9	0.98	ng/L	22.7		101	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	93.6	3.9	ng/L	87.8		107	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	96.9	3.9	ng/L	88.9		109	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	96.6	3.9	ng/L	90.1		107	63-152			
Perfluorooctanesulfonamide (PFOSA)	23.9	0.98	ng/L	23.4		102	61-148			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	26.1	0.98	ng/L	23.4		112	63-145			



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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

LCS (B380495-BS1)

Prepared: 07/19/24 Analyzed: 07/20/24

N-ethyl perfluorooctanesulfonamide (NEtFOSA)	25.2	0.98	ng/L	23.4		107	65-139			
N-MeFOSAA (NMeFOSAA)	24.8	0.98	ng/L	23.4		106	58-144			
N-EtFOSAA (NEtFOSAA)	22.7	0.98	ng/L	23.4		96.9	59-146			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	250	9.8	ng/L	234		107	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	245	9.8	ng/L	234		105	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	115	3.9	ng/L	93.6		123	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	129	3.9	ng/L	88.3		146	68-146			
9Cl-PF3ONS (F53B Minor)	124	3.9	ng/L	87.8		142	56-156			
11Cl-PF3OUdS (F53B Major)	124	3.9	ng/L	88.3		140	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	215	9.8	ng/L	234		91.7	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1200	49	ng/L	1170		103	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1180	49	ng/L	1170		101	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	51.5	2.0	ng/L	41.7		124	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	46.0	2.0	ng/L	46.8		98.4	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	43.8	2.0	ng/L	46.8		93.5	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	57.6	2.0	ng/L	46.8		123	48-161			
Surrogate: 13C4-PFBA	83.1		ng/L	97.5		85.2	10-130			
Surrogate: 13C5-PFPeA	46.8		ng/L	48.8		96.1	35-150			
Surrogate: 13C5-PFHxA	20.5		ng/L	24.4		84.2	55-150			
Surrogate: 13C4-PFHpA	20.8		ng/L	24.4		85.3	55-150			
Surrogate: 13C8-PFOA	20.9		ng/L	24.4		85.8	60-140			
Surrogate: 13C9-PFNA	9.89		ng/L	12.2		81.2	55-140			
Surrogate: 13C6-PFDA	10.1		ng/L	12.2		83.1	50-140			
Surrogate: 13C7-PFUnA	10.4		ng/L	12.2		85.1	30-140			
Surrogate: 13C2-PFDoA	9.93		ng/L	12.2		81.5	10-150			
Surrogate: 13C2-PFTeDA	9.24		ng/L	12.2		75.8	10-130			
Surrogate: 13C3-PFBS	21.5		ng/L	24.4		88.3	55-150			
Surrogate: 13C3-PFHxS	20.8		ng/L	24.4		85.5	55-150			
Surrogate: 13C8-PFOS	21.0		ng/L	24.4		86.1	45-140			
Surrogate: 13C2-4:2FTS	42.7		ng/L	48.8		87.6	60-200			
Surrogate: 13C2-6:2FTS	41.3		ng/L	48.8		84.7	60-200			
Surrogate: 13C2-8:2FTS	42.3		ng/L	48.8		86.7	50-200			
Surrogate: 13C8-PFOSA	19.4		ng/L	24.4		79.7	30-130			
Surrogate: D3-NMeFOSA	16.7		ng/L	24.4		68.4	15-130			
Surrogate: D5-NEtFOSA	17.5		ng/L	24.4		71.7	10-130			
Surrogate: D3-NMeFOSAA	40.9		ng/L	48.8		83.8	45-200			
Surrogate: D5-NEtFOSAA	38.6		ng/L	48.8		79.3	10-200			
Surrogate: D7-NMeFOSE	191		ng/L	244		78.4	10-150			
Surrogate: D9-NEtFOSE	193		ng/L	244		79.3	10-150			
Surrogate: 13C3-HFPO-DA	72.1		ng/L	97.5		74.0	25-160			

MRL Check (B380495-MRL1)

Prepared: 07/19/24 Analyzed: 07/20/24

Perfluorobutanoic acid (PFBA)	8.65	3.9	ng/L	7.90		110	44-157			
Perfluoropentanoic acid (PFPeA)	4.40	2.0	ng/L	3.95		112	57-148			



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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

MRL Check (B380495-MRL1)

Prepared: 07/19/24 Analyzed: 07/20/24

Perfluorohexanoic acid (PFHxA)	2.21	0.99	ng/L	1.97		112	62-149			
Perfluoroheptanoic acid (PFHpA)	2.04	0.99	ng/L	1.97		103	56-150			
Perfluorooctanoic acid (PFOA)	2.23	0.99	ng/L	1.97		113	57-161			
Perfluorononanoic acid (PFNA)	2.13	0.99	ng/L	1.97		108	53-157			
Perfluorodecanoic acid (PFDA)	2.20	0.99	ng/L	1.97		112	43-158			
Perfluoroundecanoic acid (PFUnA)	2.22	0.99	ng/L	1.97		112	50-155			
Perfluorododecanoic acid (PFDoA)	2.19	0.99	ng/L	1.97		111	60-141			
Perfluorotridecanoic acid (PFTrDA)	2.10	0.99	ng/L	1.97		106	52-140			
Perfluorotetradecanoic acid (PFTeDA)	2.19	0.99	ng/L	1.97		111	52-156			
Perfluorobutanesulfonic acid (PFBS)	1.82	0.99	ng/L	1.75		104	63-145			
Perfluoropentanesulfonic acid (PFPeS)	2.12	0.99	ng/L	1.86		114	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.03	0.99	ng/L	1.81		112	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	2.20	0.99	ng/L	1.88		117	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.03	0.99	ng/L	1.83		111	43-162			
Perfluorononanesulfonic acid (PFNS)	2.13	0.99	ng/L	1.90		112	46-151			
Perfluorodecanesulfonic acid (PFDS)	2.00	0.99	ng/L	1.91		105	50-144			
Perfluorododecanesulfonic acid (PFDoS)	2.16	0.99	ng/L	1.92		113	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.04	3.9	ng/L	7.40		109	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	8.53	3.9	ng/L	7.50		114	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.07	3.9	ng/L	7.60		106	46-165			
Perfluorooctanesulfonamide (PFOSA)	2.09	0.99	ng/L	1.97		106	47-163			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	2.37	0.99	ng/L	1.97		120	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	2.17	0.99	ng/L	1.97		110	49-156			
N-MeFOSAA (NMeFOSAA)	1.71	0.99	ng/L	1.97		86.8	32-160			
N-EtFOSAA (NEtFOSAA)	2.03	0.99	ng/L	1.97		103	51-154			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	21.5	9.9	ng/L	19.7		109	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	20.8	9.9	ng/L	19.7		105	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.91	3.9	ng/L	7.90		100	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.83	3.9	ng/L	7.45		105	61-148			
9Cl-PF3ONS (F53B Minor)	7.83	3.9	ng/L	7.40		106	44-167			
11Cl-PF3OUDS (F53B Major)	7.41	3.9	ng/L	7.45		99.4	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	14.5	9.9	ng/L	19.7		73.5	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	80.6	49	ng/L	98.7		81.6	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	78.1	49	ng/L	98.7		79.1	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	4.02	2.0	ng/L	3.51		114	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.51	2.0	ng/L	3.95		89.0	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.22	2.0	ng/L	3.95		81.5	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.81	2.0	ng/L	3.95		122	47-160			
Surrogate: 13C4-PFBA	86.8		ng/L	98.7		88.0	10-130			
Surrogate: 13C5-PFPeA	50.9		ng/L	49.4		103	35-150			
Surrogate: 13C5-PFHxA	21.5		ng/L	24.7		87.1	55-150			



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B380495 - Draft Method 1633

MRL Check (B380495-MRL1)

Prepared: 07/19/24 Analyzed: 07/20/24

Surrogate: 13C4-PFHpA	22.1		ng/L	24.7		89.5	55-150			
Surrogate: 13C8-PFOA	20.9		ng/L	24.7		84.6	60-140			
Surrogate: 13C9-PFNA	10.1		ng/L	12.3		81.5	55-140			
Surrogate: 13C6-PFDA	10.5		ng/L	12.3		85.4	50-140			
Surrogate: 13C7-PFUnA	10.1		ng/L	12.3		81.6	30-140			
Surrogate: 13C2-PFDoA	9.68		ng/L	12.3		78.4	10-150			
Surrogate: 13C2-PFTeDA	9.02		ng/L	12.3		73.1	10-130			
Surrogate: 13C3-PFBS	21.8		ng/L	24.7		88.5	55-150			
Surrogate: 13C3-PFHxS	20.8		ng/L	24.7		84.4	55-150			
Surrogate: 13C8-PFOS	21.0		ng/L	24.7		84.9	45-140			
Surrogate: 13C2-4:2FTS	42.6		ng/L	49.4		86.2	60-200			
Surrogate: 13C2-6:2FTS	39.3		ng/L	49.4		79.6	60-200			
Surrogate: 13C2-8:2FTS	38.0		ng/L	49.4		76.9	50-200			
Surrogate: 13C8-PFOSA	19.7		ng/L	24.7		80.0	30-130			
Surrogate: D3-NMeFOSA	16.8		ng/L	24.7		67.9	15-130			
Surrogate: D5-NEtFOSA	18.3		ng/L	24.7		74.2	10-130			
Surrogate: D3-NMeFOSAA	41.1		ng/L	49.4		83.3	45-200			
Surrogate: D5-NEtFOSAA	39.7		ng/L	49.4		80.4	10-200			
Surrogate: D7-NMeFOSE	190		ng/L	247		76.9	10-150			
Surrogate: D9-NEtFOSE	197		ng/L	247		79.8	10-150			
Surrogate: 13C3-HFPO-DA	82.4		ng/L	98.7		83.5	25-160			



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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B379464 - Draft Method 1633

Blank (B379464-BLK1)				Prepared & Analyzed: 07/09/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B379464-BS1)				Prepared & Analyzed: 07/09/24						
Total Suspended Solids	216	5.0	mg/L	200		108	51.5-130			



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-01	Recommended sample holding time was exceeded, but analysis was performed before 2X the allowable holding time.
PF-18	Re-analysis confirmed Extracted Internal Standard failure due to matrix effects.



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
Draft Method 1633 in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
Perfluorobutanoic acid (PFBA)	NH-P,NY,PA,WV,CT
Perfluoropentanoic acid (PFPeA)	NH-P,NY,PA,WV,CT
Perfluorohexanoic acid (PFHxA)	NH-P,NY,PA,WV,CT
Perfluoroheptanoic acid (PFHpA)	NH-P,NY,PA,WV,CT
Perfluorooctanoic acid (PFOA)	NH-P,NY,PA,WV,CT
Perfluorononanoic acid (PFNA)	NH-P,NY,PA,WV,CT
Perfluorodecanoic acid (PFDA)	NH-P,NY,PA,WV,CT
Perfluoroundecanoic acid (PFUnA)	NH-P,NY,PA,WV,CT
Perfluorododecanoic acid (PFDoA)	NH-P,NY,PA,WV,CT
Perfluorotridecanoic acid (PFTrDA)	NH-P,NY,PA,WV,CT
Perfluorotetradecanoic acid (PFTeDA)	NH-P,NY,PA,WV,CT
Perfluorobutanesulfonic acid (PFBS)	NH-P,NY,PA,WV,CT
Perfluoropentanesulfonic acid (PFPeS)	NH-P,NY,PA,WV,CT
Perfluorohexanesulfonic acid (PFHxS)	NH-P,NY,PA,WV,CT
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonic acid (PFOS)	NH-P,NY,PA,WV,CT
Perfluorononanesulfonic acid (PFNS)	NH-P,PA,WV,CT
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA,WV,CT
Perfluorododecanesulfonic acid (PFDoS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,PA,WV,CT
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,NY,PA,WV,CT
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,NY,PA,WV,CT
Perfluorooctanesulfonamide (PFOSA)	NH-P,PA,WV,CT
N-methyl perfluorooctanesulfonamide (NMeFOSA)	NH-P,PA,WV,CT
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,PA,WV,CT
N-MeFOSAA (NMeFOSAA)	NH-P,NY,PA,WV,CT
N-EtFOSAA (NEtFOSAA)	NH-P,NY,PA,WV,CT
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,PA,WV,CT
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,PA,WV,CT
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,NY,PA,WV,CT
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,NY,PA,WV,CT
9Cl-PF3ONS (F53B Minor)	NH-P,NY,PA,WV,CT
11Cl-PF3OUdS (F53B Major)	NH-P,NY,PA,WV,CT
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,PA,WV,CT
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,PA,WV,CT
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,PA,WV,CT
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	NH-P,NY,PA,WV,CT
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,NY,PA,WV,CT
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,PA,WV,CT
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA,WV,CT



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
RI	Rhode Island Department of Health	LAO00373	12/30/2024
NC	North Carolina Div. of Water Quality	652	12/31/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2024

24G0667

Sub-Contract Chain of Custody

Batch Date/Time: 07/01/24 13:30
Sub-Contract Lab: PACEELMA
Address: 39 Spruce St
City/State: East Longmeadow, MA
01028

Contact:
elonprojectmanagers@pacelabs.com

Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

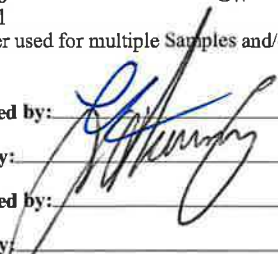
WO: WG2315430
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/08/24
ESC Purchase Order #: L1751493
Send Reports to: Angela Ford



12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Method	Sample Number Lab Use Only	Sample Comments Lab Use Only
POST ELECTROLYSIS PFAS							
48226110	GW	NM	06/27/24 10:30	PFAS by 537M	537	1. L1751493-02	PFAS 1633
48226111							

*= Container used for multiple Samples and/or Analyses

Relinquished by:  Date: 7/1/24
Received by: 48 Date: 7/2/24 0952
Relinquished by: _____ Date: _____
Received by: _____ Date: _____



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DELIVERED

Tuesday

7/2/24 at 9:52 AM

Signed for by: C.HENRIQUEZ

↓ Obtain proof of delivery

DELIVERY STATUS

Delivered ✓

🔍 Report missing package

TRACKING ID

777124421422 ✎ ☆



FROM

Mt. Juliet, TN US

Label Created

6/28/24 1:52 PM

MOBILE, AL

6/29/24 1:37 PM

ON THE WAY

WINDSOR LOCKS, CT

7/2/24 8:24 AM

OUT FOR DELIVERY

WINDSOR LOCKS, CT

7/2/24 8:35 AM

DELIVERED

EAST LONGMEADOW, MA US

Delivered

7/2/24 at 9:52 AM

↓ [View travel history](#)

Want updates on this shipment? Enter your email and we will do the rest!

Your email

SUBMIT

✖ Your email is a required field.

Pace

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Log In Back-Sheet

Client: Pace - TN
 Project: WG 2315450
 MCP/RCP Required: NO
 Deliverable Package Requirement: NO
 Location: TN
 PWSID# (When Applicable): NA
 Arrival Method:
 Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐
 Received By / Date / Time: MEM 7/12/24 952
 Back-Sheet By / Date / Time: SN 7/13/24 1351
 Temperature Method: gun = 6
 WV samples: Yes (see note*) / No (follow normal procedure): 0
 Temp < 6°C Actual Temperature: 4.8
 Rush Samples: Yes 0 / No 0
 Short Hold: Yes 0 / No 0

Notes regarding Samples/COC outside of SOP:

Log In Sample Receptor Checklist - (Reject on Criteria Listing - Using Acceptance Policy) Any False statement will be brought to the attention of the Client - True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☐	☒
Tri-BLANKS	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐
COC Included / Check all included	☒	☐
Client Analysis	☒	☒
Project IDs	☒	☒
Sampler Name	☒	☒
Collection Date/Time	☒	☒
All Samples Proper pH:	☒ <u>NA</u>	☐

Additional Container Notes

(Note: West Virginia requires all samples to have their temperature taken. Note any outliers.)

Qualtrax ID: 120836

Page 2 of 2

Sample	Soils Jars				Ambers				Plastics							VOA Vials					Other / Fill in				
	(Circle Amb/Clear)				1 Liter				250ml		500ml					Unpreserved	HCl	MeOH	D.I. Water	BiSulfate					
											Unpreserved	Sulfuric	Unpreserved	Sulfuric	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc					
1	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved
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DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Face

Effective Date: 06/11/2024



ANALYTICAL REPORT

August 05, 2024

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1751512
Samples Received: 06/28/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot
Site: CCR
Report To: Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

T. Alan Harvill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
CCR CLEAN EFFLUENT RAD L1751512-01	5	⁴ Cn
Qc: Quality Control Summary	6	
Radiochemistry by Method 900	6	⁵ Sr
Radiochemistry by Method 904/9320	7	
Radiochemistry by Method D3972 U-02	8	⁶ Qc
Radiochemistry by Method SM7500Ra B M	9	⁷ Gl
Gl: Glossary of Terms	10	
Al: Accreditations & Locations	11	⁸ Al
Sc: Sample Chain of Custody	12	⁹ Sc

CCR CLEAN EFFLUENT RAD L1751512-01 Non-Potable Water

Collected by
Danny Daniels

Collected date/time
06/27/24 08:30

Received date/time
06/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG2316723	1	07/08/24 08:58	07/15/24 17:39	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2323477	1	07/29/24 23:37	08/01/24 21:34	DDD	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG2327890	1	07/23/24 13:53	07/24/24 22:24	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2321048	1	07/12/24 11:45	07/16/24 10:52	ZRG	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



T. Alan Harvill
Project Manager

- 1
Cp
- 2
Tc
- 3
Ss
- 4
Cn
- 5
Sr
- 6
Qc
- 7
Gl
- 8
Al
- 9
Sc

Collected date/time: 06/27/24 08:30

L1751512

Radiochemistry by Method 900

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
GROSS ALPHA	2.89		0.837	0.884	0.774	0.327	07/15/2024 17:39	WG2316723
GROSS BETA	2.48		1.31	1.36	1.62	0.777	07/15/2024 17:39	WG2316723

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	-0.909	U	0.779	0.897	1.46	0.760	08/01/2024 21:34	WG2323477
(T) Barium	84.8					30.0-143	08/01/2024 21:34	WG2323477
(T) Yttrium	84.0					30.0-136	08/01/2024 21:34	WG2323477

Radiochemistry by Method D3972 U-02

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
URANIUM-234	0.324		0.242	0.394	0.225	0.176	07/24/2024 22:24	WG2327890
URANIUM-235	0.0241	U	0.0914	0.244	0.196	0.162	07/24/2024 22:24	WG2327890
URANIUM-238	0.315		0.245	0.397	0.247	0.187	07/24/2024 22:24	WG2327890
(T) URANIUM-232	80.8					30.0-110	07/24/2024 22:24	WG2327890

⁷Gl⁸Al⁹Sc

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	2.18		0.536	0.650	0.157	0.130	07/16/2024 10:52	WG2321048
(T) Barium-133	95.5					30.0-143	07/16/2024 10:52	WG2321048

Radiochemistry by Method 900

L1751512-01

Method Blank (MB)

(MB) R4095508-1 07/15/24 13:38

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
GROSS ALPHA	-0.0594	U	0.409	0.657	0.273
GROSS BETA	-0.0548	U	1.17	1.59	0.762

¹Cp

²Tc

³Ss

⁴Cn

L1752343-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752343-01 07/15/24 17:39 • (DUP) R4095508-4 07/15/24 13:39

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
GROSS ALPHA	4.95	8.17	11.4	4.91	7.17	6.30	8.11	3.32	36.6	0.215	J	20	3
GROSS BETA	9.75	5.30	6.55	3.11	5.84	5.01	6.41	3.03	50.2	0.537	J	20	3

⁵Sr

⁶Qc

⁷Gl

Laboratory Control Sample (LCS)

(LCS) R4095508-2 07/15/24 13:38

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	12.8	85.2	80.0-120	
GROSS BETA	40.2	37.6	93.5	80.0-120	

⁸Al

⁹Sc

L1751637-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751637-01 07/15/24 17:39 • (MS) R4095508-6 07/16/24 22:40 • (MSD) R4095508-7 07/16/24 22:40

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	15.0	15.8	30.7	39.0	99.3	154	1	70.0-130		J3 J5	23.7		20
GROSS BETA	40.2	10.7	47.4	49.1	91.3	95.4	1	70.0-130			3.44		20

Radiochemistry by Method 904/9320

L1751512-01

Method Blank (MB)

(MB) R4102183-1 08/01/24 21:34

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.304		0.159	0.284	0.150
(T) Barium	123		123		
(T) Yttrium	88.3		88.3		

L1756483-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1756483-03 08/01/24 21:34 • (DUP) R4102183-5 08/01/24 21:34

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.461	0.299	0.538	0.284	0.684	0.472	0.845	0.441	38.9	0.398	J	20	3
(T) Barium	128				117	117							
(T) Yttrium	97.6				75.4	75.4							

Laboratory Control Sample (LCS)

(LCS) R4102183-2 08/01/24 21:34

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.18	83.6	80.0-120	
(T) Barium			124		
(T) Yttrium			85.3		

L1751512-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751512-01 08/01/24 21:34 • (MS) R4102183-3 08/01/24 21:34 • (MSD) R4102183-4 08/01/24 21:34

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	-0.909	15.9	18.2	95.4	109	1	70.0-130			13.3		20
(T) Barium		84.8			113	114							
(T) Yttrium		84.0			105	89.3							

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Method Blank (MB)

(MB) R4098626-1 07/24/24 22:24

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
URANIUM-234	0.106		0.0424	0.0287	0.0205
URANIUM-235	0.0486		0.0294	0.0239	0.0181
URANIUM-238	0.0980		0.0408	0.0287	0.0205
(T) URANIUM-232	95.7		95.7		

L1756891-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1756891-07 07/24/24 22:24 • (DUP) R4098626-5 07/24/24 22:24

Analyte	Original Result uCi/f	Original 2 sigma CE + / -	Original MDA uCi/f	Original Lc uCi/f	DUP Result uCi/f	DUP 2 sigma CE + / -	DUP MDA uCi/f	DUP Lc uCi/f	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
URANIUM-234	0.000000588	0.000000205	0.000000106	0.0000000802	0.000000641	0.000000235	0.000000127	0.0000000963	8.60	0.170		20	3
URANIUM-235	0.000000141	0.000000109	0.000000106	0.0000000802	0.000000216	0.000000144	0.000000127	0.0000000963	41.7	0.412		20	3
URANIUM-238	0.000000516	0.000000193	0.000000106	0.0000000802	0.000000598	0.000000227	0.000000127	0.0000000963	14.7	0.275		20	3
(T) URANIUM-232	91.6				87.1	87.1							

Laboratory Control Sample (LCS)

(LCS) R4098626-2 07/24/24 22:24

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	5.03	5.17	103	80.0-120	
URANIUM-238	4.90	5.16	105	80.0-120	
(T) URANIUM-232			82.0		

L1750527-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750527-01 07/24/24 22:24 • (MS) R4098626-3 07/24/24 22:24 • (MSD) R4098626-4 07/24/24 22:24

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
URANIUM-234	20.1	0.302	20.6	22.5	101	110	1	75.0-125			8.83		20
URANIUM-238	19.6	0.302	21.7	20.6	109	104	1	75.0-125			5.06		20
(T) URANIUM-232		96.1			72.9	82.1							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method SM7500Ra B M [L1751512-01](#)

Method Blank (MB)

(MB) R4094999-1 07/16/24 10:52

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.000	<u>U</u>	0.0166	0.0369	0.0248
(T) Barium-133	88.6		88.6		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1752797-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752797-01 07/16/24 10:52 • (DUP) R4094999-5 07/16/24 10:52

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.566	0.274	0.155	0.128	0.274	0.230	0.258	0.188	69.7	0.819		20	3
(T) Barium-133	95.9				103	103							

Laboratory Control Sample (LCS)

(LCS) R4094999-2 07/16/24 10:52

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.93	119	75.0-125	
(T) Barium-133			79.8		

L1753540-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753540-01 07/16/24 10:52 • (MS) R4094999-3 07/16/24 10:52 • (MSD) R4094999-4 07/16/24 10:52

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	2.30	19.5	23.8	86.2	107	1	75.0-125			19.5		20
(T) Barium-133		95.2			84.7	77.8							

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
U	Below Detectable Limits: Indicates that the analyte was not detected.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM



ANALYTICAL REPORT

July 31, 2024

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1751514
Samples Received: 06/28/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot

Report To: Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

Entire Report Reviewed By: 
Shane Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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Cn: Case Narrative	4	
Sr: Sample Results	5	3 Ss
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Qc: Quality Control Summary	10	4 Cn
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Gravimetric Analysis by Method 2540 D-2015	11	
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Wet Chemistry by Method 1664A	13	
Wet Chemistry by Method 2580	14	7 Gl
Wet Chemistry by Method 300.0	16	8 Al
Wet Chemistry by Method 350.1	18	
Wet Chemistry by Method 3500Cr B-2011	19	9 Sc
Wet Chemistry by Method 4500H+ B-2011	20	
Wet Chemistry by Method 5310 B-2014	21	
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CCR CLEAN EFFLUENT L1751514-01 WW

Collected by
Danny Daniels

Collected date/time
06/27/24 08:30

Received date/time
06/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2317955	1	07/12/24 08:27	07/12/24 08:27	JTM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2314981	1	07/01/24 09:29	07/01/24 12:10	MMF	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2316300	1	07/03/24 10:01	07/03/24 10:05	DLS	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2316569	1	07/04/24 13:30	07/04/24 13:30	KA	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG2314724	1	07/01/24 06:17	07/01/24 13:41	DAL	Mt. Juliet, TN
Wet Chemistry by Method 2580	WG2316366	1	07/03/24 14:32	07/03/24 14:32	BJM	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2323832	10	07/21/24 04:46	07/21/24 04:46	DLH	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2318852	10	07/08/24 16:04	07/08/24 16:04	BMD	Mt. Juliet, TN
Wet Chemistry by Method 3500Cr B-2011	WG2314470	1	06/29/24 11:24	06/29/24 11:24	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2316202	1	07/03/24 18:15	07/03/24 18:15	KRB	Mt. Juliet, TN
Wet Chemistry by Method 45000 G-2016	WG2316726	1	07/03/24 10:03	07/03/24 10:03	BGE	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2320202	1	07/11/24 00:55	07/11/24 00:55	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2318650	1	07/07/24 12:00	07/08/24 02:52	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5540 C-2011	WG2314111	1	06/28/24 12:49	06/28/24 14:06	JAR	Mt. Juliet, TN
Mercury by Method 245.1	WG2314582	1	07/01/24 14:47	07/02/24 11:54	AKB	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2317955	1	07/11/24 22:23	07/12/24 08:27	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2317977	1	07/14/24 09:19	07/28/24 18:22	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2316293	1	07/02/24 21:11	07/02/24 21:11	DYW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2318261	10	07/06/24 02:15	07/06/24 02:15	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2316105	1	07/04/24 06:48	07/04/24 19:50	LS	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Shane Gambill
Project Manager

Sample Delivery Group (SDG) Narrative

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Lab Sample ID	Project Sample ID	Method
L1751514-01	CCR CLEAN EFFLUENT	4500O G-2016, 1664A

The Laboratory is not accredited for specific analytes on the associated Sample/Method. These analytes are flagged in the Sample Results section of the report with an asterisk (*).

Lab Sample ID	Project Sample ID	Method
L1751514-01	CCR CLEAN EFFLUENT	300.0

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Trivalent	ND	T8	0.0100	1	07/12/2024 08:27	WG2317955

1
Cp

2
Tc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	17.0	P1	10.0	1	07/01/2024 12:10	WG2314981

3
Ss

4
Cn

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Suspended Solids	ND		2.50	1	07/03/2024 10:05	WG2316300

5
Sr

6
Qc

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	594		10.0	1	07/04/2024 13:30	WG2316569

7
Gl

8
Al

Sample Narrative:

L1751514-01 WG2316569: at 25C

9
Sc

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	ND		5.56	1	07/01/2024 13:41	WG2314724

Wet Chemistry by Method 2580

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
ORP	163	T8	1	07/03/2024 14:32	WG2316366

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
*Bromide	ND		10.0	10	07/21/2024 04:46	WG2323832
Chloride	ND		10.0	10	07/21/2024 04:46	WG2323832
Fluoride	ND		1.50	10	07/21/2024 04:46	WG2323832
Sulfate	ND		50.0	10	07/21/2024 04:46	WG2323832

Sample Narrative:

L1751514-01 WG2323832: dilution due to sample matrix

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	89.4		2.50	10	07/08/2024 16:04	WG2318852

Wet Chemistry by Method 3500Cr B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND	T8	0.0100	1	06/29/2024 11:24	WG2314470

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.84	T8	1	07/03/2024 18:15	WG2316202

Sample Narrative:
L1751514-01 WG2316202: 8.84 at 23C

Wet Chemistry by Method 4500O G-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Oxygen	7.6 at 6.4c	T8	3	1	07/03/2024 10:03	WG2316726

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	19.9		1.00	1	07/11/2024 00:55	WG2320202

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
DOC	16.1	T8	1.00	1	07/08/2024 02:52	WG2318650

Wet Chemistry by Method 5540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
MBAS	ND		0.100	1	06/28/2024 14:06	WG2314111

Mercury by Method 245.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	07/02/2024 11:54	WG2314582

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Aluminum	ND		0.200	1	07/12/2024 08:27	WG2317955
Antimony	ND		0.0100	1	07/12/2024 08:27	WG2317955
Arsenic	ND		0.0100	1	07/12/2024 08:27	WG2317955
Barium	0.0103		0.00500	1	07/12/2024 08:27	WG2317955
Beryllium	ND		0.00200	1	07/12/2024 08:27	WG2317955
Cadmium	ND		0.00200	1	07/12/2024 08:27	WG2317955
Chromium	ND		0.0100	1	07/12/2024 08:27	WG2317955
Copper	ND		0.0100	1	07/12/2024 08:27	WG2317955
Lead	ND		0.00500	1	07/12/2024 08:27	WG2317955
Lithium	ND		0.0150	1	07/12/2024 08:27	WG2317955
Nickel	ND		0.0100	1	07/12/2024 08:27	WG2317955
Selenium	ND		0.0100	1	07/12/2024 08:27	WG2317955
Silicon	ND		0.200	1	07/12/2024 08:27	WG2317955
Silver	ND		0.00500	1	07/12/2024 08:27	WG2317955
Strontium	0.355		0.0100	1	07/12/2024 08:27	WG2317955
Thallium	ND		0.0100	1	07/12/2024 08:27	WG2317955
Vanadium	ND		0.0200	1	07/12/2024 08:27	WG2317955
Zinc	ND		0.0500	1	07/12/2024 08:27	WG2317955
Phosphorus	ND		0.100	1	07/12/2024 08:27	WG2317955

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 06/27/24 08:30

L1751514

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	0.498		0.0400	1	07/28/2024 18:22	WG2317977
Calcium	1.84		1.00	1	07/28/2024 18:22	WG2317977
Cobalt	ND		0.00200	1	07/28/2024 18:22	WG2317977
Iron	ND		0.100	1	07/28/2024 18:22	WG2317977
Magnesium	ND		1.00	1	07/28/2024 18:22	WG2317977
Manganese	ND		0.00500	1	07/28/2024 18:22	WG2317977
Molybdenum	ND		0.00500	1	07/28/2024 18:22	WG2317977
Potassium	ND		1.00	1	07/28/2024 18:22	WG2317977
Sodium	5.17		2.00	1	07/28/2024 18:22	WG2317977
Tin	ND		0.00400	1	07/28/2024 18:22	WG2317977
Titanium	ND		0.0100	1	07/28/2024 18:22	WG2317977

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.199		0.0100	10	07/06/2024 02:15	WG2318261
Bromodichloromethane	ND		0.00100	1	07/02/2024 21:11	WG2316293
Bromoform	ND		0.00100	1	07/02/2024 21:11	WG2316293
Bromomethane	ND		0.00500	1	07/02/2024 21:11	WG2316293
Carbon tetrachloride	ND		0.00100	1	07/02/2024 21:11	WG2316293
Chlorobenzene	ND		0.00100	1	07/02/2024 21:11	WG2316293
Chlorodibromomethane	ND		0.00100	1	07/02/2024 21:11	WG2316293
Chloroethane	ND		0.00500	1	07/02/2024 21:11	WG2316293
2-Chloroethyl vinyl ether	ND		0.0500	1	07/02/2024 21:11	WG2316293
Chloroform	ND		0.00500	1	07/02/2024 21:11	WG2316293
Chloromethane	ND		0.00250	1	07/02/2024 21:11	WG2316293
1,2-Dichlorobenzene	ND		0.00100	1	07/02/2024 21:11	WG2316293
1,3-Dichlorobenzene	ND		0.00100	1	07/02/2024 21:11	WG2316293
1,4-Dichlorobenzene	ND		0.00100	1	07/02/2024 21:11	WG2316293
Dichlorodifluoromethane	ND		0.00500	1	07/02/2024 21:11	WG2316293
1,1-Dichloroethane	ND		0.00100	1	07/02/2024 21:11	WG2316293
1,2-Dichloroethane	ND		0.00100	1	07/02/2024 21:11	WG2316293
1,1-Dichloroethene	ND		0.00100	1	07/02/2024 21:11	WG2316293
trans-1,2-Dichloroethene	ND		0.00100	1	07/02/2024 21:11	WG2316293
1,2-Dichloropropane	ND		0.00100	1	07/02/2024 21:11	WG2316293
cis-1,3-Dichloropropene	ND		0.00100	1	07/02/2024 21:11	WG2316293
trans-1,3-Dichloropropene	ND		0.00100	1	07/02/2024 21:11	WG2316293
Ethylbenzene	0.00368		0.00100	1	07/02/2024 21:11	WG2316293
Methylene Chloride	ND		0.00500	1	07/02/2024 21:11	WG2316293
Methyl tert-butyl ether	ND		0.00100	1	07/02/2024 21:11	WG2316293
Naphthalene	ND		0.00500	1	07/02/2024 21:11	WG2316293
1,1,2,2-Tetrachloroethane	ND		0.00100	1	07/02/2024 21:11	WG2316293
Tetrachloroethene	ND		0.00100	1	07/02/2024 21:11	WG2316293
Toluene	0.158		0.00100	1	07/02/2024 21:11	WG2316293
1,1,1-Trichloroethane	ND		0.00100	1	07/02/2024 21:11	WG2316293
1,1,2-Trichloroethane	ND		0.00100	1	07/02/2024 21:11	WG2316293
Trichloroethene	ND		0.00100	1	07/02/2024 21:11	WG2316293
Trichlorofluoromethane	ND		0.00500	1	07/02/2024 21:11	WG2316293
Vinyl chloride	ND		0.00100	1	07/02/2024 21:11	WG2316293
o-Xylene	0.0178		0.00100	1	07/02/2024 21:11	WG2316293
m&p-Xylene	0.0417		0.00200	1	07/02/2024 21:11	WG2316293
Xylenes, Total	0.0595		0.00300	1	07/02/2024 21:11	WG2316293
(S) Toluene-d8	107		80.0-120		07/02/2024 21:11	WG2316293
(S) Toluene-d8	98.3		80.0-120		07/06/2024 02:15	WG2318261
(S) 4-Bromofluorobenzene	104		80.0-120		07/02/2024 21:11	WG2316293
(S) 4-Bromofluorobenzene	99.2		80.0-120		07/06/2024 02:15	WG2318261

Collected date/time: 06/27/24 08:30

L1751514

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
(S) 1,2-Dichloroethane-d4	102		70.0-130		07/02/2024 21:11	WG2316293
(S) 1,2-Dichloroethane-d4	103		70.0-130		07/06/2024 02:15	WG2318261

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Acenaphthylene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Anthracene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Benzidine	ND		0.0100	1	07/04/2024 19:50	WG2316105
Benzo(a)anthracene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Benzo(b)fluoranthene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Benzo(k)fluoranthene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Benzo(g,h,i)perylene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Benzo(a)pyrene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Bis(2-chlorethoxy)methane	ND		0.0100	1	07/04/2024 19:50	WG2316105
Bis(2-chloroethyl)ether	ND		0.0100	1	07/04/2024 19:50	WG2316105
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	07/04/2024 19:50	WG2316105
4-Bromophenyl-phenylether	ND		0.0100	1	07/04/2024 19:50	WG2316105
2-Chloronaphthalene	ND		0.00100	1	07/04/2024 19:50	WG2316105
4-Chlorophenyl-phenylether	ND		0.0100	1	07/04/2024 19:50	WG2316105
Chrysene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Dibenz(a,h)anthracene	ND		0.00100	1	07/04/2024 19:50	WG2316105
3,3-Dichlorobenzidine	ND		0.0100	1	07/04/2024 19:50	WG2316105
2,4-Dinitrotoluene	ND		0.0100	1	07/04/2024 19:50	WG2316105
2,6-Dinitrotoluene	ND		0.0100	1	07/04/2024 19:50	WG2316105
1,2-Diphenylhydrazine	ND	N2	0.0100	1	07/04/2024 19:50	WG2316105
Fluoranthene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Fluorene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Hexachlorobenzene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Hexachloro-1,3-butadiene	ND		0.0100	1	07/04/2024 19:50	WG2316105
Hexachlorocyclopentadiene	ND		0.0100	1	07/04/2024 19:50	WG2316105
Hexachloroethane	ND		0.0100	1	07/04/2024 19:50	WG2316105
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	07/04/2024 19:50	WG2316105
Isophorone	ND		0.0100	1	07/04/2024 19:50	WG2316105
Naphthalene	0.00332		0.00100	1	07/04/2024 19:50	WG2316105
Nitrobenzene	ND		0.0100	1	07/04/2024 19:50	WG2316105
n-Nitrosodimethylamine	ND		0.0100	1	07/04/2024 19:50	WG2316105
n-Nitrosodiphenylamine	ND		0.0100	1	07/04/2024 19:50	WG2316105
n-Nitrosodi-n-propylamine	ND		0.0100	1	07/04/2024 19:50	WG2316105
Phenanthrene	0.00104		0.00100	1	07/04/2024 19:50	WG2316105
Benzylbutyl phthalate	ND		0.00300	1	07/04/2024 19:50	WG2316105
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	07/04/2024 19:50	WG2316105
Di-n-butyl phthalate	ND		0.00300	1	07/04/2024 19:50	WG2316105
Diethyl phthalate	ND		0.00300	1	07/04/2024 19:50	WG2316105
Dimethyl phthalate	ND		0.00300	1	07/04/2024 19:50	WG2316105
Di-n-octyl phthalate	ND		0.00300	1	07/04/2024 19:50	WG2316105
Pyrene	ND		0.00100	1	07/04/2024 19:50	WG2316105
1,2,4-Trichlorobenzene	ND		0.0100	1	07/04/2024 19:50	WG2316105
4-Chloro-3-methylphenol	ND		0.0100	1	07/04/2024 19:50	WG2316105
2-Chlorophenol	ND		0.0100	1	07/04/2024 19:50	WG2316105
2,4-Dichlorophenol	ND		0.0100	1	07/04/2024 19:50	WG2316105
2,4-Dimethylphenol	ND		0.0100	1	07/04/2024 19:50	WG2316105
4,6-Dinitro-2-methylphenol	ND		0.0100	1	07/04/2024 19:50	WG2316105
2,4-Dinitrophenol	ND		0.0100	1	07/04/2024 19:50	WG2316105
2-Nitrophenol	ND		0.0100	1	07/04/2024 19:50	WG2316105

Collected date/time: 06/27/24 08:30 L1751514

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
4-Nitrophenol	ND		0.0100	1	07/04/2024 19:50	WG2316105
Pentachlorophenol	ND		0.0100	1	07/04/2024 19:50	WG2316105
Phenol	0.0291		0.0100	1	07/04/2024 19:50	WG2316105
2,4,6-Trichlorophenol	ND		0.0100	1	07/04/2024 19:50	WG2316105
(S) Nitrobenzene-d5	73.5		15.0-314		07/04/2024 19:50	WG2316105
(S) 2-Fluorobiphenyl	77.1		22.0-127		07/04/2024 19:50	WG2316105
(S) p-Terphenyl-d14	90.1		29.0-141		07/04/2024 19:50	WG2316105
(S) Phenol-d5	29.6		8.00-424		07/04/2024 19:50	WG2316105
(S) 2-Fluorophenol	39.8		10.0-120		07/04/2024 19:50	WG2316105
(S) 2,4,6-Tribromophenol	99.5		10.0-153		07/04/2024 19:50	WG2316105

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Gravimetric Analysis by Method 2540 C-2011 [L1751514-01](#)

Method Blank (MB)

(MB) R4089876-1 07/01/24 12:10

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750522-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750522-01 07/01/24 12:10 • (DUP) R4089876-3 07/01/24 12:10

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	127	131	1	3.10		10

L1751514-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751514-01 07/01/24 12:10 • (DUP) R4089876-4 07/01/24 12:10

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	17.0	19.0	1	11.1	P1	10

Laboratory Control Sample (LCS)

(LCS) R4089876-2 07/01/24 12:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Dissolved Solids	8800	8690	98.8	85.0-115	

Gravimetric Analysis by Method 2540 D-2015 [L1751514-01](#)

Method Blank (MB)

(MB) R4090457-1 07/03/24 10:05

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Suspended Solids	U		2.50	2.50

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1751602-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-02 07/03/24 10:05 • (DUP) R4090457-4 07/03/24 10:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Suspended Solids	39.0	41.3	1	5.80		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R4090457-2 07/03/24 10:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Suspended Solids	773	748	96.8	85.0-115	

⁹Sc

Method Blank (MB)

(MB) R4090126-1 07/04/24 13:30

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1751097-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751097-01 07/04/24 13:30 • (DUP) R4090126-3 07/04/24 13:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	122	122	1	0.000		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1752665-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752665-01 07/04/24 13:30 • (DUP) R4090126-4 07/04/24 13:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	492	492	1	0.000		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4090126-2 07/04/24 13:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	721	98.4	85.0-115	

Sample Narrative:
LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4088754-1 07/01/24 13:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	U		1.16	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4088754-2 07/01/24 13:41 • (LCSD) R4088754-3 07/01/24 13:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	35.2	35.3	88.0	88.3	78.0-114			0.284	20

L1751478-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751478-01 07/01/24 13:41 • (MS) R4088754-4 07/01/24 13:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	ND	39.4	98.6	1	78.0-114	

W02316968

Wet Chemistry by Method 2580

[L1751514-01](#)

L1751210-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1751210-12 07/03/24 14:32 • (DUP) R4089766-3 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	142	136	1	6.10		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751478-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751478-01 07/03/24 14:32 • (DUP) R4089766-4 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	167	170	1	2.80		20

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 07/03/24 14:32 • (DUP) R4089766-5 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	113	110	1	3.20		20

L1751514-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751514-01 07/03/24 14:32 • (DUP) R4089766-6 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	163	166	1	2.90		20

L1751541-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751541-01 07/03/24 14:32 • (DUP) R4089766-7 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	215	215	1	0.000		20

L1752035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752035-01 07/03/24 14:32 • (DUP) R4089766-8 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	134	134	1	0.700		20

L1752035-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1752035-02 07/03/24 14:32 • (DUP) R4089766-9 07/03/24 14:32

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	<u>DUP Qualifier</u>	DUP Diff Limits mV
ORP	146	144	1	2.50		20

¹Cp

²Tc

³Ss

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4089766-1 07/03/24 14:32 • (LCSD) R4089766-2 07/03/24 14:32

Analyte	Spike Amount mV	LCS Result mV	LCSD Result mV	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	Diff mV	Diff Limits mV
ORP	238	227	223	95.3	93.8	90.0-110			3.70	20

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4096665-1 07/20/24 21:29

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Bromide	U		0.353	1.00
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1751418-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1751418-13 07/21/24 00:41 • (DUP) R4096665-3 07/21/24 00:56

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Bromide	ND	ND	1	0.000		15
Chloride	71.1	71.0	1	0.0902		15
Fluoride	0.254	0.283	1	10.9		15
Sulfate	ND	ND	1	1.55		15

L1751481-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-01 07/21/24 02:12 • (DUP) R4096665-6 07/21/24 02:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Bromide	ND	ND	1	2.86		15
Chloride	14.4	14.2	1	1.36		15
Fluoride	0.212	0.216	1	1.73		15
Sulfate	28.7	28.2	1	1.86		15

Laboratory Control Sample (LCS)

(LCS) R4096665-2 07/20/24 21:44

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Bromide	40.0	38.0	95.0	90.0-110	
Chloride	40.0	40.0	100	90.0-110	
Fluoride	8.00	8.34	104	90.0-110	
Sulfate	40.0	39.0	97.5	90.0-110	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 300.0

L1751514-01

L1751418-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751418-13 07/21/24 00:41 • (MS) R4096665-4 07/21/24 01:11 • (MSD) R4096665-5 07/21/24 01:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	ND	38.4	38.0	96.1	95.0	1	80.0-120			1.10	15
Chloride	40.0	71.1	98.1	96.6	67.7	63.8	1	80.0-120	J6	J6	1.60	15
Fluoride	8.00	0.254	8.36	8.17	101	98.9	1	80.0-120			2.35	15
Sulfate	40.0	ND	42.6	41.9	98.4	96.5	1	80.0-120			1.78	15

L1751481-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751481-01 07/21/24 02:12 • (MS) R4096665-7 07/21/24 02:43

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	ND	38.1	93.7	1	80.0-120	
Chloride	40.0	14.4	50.6	90.4	1	80.0-120	
Fluoride	8.00	0.212	8.21	100	1	80.0-120	
Sulfate	40.0	28.7	63.0	85.7	1	80.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4091242-1 07/08/24 15:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	U		0.117	0.250

L1751504-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751504-01 07/08/24 15:51 • (DUP) R4091242-3 07/08/24 15:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	4.19	4.17	1	0.574		10

L1751602-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-06 07/08/24 16:27 • (DUP) R4091242-6 07/08/24 16:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	ND	ND	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R4091242-2 07/08/24 15:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.31	97.4	90.0-110	

L1751504-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751504-01 07/08/24 15:51 • (MS) R4091242-4 07/08/24 15:54 • (MSD) R4091242-5 07/08/24 15:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	4.19	8.95	9.12	95.0	98.6	1	90.0-110			1.96	10

L1751602-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751602-06 07/08/24 16:27 • (MS) R4091242-7 07/08/24 16:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	ND	5.02	100	1	90.0-110	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 3500Cr B-2011

[L1751514-01](#)

Method Blank (MB)

(MB) R4088099-1 06/29/24 11:20

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Chromium,Hexavalent	U		0.00300	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 06/29/24 11:23 • (DUP) R4088099-5 06/29/24 11:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4088099-2 06/29/24 11:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Chromium,Hexavalent	0.500	0.539	108	80.0-120	

L1751478-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751478-01 06/29/24 11:23 • (MS) R4088099-3 06/29/24 11:23 • (MSD) R4088099-4 06/29/24 11:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chromium,Hexavalent	0.500	ND	0.525	0.493	105	98.6	1	75.0-125			6.29	20

L1751481-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-01 07/03/24 18:15 • (DUP) R4089964-2 07/03/24 18:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.70	7.70	1	0.000		1

Sample Narrative:

OS: 7.7 at 22.8C

DUP: 7.7 at 22.9C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751602-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-03 07/03/24 18:15 • (DUP) R4089964-3 07/03/24 18:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.36	7.36	1	0.000		1

Sample Narrative:

OS: 7.36 at 23C

DUP: 7.36 at 23.8C

Laboratory Control Sample (LCS)

(LCS) R4089964-1 07/03/24 18:15

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 23.7C

Wet Chemistry by Method 5310 B-2014

[L1751514-01](#)

Method Blank (MB)

(MB) R4091056-2 07/08/24 01:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
DOC	0.191	⬇	0.106	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751680-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751680-01 07/08/24 05:15 • (DUP) R4091056-5 07/08/24 05:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	12.0	12.0	1	0.667		20

L1754024-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1754024-09 07/08/24 08:39 • (DUP) R4091056-6 07/08/24 08:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	6.95	7.55	1	8.29		20

Laboratory Control Sample (LCS)

(LCS) R4091056-1 07/08/24 01:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
DOC	25.0	25.5	102	85.0-115	

L1754024-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754024-10 07/08/24 09:14 • (MS) R4091056-7 07/08/24 09:43 • (MSD) R4091056-8 07/08/24 10:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
DOC	25.0	3.59	28.2	29.0	98.4	102	1	80.0-120			2.97	20

Wet Chemistry by Method 5310 B-2014

L1751514-01

Method Blank (MB)

(MB) R4092744-2 07/10/24 11:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.141	⬇	0.102	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751478-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751478-01 07/10/24 19:57 • (DUP) R4092744-3 07/10/24 20:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	ND	ND	1	27.5	P1	20

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 07/11/24 00:15 • (DUP) R4092744-4 07/11/24 00:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	1.04	ND	1	8.28		20

Laboratory Control Sample (LCS)

(LCS) R4092744-1 07/10/24 11:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	24.8	99.3	85.0-115	

L1751514-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751514-01 07/11/24 00:55 • (MS) R4092744-5 07/11/24 01:18 • (MSD) R4092744-6 07/11/24 01:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	19.9	43.3	43.5	93.6	94.3	1	85.0-115			0.415	20

L1751481-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751481-01 07/11/24 03:44 • (MS) R4092744-7 07/11/24 04:06 • (MSD) R4092744-8 07/11/24 04:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	9.28	32.3	32.2	92.0	91.6	1	85.0-115			0.279	20

Wet Chemistry by Method 5540 C-2011

[L1751514-01](#)

Method Blank (MB)

(MB) R4087820-1 06/28/24 14:01

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
MBAS	U		0.0190	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751529-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751529-01 06/28/24 14:11 • (DUP) R4087820-5 06/28/24 14:12

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
MBAS	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4087820-2 06/28/24 14:01

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
MBAS	1.00	0.956	95.6	85.0-115	

L1751514-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751514-01 06/28/24 14:06 • (MS) R4087820-3 06/28/24 14:09 • (MSD) R4087820-4 06/28/24 14:10

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
MBAS	1.00	ND	0.925	0.866	92.5	86.6	1	85.0-115			6.59	20

Mercury by Method 245.1 [L1751514-01](#)

Method Blank (MB)

(MB) R4089206-7 07/02/24 12:21

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Mercury	U		0.000100	0.000200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4089206-1 07/02/24 10:56

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Mercury	0.00300	0.00340	113	85.0-115	

L1750960-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750960-01 07/02/24 10:59 • (MS) R4089206-3 07/02/24 11:09 • (MSD) R4089206-4 07/02/24 11:12

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00343	0.00331	110	106	1	70.0-130			3.56	20

L1751456-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751456-01 07/02/24 11:15 • (MS) R4089206-5 07/02/24 11:17 • (MSD) R4089206-6 07/02/24 11:20

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00346	0.00334	111	107	1	70.0-130			3.42	20

Metals (ICP) by Method 200.7

L1751514-01

Method Blank (MB)

(MB) R4093057-1 07/12/24 07:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum	U		0.0592	0.200
Antimony	U		0.00398	0.0100
Arsenic	U		0.00645	0.0100
Barium	U		0.000795	0.00500
Beryllium	U		0.000401	0.00200
Cadmium	U		0.000552	0.00200
Chromium	U		0.00163	0.0100
Copper	U		0.00226	0.0100
Lead	U		0.00227	0.00500
Lithium	U		0.00689	0.0150
Nickel	U		0.00182	0.0100
Selenium	U		0.00616	0.0100
Silicon	U		0.0771	0.200
Silver	0.00480	U	0.00131	0.00500
Strontium	U		0.000683	0.0100
Thallium	U		0.00460	0.0100
Vanadium	U		0.00662	0.0200
Zinc	U		0.00578	0.0500
Phosphorus	U		0.00760	0.100

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4093057-2 07/12/24 07:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	10.6	106	85.0-115	
Antimony	1.00	1.04	104	85.0-115	
Arsenic	1.00	1.05	105	85.0-115	
Barium	1.00	1.01	101	85.0-115	
Beryllium	1.00	1.07	107	85.0-115	
Cadmium	1.00	1.05	105	85.0-115	
Chromium	1.00	1.07	107	85.0-115	
Copper	1.00	1.05	105	85.0-115	
Lead	1.00	1.01	101	85.0-115	
Lithium	1.00	1.04	104	85.0-115	
Nickel	1.00	0.974	97.4	85.0-115	
Selenium	1.00	1.01	101	85.0-115	
Silicon	1.00	0.992	99.2	85.0-115	
Silver	0.200	0.201	100	85.0-115	

Metals (ICP) by Method 200.7 [L1751514-01](#)

Laboratory Control Sample (LCS)

(LCS) R4093057-2 07/12/24 07:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Strontium	1.00	1.07	107	85.0-115	
Thallium	1.00	1.08	108	85.0-115	
Vanadium	1.00	1.05	105	85.0-115	
Zinc	1.00	1.07	107	85.0-115	
Phosphorus	1.00	1.05	105	85.0-115	

L1751498-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751498-01 07/12/24 07:55 • (MS) R4093057-4 07/12/24 07:58 • (MSD) R4093057-5 07/12/24 08:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum	10.0	ND	10.6	10.5	106	105	1	70.0-130			0.629	20
Antimony	1.00	ND	1.05	1.04	105	104	1	70.0-130			1.03	20
Arsenic	1.00	ND	1.07	1.05	107	105	1	70.0-130			1.90	20
Barium	1.00	0.00588	1.03	1.02	102	101	1	70.0-130			1.28	20
Beryllium	1.00	ND	1.07	1.06	107	106	1	70.0-130			0.466	20
Cadmium	1.00	ND	1.06	1.05	106	105	1	70.0-130			0.338	20
Chromium	1.00	ND	1.07	1.07	107	107	1	70.0-130			0.208	20
Copper	1.00	ND	1.05	1.06	105	106	1	70.0-130			0.742	20
Lead	1.00	ND	1.02	1.02	102	102	1	70.0-130			0.0928	20
Lithium	1.00	ND	1.04	1.04	104	104	1	70.0-130			0.0627	20
Nickel	1.00	ND	0.987	0.990	98.7	99.0	1	70.0-130			0.262	20
Selenium	1.00	ND	1.04	1.03	104	103	1	70.0-130			0.741	20
Silicon	1.00	0.571	1.54	1.53	96.6	95.8	1	70.0-130			0.509	20
Silver	0.200	ND	0.198	0.196	97.0	95.8	1	70.0-130			1.29	20
Strontium	1.00	0.0306	1.09	1.09	106	106	1	70.0-130			0.172	20
Thallium	1.00	ND	1.11	1.09	111	109	1	70.0-130			1.33	20
Vanadium	1.00	ND	1.05	1.04	105	104	1	70.0-130			0.434	20
Zinc	1.00	ND	1.08	1.07	108	107	1	70.0-130			0.909	20
Phosphorus	1.00	ND	1.09	1.06	108	105	1	70.0-130			2.89	20

L1751515-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751515-01 07/12/24 10:07 • (MS) R4093057-8 07/12/24 10:08 • (MSD) R4093057-9 07/12/24 10:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum	10.0	2.44	11.9	11.9	94.6	94.8	5	70.0-130			0.189	20
Antimony	1.00	ND	0.997	0.971	96.0	93.3	5	70.0-130			2.67	20
Arsenic	1.00	ND	0.924	0.967	92.4	96.7	5	70.0-130			4.48	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Metals (ICP) by Method 200.7 [L1751514-01](#)

L1751515-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751515-01 07/12/24 10:07 • (MS) R4093057-8 07/12/24 10:08 • (MSD) R4093057-9 07/12/24 10:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.117	1.03	1.03	91.3	90.9	5	70.0-130			0.423	20
Beryllium	1.00	ND	0.946	0.942	94.6	94.2	5	70.0-130			0.426	20
Cadmium	1.00	ND	0.924	0.911	92.4	91.1	5	70.0-130			1.46	20
Chromium	1.00	ND	0.964	0.960	96.4	96.0	5	70.0-130			0.426	20
Copper	1.00	ND	0.959	0.953	94.5	93.9	5	70.0-130			0.631	20
Lead	1.00	ND	0.991	0.973	99.1	97.3	5	70.0-130			1.78	20
Lithium	1.00	ND	0.928	0.928	92.8	92.8	5	70.0-130			0.0504	20
Nickel	1.00	0.262	1.22	1.22	95.9	95.5	5	70.0-130			0.303	20
Selenium	1.00	ND	0.968	0.958	93.2	92.2	5	70.0-130			1.05	20
Silicon	1.00	3.24	3.98	3.99	73.4	75.1	5	70.0-130			0.417	20
Silver	0.200	ND	0.173	0.170	86.7	84.8	5	70.0-130			2.19	20
Strontium	1.00	0.0899	1.04	1.03	94.6	93.9	5	70.0-130			0.662	20
Thallium	1.00	ND	1.09	1.08	109	108	5	70.0-130			1.35	20
Vanadium	1.00	ND	1.01	1.00	92.5	91.7	5	70.0-130			0.802	20
Zinc	1.00	ND	1.08	1.08	95.1	94.8	5	70.0-130			0.282	20
Phosphorus	1.00	ND	1.14	1.12	91.5	89.3	5	70.0-130			1.89	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Metals (ICPMS) by Method 200.8 [L1751514-01](#)

Method Blank (MB)

(MB) R4099390-1 07/28/24 16:31

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0177	0.0400
Calcium	U		0.112	1.00
Cobalt	U		0.000142	0.00200
Magnesium	U		0.0690	1.00
Manganese	U		0.000982	0.00500
Molybdenum	U		0.000841	0.00500
Potassium	U		0.151	1.00
Sodium	U		0.513	2.00
Tin	U		0.00106	0.00400
Titanium	U		0.00172	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4099398-1 07/28/24 17:19

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Iron	U		0.0447	0.100

Laboratory Control Sample (LCS)

(LCS) R4099390-2 07/28/24 16:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Boron	0.0500	0.0534	107	85.0-115	
Calcium	5.00	5.28	106	85.0-115	
Cobalt	0.0500	0.0549	110	85.0-115	
Magnesium	5.00	5.24	105	85.0-115	
Manganese	0.0500	0.0526	105	85.0-115	
Molybdenum	0.0500	0.0525	105	85.0-115	
Potassium	5.00	5.17	103	85.0-115	
Sodium	5.00	5.34	107	85.0-115	
Tin	0.0500	0.0539	108	85.0-115	
Titanium	0.0500	0.0545	109	85.0-115	

Metals (ICPMS) by Method 200.8 [L1751514-01](#)

Laboratory Control Sample (LCS)

(LCS) R4099398-2 07/28/24 17:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Iron	1.00	1.05	105	85.0-115	

L1751551-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751551-01 07/28/24 16:45 • (MS) R4099390-4 07/28/24 16:49 • (MSD) R4099390-5 07/28/24 16:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Boron	0.0500		0.140	0.137	109	103	1	70.0-130			2.25	20
Calcium	5.00		45.2	42.4	118	61.7	1	70.0-130		V	6.41	20
Cobalt	0.0500		0.0559	0.0532	105	99.3	1	70.0-130			5.02	20
Magnesium	5.00		24.1	22.7	112	84.2	1	70.0-130			5.85	20
Manganese	0.0500		1.77	1.67	137	0.000	1	70.0-130	V	V	6.31	20
Molybdenum	0.0500		0.0506	0.0525	101	105	1	70.0-130			3.75	20
Potassium	5.00		9.87	9.24	108	95.1	1	70.0-130			6.54	20
Sodium	5.00		20.7	19.5	114	89.1	1	70.0-130			6.28	20
Tin	0.0500		0.0514	0.0543	103	109	1	70.0-130			5.45	20
Titanium	0.0500		0.0510	0.0507	102	101	1	70.0-130			0.632	20

L1751703-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751703-02 07/28/24 17:01 • (MS) R4099390-6 07/28/24 17:04 • (MSD) R4099390-7 07/28/24 17:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Boron	0.0500	0.130	0.185	0.186	111	113	1	70.0-130			0.645	20
Calcium	5.00	11.9	17.0	17.0	103	102	1	70.0-130			0.111	20
Cobalt	0.0500	ND	0.0519	0.0541	104	108	1	70.0-130			4.16	20
Magnesium	5.00	4.33	9.59	9.79	105	109	1	70.0-130			2.11	20
Manganese	0.0500	0.00846	0.0575	0.0602	98.2	104	1	70.0-130			4.58	20
Molybdenum	0.0500	ND	0.0552	0.0557	107	108	1	70.0-130			0.886	20
Potassium	5.00	22.3	27.6	27.6	106	106	1	70.0-130			0.00795	20
Sodium	5.00	259	256	264	0.000	97.3	1	70.0-130	V		3.07	20
Tin	0.0500	ND	0.0551	0.0563	110	113	1	70.0-130			2.16	20
Titanium	0.0500	ND	0.0524	0.0507	105	101	1	70.0-130			3.42	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Metals (ICPMS) by Method 200.8 [L1751514-01](#)

L1751703-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751703-02 07/28/24 17:39 • (MS) R4099398-6 07/28/24 17:42 • (MSD) R4099398-7 07/28/24 17:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Iron	1.00	ND	1.03	1.03	103	103	1	70.0-130			0.693	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC/MS) by Method 624.1

L1751514-01

Method Blank (MB)

(MB) R4090590-4 07/02/24 16:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
2-Chloroethyl vinyl ether	U		0.000575	0.0500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
Ethylbenzene	U		0.000137	0.00100
Methylene Chloride	U		0.000430	0.00500
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
Vinyl chloride	U		0.000234	0.00100
o-Xylene	U		0.000174	0.00100
m&p-Xylene	U		0.000430	0.00200
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	111			80.0-120
(S) 4-Bromofluorobenzene	106			80.0-120
(S) 1,2-Dichloroethane-d4	106			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4090590-1 07/02/24 15:23 • (LCSD) R4090590-2 07/02/24 15:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromodichloromethane	0.00500	0.00490	0.00497	98.0	99.4	65.0-135			1.42	20
Bromoform	0.00500	0.00428	0.00439	85.6	87.8	70.0-130			2.54	20
Bromomethane	0.00500	0.00166	0.00181	33.2	36.2	15.0-185			8.65	20
Carbon tetrachloride	0.00500	0.00527	0.00528	105	106	70.0-130			0.190	20
Chlorobenzene	0.00500	0.00477	0.00497	95.4	99.4	65.0-135			4.11	20
Chlorodibromomethane	0.00500	0.00450	0.00462	90.0	92.4	70.0-135			2.63	20
Chloroethane	0.00500	0.00704	0.00711	141	142	40.0-160			0.989	20
2-Chloroethyl vinyl ether	0.0250	0.00788	0.00697	31.5	27.9	0.100-225			12.3	20
Chloroform	0.00500	0.00515	0.00521	103	104	70.0-135			1.16	20
Chloromethane	0.00500	0.00520	0.00512	104	102	0.100-205			1.55	20
1,2-Dichlorobenzene	0.00500	0.00498	0.00497	99.6	99.4	65.0-135			0.201	20
1,3-Dichlorobenzene	0.00500	0.00445	0.00460	89.0	92.0	70.0-130			3.31	20
1,4-Dichlorobenzene	0.00500	0.00466	0.00460	93.2	92.0	65.0-135			1.30	20
Dichlorodifluoromethane	0.00500	0.00667	0.00670	133	134	49.0-155			0.449	20
1,1-Dichloroethane	0.00500	0.00558	0.00571	112	114	70.0-130			2.30	20
1,2-Dichloroethane	0.00500	0.00525	0.00537	105	107	70.0-130			2.26	20
1,1-Dichloroethene	0.00500	0.00506	0.00532	101	106	50.0-150			5.01	20
trans-1,2-Dichloroethene	0.00500	0.00494	0.00507	98.8	101	70.0-130			2.60	20
1,2-Dichloropropane	0.00500	0.00554	0.00551	111	110	35.0-165			0.543	20
cis-1,3-Dichloropropene	0.00500	0.00502	0.00494	100	98.8	25.0-175			1.61	20
trans-1,3-Dichloropropene	0.00500	0.00461	0.00481	92.2	96.2	50.0-150			4.25	20
Ethylbenzene	0.00500	0.00478	0.00490	95.6	98.0	60.0-140			2.48	20
Methylene Chloride	0.00500	0.00500	0.00505	100	101	60.0-140			0.995	20
Methyl tert-butyl ether	0.00500	0.00530	0.00551	106	110	64.0-123			3.89	20
Naphthalene	0.00500	0.00363	0.00376	72.6	75.2	62.0-128			3.52	20
1,1,2,2-Tetrachloroethane	0.00500	0.00455	0.00446	91.0	89.2	60.0-140			2.00	20
Tetrachloroethene	0.00500	0.00478	0.00521	95.6	104	70.0-130			8.61	20
Toluene	0.00500	0.00482	0.00495	96.4	99.0	70.0-130			2.66	20
1,1,1-Trichloroethane	0.00500	0.00519	0.00524	104	105	70.0-130			0.959	20
1,1,2-Trichloroethane	0.00500	0.00490	0.00507	98.0	101	70.0-130			3.41	20
Trichloroethene	0.00500	0.00541	0.00557	108	111	65.0-135			2.91	20
Trichlorofluoromethane	0.00500	0.00589	0.00599	118	120	50.0-150			1.68	20
Vinyl chloride	0.00500	0.00612	0.00631	122	126	5.00-195			3.06	20
o-Xylene	0.00500	0.00455	0.00472	91.0	94.4	78.0-120			3.67	20
m&p-Xylene	0.0100	0.00946	0.00956	94.6	95.6	77.0-120			1.05	20
Xylenes, Total	0.0150	0.0140	0.0143	93.3	95.3	77.0-120			2.12	20
(S) Toluene-d8				104	106	80.0-120				
(S) 4-Bromofluorobenzene				103	103	80.0-120				
(S) 1,2-Dichloroethane-d4				105	105	70.0-130				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC/MS) by Method 624.1

[L1751514-01](#)

Method Blank (MB)

(MB) R4092071-4 07/06/24 00:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
(S) Toluene-d8	102			80.0-120
(S) 4-Bromofluorobenzene	97.4			80.0-120
(S) 1,2-Dichloroethane-d4	104			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4092071-1 07/05/24 23:18 • (LCSD) R4092071-2 07/05/24 23:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00537	0.00514	107	103	65.0-135			4.38	20
(S) Toluene-d8				96.9	97.3	80.0-120				
(S) 4-Bromofluorobenzene				95.2	101	80.0-120				
(S) 1,2-Dichloroethane-d4				113	115	70.0-130				

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751514-01

Method Blank (MB)

(MB) R4090525-2 07/04/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.0000886	0.00100
Acenaphthylene	U		0.0000921	0.00100
Anthracene	U		0.0000804	0.00100
Benzidine	U		0.00374	0.0100
Benzo(a)anthracene	U		0.000199	0.00100
Benzo(b)fluoranthene	U		0.000130	0.00100
Benzo(k)fluoranthene	U		0.000120	0.00100
Benzo(g,h,i)perylene	U		0.000121	0.00100
Benzo(a)pyrene	U		0.0000381	0.00100
Bis(2-chlorethoxy)methane	U		0.000116	0.0100
Bis(2-chloroethyl)ether	U		0.000137	0.0100
2,2-Oxybis(1-Chloropropane)	U		0.000210	0.0100
4-Bromophenyl-phenylether	U		0.0000877	0.0100
2-Chloronaphthalene	U		0.0000648	0.00100
4-Chlorophenyl-phenylether	U		0.0000926	0.0100
Chrysene	U		0.000130	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.00100
3,3-Dichlorobenzidine	U		0.000212	0.0100
2,4-Dinitrotoluene	U		0.0000983	0.0100
2,6-Dinitrotoluene	U		0.000250	0.0100
1,2-Diphenylhydrazine	U	N2	0.000105	0.0100
Fluoranthene	U		0.000102	0.00100
Fluorene	U		0.0000844	0.00100
Hexachlorobenzene	U		0.0000755	0.00100
Hexachloro-1,3-butadiene	U		0.0000968	0.0100
Hexachlorocyclopentadiene	U		0.0000598	0.0100
Hexachloroethane	U		0.000127	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000143	0.0100
Naphthalene	U		0.000159	0.00100
Nitrobenzene	U		0.000297	0.0100
n-Nitrosodimethylamine	U		0.000998	0.0100
n-Nitrosodiphenylamine	U		0.00237	0.0100
n-Nitrosodi-n-propylamine	U		0.000261	0.0100
Phenanthrene	U		0.000112	0.00100
Benzylbutyl phthalate	U		0.000765	0.00300
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300
Di-n-butyl phthalate	U		0.000453	0.00300
Diethyl phthalate	U		0.000287	0.00300
Dimethyl phthalate	U		0.000260	0.00300

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4090525-2 07/04/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Di-n-octyl phthalate	U		0.000932	0.00300
Pyrene	U		0.000107	0.00100
1,2,4-Trichlorobenzene	U		0.0000698	0.0100
4-Chloro-3-methylphenol	U		0.000131	0.0100
2-Chlorophenol	U		0.000133	0.0100
2,4-Dichlorophenol	U		0.000102	0.0100
2,4-Dimethylphenol	U		0.0000636	0.0100
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100
2,4-Dinitrophenol	U		0.00593	0.0100
2-Nitrophenol	U		0.000117	0.0100
4-Nitrophenol	U		0.000143	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.00433	0.0100
2,4,6-Trichlorophenol	U		0.000100	0.0100
(S) Nitrobenzene-d5	57.3			15.0-314
(S) 2-Fluorobiphenyl	61.3			22.0-127
(S) p-Terphenyl-d14	81.2			29.0-141
(S) Phenol-d5	19.4			8.00-424
(S) 2-Fluorophenol	25.4			10.0-120
(S) 2,4,6-Tribromophenol	63.5			10.0-153

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0432	86.4	47.0-145	
Acenaphthylene	0.0500	0.0467	93.4	33.0-145	
Anthracene	0.0500	0.0464	92.8	27.0-133	
Benzidine	0.100	0.00535	5.35	1.00-120	
Benzo(a)anthracene	0.0500	0.0494	98.8	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0500	100	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0502	100	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0492	98.4	1.00-219	
Benzo(a)pyrene	0.0500	0.0489	97.8	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0395	79.0	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0426	85.2	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0387	77.4	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0515	103	53.0-127	

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751514-01

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0411	82.2	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0546	109	25.0-158	
Chrysene	0.0500	0.0483	96.6	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0495	99.0	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0977	97.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0627	125	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0562	112	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0441	88.2	37.0-125	N2
Fluoranthene	0.0500	0.0540	108	26.0-137	
Fluorene	0.0500	0.0500	100	59.0-121	
Hexachlorobenzene	0.0500	0.0508	102	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0363	72.6	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0278	55.6	10.0-120	
Hexachloroethane	0.0500	0.0316	63.2	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0460	92.0	1.00-171	
Isophorone	0.0500	0.0394	78.8	21.0-196	
Naphthalene	0.0500	0.0358	71.6	21.0-133	
Nitrobenzene	0.0500	0.0362	72.4	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0216	43.2	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0449	89.8	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0439	87.8	1.00-230	
Phenanthrene	0.0500	0.0447	89.4	54.0-120	
Benzylbutyl phthalate	0.0500	0.0433	86.6	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0431	86.2	8.00-158	
Di-n-butyl phthalate	0.0500	0.0487	97.4	1.00-120	
Diethyl phthalate	0.0500	0.0514	103	1.00-120	
Dimethyl phthalate	0.0500	0.0507	101	1.00-120	
Di-n-octyl phthalate	0.0500	0.0447	89.4	4.00-146	
Pyrene	0.0500	0.0440	88.0	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0381	76.2	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0387	77.4	22.0-147	
2-Chlorophenol	0.0500	0.0325	65.0	23.0-134	
2,4-Dichlorophenol	0.0500	0.0393	78.6	39.0-135	
2,4-Dimethylphenol	0.0500	0.0449	89.8	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0645	129	1.00-181	
2,4-Dinitrophenol	0.0500	0.0681	136	1.00-191	
2-Nitrophenol	0.0500	0.0430	86.0	29.0-182	
4-Nitrophenol	0.0500	0.0236	47.2	1.00-132	
Pentachlorophenol	0.0500	0.0407	81.4	14.0-176	
Phenol	0.0500	0.0165	33.0	5.00-120	

1Cp

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5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,6-Trichlorophenol	0.0500	0.0472	94.4	37.0-144	
(S) Nitrobenzene-d5			72.6	15.0-314	
(S) 2-Fluorobiphenyl			90.2	22.0-127	
(S) p-Terphenyl-d14			104	29.0-141	
(S) Phenol-d5			34.4	8.00-424	
(S) 2-Fluorophenol			45.0	10.0-120	
(S) 2,4,6-Tribromophenol			115	10.0-153	

L1752168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752168-01 07/07/24 08:55 • (MS) R4091172-1 07/07/24 09:16 • (MSD) R4091172-2 07/07/24 09:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	ND	0.0395	0.0357	79.0	71.4	1	47.0-145			10.1	48
Acenaphthylene	0.0500	ND	0.0430	0.0382	86.0	76.4	1	33.0-145			11.8	74
Anthracene	0.0500	ND	0.0406	0.0359	81.2	71.8	1	27.0-133			12.3	66
Benzydine	0.100	ND	0.0119	ND	11.9	4.72	1	1.00-120		J3	86.4	40
Benzo(a)anthracene	0.0500	ND	0.0410	0.0378	82.0	75.6	1	33.0-143			8.12	53
Benzo(b)fluoranthene	0.0500	ND	0.0408	0.0370	81.6	74.0	1	24.0-159			9.77	71
Benzo(k)fluoranthene	0.0500	ND	0.0407	0.0368	81.4	73.6	1	11.0-162			10.1	63
Benzo(g,h,i)perylene	0.0500	ND	0.0390	0.0341	78.0	68.2	1	1.00-219			13.4	97
Benzo(a)pyrene	0.0500	ND	0.0411	0.0369	82.2	73.8	1	17.0-163			10.8	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0383	0.0338	76.6	67.6	1	33.0-184			12.5	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0377	0.0338	75.4	67.6	1	12.0-158			10.9	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0342	0.0311	68.4	62.2	1	36.0-166			9.49	76
4-Bromophenyl-phenylether	0.0500	ND	0.0506	0.0459	101	91.8	1	53.0-127			9.74	43
2-Chloronaphthalene	0.0500	ND	0.0395	0.0357	79.0	71.4	1	60.0-120			10.1	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0497	0.0447	99.4	89.4	1	25.0-158			10.6	61
Chrysene	0.0500	ND	0.0396	0.0366	79.2	73.2	1	17.0-168			7.87	87
Dibenz(a,h)anthracene	0.0500	ND	0.0389	0.0340	77.8	68.0	1	1.00-227			13.4	126
3,3-Dichlorobenzidine	0.100	ND	0.0648	0.0582	64.8	58.2	1	1.00-262			10.7	108
2,4-Dinitrotoluene	0.0500	ND	0.0534	0.0485	107	97.0	1	39.0-139			9.62	42
2,6-Dinitrotoluene	0.0500	ND	0.0498	0.0456	99.6	91.2	1	50.0-158			8.81	48
1,2-Diphenylhydrazine	0.0500	ND	0.0361	0.0323	72.2	64.6	1	18.0-156	N2	N2	11.1	34
Fluoranthene	0.0500	ND	0.0437	0.0397	87.4	79.4	1	26.0-137			9.59	66
Fluorene	0.0500	ND	0.0441	0.0395	88.2	79.0	1	59.0-121			11.0	38
Hexachlorobenzene	0.0500	ND	0.0482	0.0432	96.4	86.4	1	1.00-152			10.9	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0417	0.0366	83.4	73.2	1	24.0-120			13.0	62
Hexachlorocyclopentadiene	0.0500	ND	0.0239	0.0280	47.8	56.0	1	10.0-146			15.8	34

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

L1752168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752168-01 07/07/24 08:55 • (MS) R4091172-1 07/07/24 09:16 • (MSD) R4091172-2 07/07/24 09:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexachloroethane	0.0500	ND	0.0306	0.0274	61.2	54.8	1	40.0-120			11.0	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0376	0.0327	75.2	65.4	1	1.00-171			13.9	99
Isophorone	0.0500	ND	0.0362	0.0326	72.4	65.2	1	21.0-196			10.5	93
Naphthalene	0.0500	ND	0.0356	0.0320	71.2	64.0	1	21.0-133			10.7	65
Nitrobenzene	0.0500	ND	0.0338	0.0318	67.6	63.6	1	35.0-180			6.10	62
n-Nitrosodimethylamine	0.0500	ND	0.0181	0.0159	36.2	31.8	1	10.0-120			12.9	40
n-Nitrosodiphenylamine	0.0500	ND	0.0429	0.0388	85.8	77.6	1	16.0-160			10.0	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0345	0.0315	69.0	63.0	1	1.00-230			9.09	87
Phenanthrene	0.0500	ND	0.0408	0.0371	81.6	74.2	1	54.0-120			9.50	39
Benzylbutyl phthalate	0.0500	ND	0.0369	0.0354	73.8	70.8	1	1.00-152			4.15	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0355	0.0307	71.0	61.4	1	8.00-158			14.5	82
Di-n-butyl phthalate	0.0500	ND	0.0411	0.0376	82.2	75.2	1	1.00-120			8.89	47
Diethyl phthalate	0.0500	ND	0.0437	0.0398	87.4	79.6	1	1.00-120			9.34	100
Dimethyl phthalate	0.0500	ND	0.0448	0.0405	89.6	81.0	1	1.00-120			10.1	183
Di-n-octyl phthalate	0.0500	ND	0.0349	0.0303	69.8	60.6	1	4.00-146			14.1	69
Pyrene	0.0500	ND	0.0417	0.0385	83.4	77.0	1	52.0-120			7.98	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0398	0.0362	79.6	72.4	1	44.0-142			9.47	50
4-Chloro-3-methylphenol	0.0500	ND	0.0391	0.0298	78.2	59.6	1	22.0-147			27.0	73
2-Chlorophenol	0.0500	ND	0.0290	0.0223	58.0	44.6	1	23.0-134			26.1	61
2,4-Dichlorophenol	0.0500	ND	0.0412	0.0305	82.4	61.0	1	39.0-135			29.8	50
2,4-Dimethylphenol	0.0500	ND	0.0464	0.0351	87.5	64.9	1	32.0-120			27.7	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0646	0.0526	129	105	1	1.00-181			20.5	203
2,4-Dinitrophenol	0.0500	ND	0.0745	0.0578	149	116	1	1.00-191			25.2	132
2-Nitrophenol	0.0500	ND	0.0437	0.0343	87.4	68.6	1	29.0-182			24.1	55
4-Nitrophenol	0.0500	ND	0.0203	0.0113	40.6	22.6	1	1.00-132			57.0	131
Pentachlorophenol	0.0500	ND	0.0433	0.0359	86.6	71.8	1	14.0-176			18.7	86
Phenol	0.0500	ND	0.0189	0.0151	37.8	30.2	1	5.00-120			22.4	64
2,4,6-Trichlorophenol	0.0500	ND	0.0434	0.0348	86.8	69.6	1	37.0-144			22.0	58
(S) Nitrobenzene-d5					74.6	64.3		15.0-314				
(S) 2-Fluorobiphenyl					87.8	79.2		22.0-127				
(S) p-Terphenyl-d14					94.7	86.6		29.0-141				
(S) Phenol-d5					28.0	23.3		8.00-424				
(S) 2-Fluorophenol					38.6	31.4		10.0-120				
(S) 2,4,6-Tribromophenol					108	88.5		10.0-153				

¹Cp

²Tc

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
N2	Analyte reported using a calibration and validation based on Azobenzene (CAS 103-33-3). 1,2-Diphenylhydrazine decomposes into Azobenzene during the analysis.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1Cp

2Tc

3Ss

4Cn

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6Qc

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Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹Cp

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Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM



ANALYTICAL REPORT

July 31, 2024

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1751541
Samples Received: 06/28/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot
Site: CCR
Report To: Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

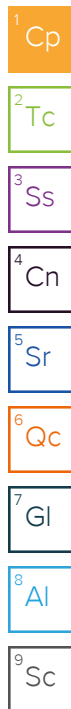
A handwritten signature in blue ink that reads "Shane Gambill".

Shane Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com



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Cn: Case Narrative	4	
Sr: Sample Results	5	3 Ss
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Qc: Quality Control Summary	11	4 Cn
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Gravimetric Analysis by Method 2540 D-2015	12	
Wet Chemistry by Method 120.1	13	6 Qc
Wet Chemistry by Method 130.1	14	
Wet Chemistry by Method 1664A	15	7 Gl
Wet Chemistry by Method 2120 B-2011	16	8 Al
Wet Chemistry by Method 2130 B-2011	17	
Wet Chemistry by Method 2320 B-2011	18	9 Sc
Wet Chemistry by Method 2580	20	
Wet Chemistry by Method 300.0	22	
Wet Chemistry by Method 350.1	24	
Wet Chemistry by Method 3500Cr B-2011	25	
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FEED L1751541-01 WW

Collected by
Danny Daniels

Collected date/time
06/27/24 09:00

Received date/time
06/28/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2317955	1	07/12/24 09:20	07/12/24 09:20	JTM	Mt. Juliet, TN
Calculated Results	WG2318852	1	07/08/24 16:07	07/08/24 16:07	BMD	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2314305	1	06/28/24 17:04	07/01/24 12:06	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2316300	1	07/03/24 10:01	07/03/24 10:05	DLS	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2318229	1	07/05/24 20:10	07/05/24 20:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG2315349	100	07/01/24 12:22	07/02/24 11:23	CAT	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG2314725	1	07/01/24 06:19	07/01/24 13:54	DAL	Mt. Juliet, TN
Wet Chemistry by Method 2120 B-2011	WG2314128	1	06/28/24 15:03	06/28/24 15:03	SJA	Mt. Juliet, TN
Wet Chemistry by Method 2130 B-2011	WG2314112	1	06/28/24 13:51	06/28/24 13:51	SJA	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2318185	1	07/07/24 11:58	07/07/24 11:58	BJM	Mt. Juliet, TN
Wet Chemistry by Method 2580	WG2316366	1	07/03/24 14:32	07/03/24 14:32	BJM	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2314168	10	06/28/24 21:11	06/28/24 21:11	JDG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2314168	1000	06/29/24 22:36	06/29/24 22:36	DLH	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2318852	200	07/08/24 16:07	07/08/24 16:07	BMD	Mt. Juliet, TN
Wet Chemistry by Method 3500Cr B-2011	WG2314470	1	06/29/24 11:25	06/29/24 11:25	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2315616	50	07/01/24 21:55	07/02/24 15:15	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2315085	1	07/02/24 00:18	07/02/24 00:18	RTW	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG2318115	20	07/05/24 17:00	07/05/24 22:11	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500CI G-2011	WG2318605	1	07/07/24 12:24	07/07/24 12:24	CAH	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2317409	1	07/04/24 06:00	07/05/24 14:31	JAS	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2316202	1	07/03/24 18:15	07/03/24 18:15	KRB	Mt. Juliet, TN
Wet Chemistry by Method 4500O G-2016	WG2319029	1	07/08/24 12:09	07/08/24 12:09	BGE	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG2314125	1	06/28/24 15:45	06/28/24 15:45	SRA	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2315368	1	07/01/24 13:53	07/01/24 13:53	SJA	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2314884	5	07/07/24 10:15	07/07/24 10:15	SJA	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2314123	10	06/28/24 14:38	07/03/24 12:10	HMH	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2314223	10	06/28/24 16:11	07/03/24 13:14	HMH	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2322979	2	07/15/24 11:00	07/15/24 12:35	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2322973	2	07/16/24 00:27	07/16/24 00:27	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5540 C-2011	WG2314111	1	06/28/24 12:49	06/28/24 14:16	JAR	Mt. Juliet, TN
Mercury by Method 245.1	WG2314582	10	07/01/24 14:47	07/02/24 11:57	AKB	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2317955	20	07/11/24 22:23	07/12/24 09:20	JTM	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2317955	50	07/11/24 22:23	07/12/24 10:05	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2317977	100	07/14/24 09:19	07/28/24 18:25	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2316293	10	07/02/24 23:54	07/02/24 23:54	DYW	Mt. Juliet, TN
TPH by TCEQ Method 1005	WG2316533	1	07/03/24 06:26	07/03/24 20:36	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2316105	1	07/04/24 06:48	07/05/24 11:20	DSH	Mt. Juliet, TN

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Shane Gambill
Project Manager

Sample Delivery Group (SDG) Narrative

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Lab Sample ID	Project Sample ID	Method
L1751541-01	FEED	1664A, 4500O G-2016

The Laboratory is not accredited for specific analytes on the associated Sample/Method. These analytes are flagged in the Sample Results section of the report with an asterisk (*).

Lab Sample ID	Project Sample ID	Method
L1751541-01	FEED	300.0

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc

Collected date/time: 06/27/24 09:00

L1751541

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Trivalent	ND	T8	0.0100	1	07/12/2024 09:20	WG2317955
Organic Nitrogen	69.0		12.5	1	07/08/2024 16:07	WG2318852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	113000		1000	1	07/01/2024 12:06	WG2314305

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Suspended Solids	65.3		6.25	1	07/03/2024 10:05	WG2316300

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	146		10.0	1	07/05/2024 20:10	WG2318229

Sample Narrative:

L1751541-01 WG2318229: at 25C

Wet Chemistry by Method 130.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hardness (colorimetric) as CaCO3	14100		3000	100	07/02/2024 11:23	WG2315349

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	ND		5.56	1	07/01/2024 13:54	WG2314725

Wet Chemistry by Method 2120 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Color, Apparent	40.0		1.00	1	06/28/2024 15:03	WG2314128

Sample Narrative:

L1751541-01 WG2314128: 6.79

Wet Chemistry by Method 2130 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Turbidity	8.19		0.400	1	06/28/2024 13:51	WG2314112

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	270		20.0	1	07/07/2024 11:58	WG2318185
Alkalinity, Bicarbonate	270		20.0	1	07/07/2024 11:58	WG2318185
Alkalinity, Carbonate	ND		20.0	1	07/07/2024 11:58	WG2318185

Sample Narrative:

Collected date/time: 06/27/24 09:00

L1751541

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
L1751541-01 WG2318185: Endpoint pH 4.5 Headspace						

Wet Chemistry by Method 2580

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	215	T8	1	07/03/2024 14:32	WG2316366

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	662		10.0	10	06/28/2024 21:11	WG2314168
Chloride	68500		1000	1000	06/29/2024 22:36	WG2314168
Fluoride	ND		1.50	10	06/28/2024 21:11	WG2314168
Nitrate as (N)	ND		1.00	10	06/28/2024 21:11	WG2314168
Nitrite as (N)	ND		1.00	10	06/28/2024 21:11	WG2314168
Sulfate	489		50.0	10	06/28/2024 21:11	WG2314168

Sample Narrative:

L1751541-01 WG2314168: dilution due to high CL

Wet Chemistry by Method 350.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	501		50.0	200	07/08/2024 16:07	WG2318852

Wet Chemistry by Method 3500Cr B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	06/29/2024 11:25	WG2314470

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	570		12.5	50	07/02/2024 15:15	WG2315616

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	ND		0.100	1	07/02/2024 00:18	WG2315085

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	5810		400	20	07/05/2024 22:11	WG2318115

Wet Chemistry by Method 4500Cl G-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chlorine,residual	ND	T8	0.100	1	07/07/2024 12:24	WG2318605

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 06/27/24 09:00

L1751541

Wet Chemistry by Method 4500CN E-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	07/05/2024 14:31	WG2317409

¹ Cp

² Tc

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	6.92	T8	1	07/03/2024 18:15	WG2316202

³ Ss

⁴ Cn

Sample Narrative:

L1751541-01 WG2316202: 6.92 at 22.9C

⁵ Sr

Wet Chemistry by Method 4500O G-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Oxygen	11.6 at 8.8c	T8	3	1	07/08/2024 12:09	WG2319029

⁶ Qc

⁷ Gl

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Phosphate,Ortho	0.0300		0.0300	1	06/28/2024 15:45	WG2314125

⁸ Al

⁹ Sc

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfide	0.0910		0.0500	1	07/01/2024 13:53	WG2315368

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfite	65.0	T8	15.0	5	07/07/2024 10:15	WG2314884

Wet Chemistry by Method 5210 B-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
BOD	144		33.3	10	07/03/2024 12:10	WG2314123
CBOD	151		33.3	10	07/03/2024 13:14	WG2314223

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
DOC	71.2	T8	2.00	2	07/15/2024 12:35	WG2322979

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	74.2		2.00	2	07/16/2024 00:27	WG2322973

Wet Chemistry by Method 5540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
MBAS	0.515		0.100	1	06/28/2024 14:16	WG2314111

Collected date/time: 06/27/24 09:00

L1751541

Mercury by Method 245.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.00200	10	07/02/2024 11:57	WG2314582

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	ND		4.00	20	07/12/2024 09:20	WG2317955
Antimony	ND		0.200	20	07/12/2024 09:20	WG2317955
Arsenic	ND		0.200	20	07/12/2024 09:20	WG2317955
Barium	3.97		0.100	20	07/12/2024 09:20	WG2317955
Beryllium	ND		0.0400	20	07/12/2024 09:20	WG2317955
Cadmium	ND		0.0400	20	07/12/2024 09:20	WG2317955
Chromium	ND		0.200	20	07/12/2024 09:20	WG2317955
Copper	ND		0.200	20	07/12/2024 09:20	WG2317955
Lead	ND		0.100	20	07/12/2024 09:20	WG2317955
Lithium	22.7		0.300	20	07/12/2024 09:20	WG2317955
Nickel	ND		0.200	20	07/12/2024 09:20	WG2317955
Selenium	ND		0.200	20	07/12/2024 09:20	WG2317955
Silicon	15.5		4.00	20	07/12/2024 09:20	WG2317955
Silver	ND		0.100	20	07/12/2024 09:20	WG2317955
Strontium	661		0.500	50	07/12/2024 10:05	WG2317955
Thallium	ND		0.200	20	07/12/2024 09:20	WG2317955
Zinc	ND		1.00	20	07/12/2024 09:20	WG2317955
Phosphorus	ND		2.00	20	07/12/2024 09:20	WG2317955

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	95.7		4.00	100	07/28/2024 18:25	WG2317977
Calcium	5990		100	100	07/28/2024 18:25	WG2317977
Cobalt	ND		0.200	100	07/28/2024 18:25	WG2317977
Iron	ND		10.0	100	07/28/2024 18:25	WG2317977
Magnesium	582		100	100	07/28/2024 18:25	WG2317977
Manganese	0.801		0.500	100	07/28/2024 18:25	WG2317977
Molybdenum	ND		0.500	100	07/28/2024 18:25	WG2317977
Potassium	726		100	100	07/28/2024 18:25	WG2317977
Sodium	38700		200	100	07/28/2024 18:25	WG2317977
Tin	ND		0.400	100	07/28/2024 18:25	WG2317977
Titanium	ND		1.00	100	07/28/2024 18:25	WG2317977

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.17		0.0100	10	07/02/2024 23:54	WG2316293
Bromodichloromethane	ND		0.0100	10	07/02/2024 23:54	WG2316293
Bromoform	ND		0.0100	10	07/02/2024 23:54	WG2316293
Bromomethane	ND		0.0500	10	07/02/2024 23:54	WG2316293
Carbon tetrachloride	ND		0.0100	10	07/02/2024 23:54	WG2316293
Chlorobenzene	ND		0.0100	10	07/02/2024 23:54	WG2316293
Chlorodibromomethane	ND		0.0100	10	07/02/2024 23:54	WG2316293
Chloroethane	ND		0.0500	10	07/02/2024 23:54	WG2316293
2-Chloroethyl vinyl ether	ND		0.500	10	07/02/2024 23:54	WG2316293
Chloroform	ND		0.0500	10	07/02/2024 23:54	WG2316293
Chloromethane	ND		0.0250	10	07/02/2024 23:54	WG2316293
1,2-Dichlorobenzene	ND		0.0100	10	07/02/2024 23:54	WG2316293
1,3-Dichlorobenzene	ND		0.0100	10	07/02/2024 23:54	WG2316293

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

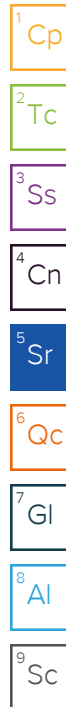
9 Sc

Collected date/time: 06/27/24 09:00

L1751541

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1,4-Dichlorobenzene	ND		0.0100	10	07/02/2024 23:54	WG2316293
Dichlorodifluoromethane	ND		0.0500	10	07/02/2024 23:54	WG2316293
1,1-Dichloroethane	ND		0.0100	10	07/02/2024 23:54	WG2316293
1,2-Dichloroethane	ND		0.0100	10	07/02/2024 23:54	WG2316293
1,1-Dichloroethene	ND		0.0100	10	07/02/2024 23:54	WG2316293
trans-1,2-Dichloroethene	ND		0.0100	10	07/02/2024 23:54	WG2316293
1,2-Dichloropropane	ND		0.0100	10	07/02/2024 23:54	WG2316293
cis-1,3-Dichloropropene	ND		0.0100	10	07/02/2024 23:54	WG2316293
trans-1,3-Dichloropropene	ND		0.0100	10	07/02/2024 23:54	WG2316293
Ethylbenzene	0.0203		0.0100	10	07/02/2024 23:54	WG2316293
Methylene Chloride	ND		0.0500	10	07/02/2024 23:54	WG2316293
Methyl tert-butyl ether	ND		0.0100	10	07/02/2024 23:54	WG2316293
Naphthalene	ND		0.0500	10	07/02/2024 23:54	WG2316293
1,1,2,2-Tetrachloroethane	ND		0.0100	10	07/02/2024 23:54	WG2316293
Tetrachloroethene	ND		0.0100	10	07/02/2024 23:54	WG2316293
Toluene	0.904		0.0100	10	07/02/2024 23:54	WG2316293
1,1,1-Trichloroethane	ND		0.0100	10	07/02/2024 23:54	WG2316293
1,1,2-Trichloroethane	ND		0.0100	10	07/02/2024 23:54	WG2316293
Trichloroethene	ND		0.0100	10	07/02/2024 23:54	WG2316293
Trichlorofluoromethane	ND		0.0500	10	07/02/2024 23:54	WG2316293
Vinyl chloride	ND		0.0100	10	07/02/2024 23:54	WG2316293
o-Xylene	0.0752		0.0100	10	07/02/2024 23:54	WG2316293
m&p-Xylene	0.208		0.0200	10	07/02/2024 23:54	WG2316293
Xylenes, Total	0.283		0.0300	10	07/02/2024 23:54	WG2316293
(S) Toluene-d8	109		80.0-120		07/02/2024 23:54	WG2316293
(S) 4-Bromofluorobenzene	107		80.0-120		07/02/2024 23:54	WG2316293
(S) 1,2-Dichloroethane-d4	102		70.0-130		07/02/2024 23:54	WG2316293



TPH by TCEQ Method 1005

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH C6 - C12	3.37		0.900	1	07/03/2024 20:36	WG2316533
TPH C12 - C28	2.57		0.900	1	07/03/2024 20:36	WG2316533
TPH C28 - C35	1.09		0.900	1	07/03/2024 20:36	WG2316533
TPH C6 - C35	7.03		0.900	1	07/03/2024 20:36	WG2316533
(S) o-Terphenyl	119		70.0-130		07/03/2024 20:36	WG2316533
(S) 1-chlorooctane	101		70.0-130		07/03/2024 20:36	WG2316533

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

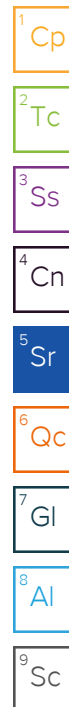
Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Acenaphthylene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Anthracene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Benzidine	ND		0.0100	1	07/05/2024 11:20	WG2316105
Benzo(a)anthracene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Benzo(b)fluoranthene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Benzo(k)fluoranthene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Benzo(g,h,i)perylene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Benzo(a)pyrene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Bis(2-chloroethoxy)methane	ND		0.0100	1	07/05/2024 11:20	WG2316105
Bis(2-chloroethyl)ether	ND		0.0100	1	07/05/2024 11:20	WG2316105
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	07/05/2024 11:20	WG2316105
4-Bromophenyl-phenylether	ND		0.0100	1	07/05/2024 11:20	WG2316105
2-Chloronaphthalene	ND		0.00100	1	07/05/2024 11:20	WG2316105

Collected date/time: 06/27/24 09:00

L1751541

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
4-Chlorophenyl-phenylether	ND		0.0100	1	07/05/2024 11:20	WG2316105
Chrysene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Dibenz(a,h)anthracene	ND		0.00100	1	07/05/2024 11:20	WG2316105
3,3-Dichlorobenzidine	ND		0.0100	1	07/05/2024 11:20	WG2316105
2,4-Dinitrotoluene	ND		0.0100	1	07/05/2024 11:20	WG2316105
2,6-Dinitrotoluene	ND		0.0100	1	07/05/2024 11:20	WG2316105
1,2-Diphenylhydrazine	ND	N2	0.0100	1	07/05/2024 11:20	WG2316105
Fluoranthene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Fluorene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Hexachlorobenzene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Hexachloro-1,3-butadiene	ND		0.0100	1	07/05/2024 11:20	WG2316105
Hexachlorocyclopentadiene	ND		0.0100	1	07/05/2024 11:20	WG2316105
Hexachloroethane	ND		0.0100	1	07/05/2024 11:20	WG2316105
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Isophorone	ND		0.0100	1	07/05/2024 11:20	WG2316105
Naphthalene	0.00374		0.00100	1	07/05/2024 11:20	WG2316105
Nitrobenzene	ND		0.0100	1	07/05/2024 11:20	WG2316105
n-Nitrosodimethylamine	ND		0.0100	1	07/05/2024 11:20	WG2316105
n-Nitrosodiphenylamine	ND		0.0100	1	07/05/2024 11:20	WG2316105
n-Nitrosodi-n-propylamine	ND		0.0100	1	07/05/2024 11:20	WG2316105
Phenanthrene	ND		0.00100	1	07/05/2024 11:20	WG2316105
Benzylbutyl phthalate	ND		0.00300	1	07/05/2024 11:20	WG2316105
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	07/05/2024 11:20	WG2316105
Di-n-butyl phthalate	ND		0.00300	1	07/05/2024 11:20	WG2316105
Diethyl phthalate	ND		0.00300	1	07/05/2024 11:20	WG2316105
Dimethyl phthalate	ND		0.00300	1	07/05/2024 11:20	WG2316105
Di-n-octyl phthalate	ND		0.00300	1	07/05/2024 11:20	WG2316105
Pyrene	ND		0.00100	1	07/05/2024 11:20	WG2316105
1,2,4-Trichlorobenzene	ND		0.0100	1	07/05/2024 11:20	WG2316105
4-Chloro-3-methylphenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
2-Chlorophenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
2,4-Dichlorophenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
2,4-Dimethylphenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
4,6-Dinitro-2-methylphenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
2,4-Dinitrophenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
2-Nitrophenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
4-Nitrophenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
Pentachlorophenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
Phenol	0.0534		0.0100	1	07/05/2024 11:20	WG2316105
2,4,6-Trichlorophenol	ND		0.0100	1	07/05/2024 11:20	WG2316105
(S) Nitrobenzene-d5	78.4		15.0-314		07/05/2024 11:20	WG2316105
(S) 2-Fluorobiphenyl	80.4		22.0-127		07/05/2024 11:20	WG2316105
(S) p-Terphenyl-d14	86.1		29.0-141		07/05/2024 11:20	WG2316105
(S) Phenol-d5	60.0		8.00-424		07/05/2024 11:20	WG2316105
(S) 2-Fluorophenol	60.5		10.0-120		07/05/2024 11:20	WG2316105
(S) 2,4,6-Tribromophenol	96.8		10.0-153		07/05/2024 11:20	WG2316105



Method Blank (MB)

(MB) R4089421-1 07/01/24 12:06

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1751418-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751418-03 07/01/24 12:06 • (DUP) R4089421-3 07/01/24 12:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	366	370	1	1.09		10

L1751425-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751425-01 07/01/24 12:06 • (DUP) R4089421-4 07/01/24 12:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	187	198	1	5.71		10

Laboratory Control Sample (LCS)

(LCS) R4089421-2 07/01/24 12:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Dissolved Solids	8800	8470	96.3	85.0-115	

Gravimetric Analysis by Method 2540 D-2015 [L1751541-01](#)

Method Blank (MB)

(MB) R4090457-1 07/03/24 10:05

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Suspended Solids	U		2.50	2.50

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1751602-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-02 07/03/24 10:05 • (DUP) R4090457-4 07/03/24 10:05

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Suspended Solids	39.0	41.3	1	5.80		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R4090457-2 07/03/24 10:05

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Suspended Solids	773	748	96.8	85.0-115	

⁹Sc

Method Blank (MB)

(MB) R4090598-1 07/05/24 20:10

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1751529-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751529-01 07/05/24 20:10 • (DUP) R4090598-3 07/05/24 20:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	479	479	1	0.000		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1753014-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1753014-01 07/05/24 20:10 • (DUP) R4090598-4 07/05/24 20:10

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	116000	114000	1	1.57		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4090598-2 07/05/24 20:10

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	731	99.7	85.0-115	

Sample Narrative:
LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4089079-1 07/02/24 11:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hardness (colorimetric) as CaCO3	U		15.0	30.0

L1751602-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-01 07/02/24 11:25 • (DUP) R4089079-5 07/02/24 11:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	110	108	1	1.83		20

L1751602-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-04 07/02/24 11:30 • (DUP) R4089079-6 07/02/24 11:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	85.7	85.5	1	0.234		20

Laboratory Control Sample (LCS)

(LCS) R4089079-2 07/02/24 11:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hardness (colorimetric) as CaCO3	100	105	105	85.0-115	

L1750497-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750497-01 07/02/24 11:09 • (MS) R4089079-3 07/02/24 11:11 • (MSD) R4089079-4 07/02/24 11:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hardness (colorimetric) as CaCO3	100	ND	100	100	100	100	1	80.0-120			0.000	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 1664A [L1751541-01](#)

Method Blank (MB)

(MB) R4088684-1 07/01/24 13:54

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	U		1.16	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4088684-2 07/01/24 13:54 • (LCSD) R4088684-3 07/01/24 13:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	34.2	36.4	85.5	91.0	78.0-114			6.23	20

L1751580-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751580-01 07/01/24 13:54 • (MS) R4088684-4 07/01/24 13:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Oil & Grease (Hexane Extr)	40.0	ND	40.1	100	1	78.0-114	

Wet Chemistry by Method 2120 B-2011

[L1751541-01](#)

L1751446-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751446-01 06/28/24 15:03 • (DUP) R4087861-1 06/28/24 15:03

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pcu	pcu		%		%
Color, Apparent	1.00	1.00	1	0.000		20

Sample Narrative:

OS: 7.90

DUP: 7.89

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 2130 B-2011

[L1751541-01](#)

Method Blank (MB)

(MB) R4087822-1 06/28/24 13:51

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	NTU		NTU	NTU
Turbidity	U		0.200	0.400

L1751446-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751446-01 06/28/24 13:51 • (DUP) R4087822-3 06/28/24 13:51

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	NTU	NTU		%		%
Turbidity	ND	ND	1	0.358		20

L1751503-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751503-01 06/28/24 13:51 • (DUP) R4087822-4 06/28/24 13:51

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	NTU	NTU		%		%
Turbidity	0.855	0.815	1	4.79		20

Laboratory Control Sample (LCS)

(LCS) R4087822-2 06/28/24 13:51

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	NTU	NTU	%	%	
Turbidity	40.0	43.2	108	90.0-110	

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Wet Chemistry by Method 2320 B-2011

[L1751541-01](#)

Method Blank (MB)

(MB) R4090834-2 07/07/24 11:20

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0
Alkalinity,Bicarbonate	U		8.45	20.0
Alkalinity,Carbonate	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1751524-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751524-01 07/07/24 11:34 • (DUP) R4090834-4 07/07/24 11:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Alkalinity	412	418	1	1.43		20
Alkalinity,Bicarbonate	412	418	1	1.43		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1752775-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1752775-14 07/07/24 13:39 • (DUP) R4090834-6 07/07/24 13:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Alkalinity	297	299	1	0.693		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4090834-1 07/07/24 11:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Alkalinity	100	104	104	90.0-110	

Sample Narrative:
LCS: Endpoint pH 4.5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1751210-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1751210-12 07/03/24 14:32 • (DUP) R4089766-3 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	142	136	1	6.10		20

¹Cp

²Tc

³Ss

L1751478-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751478-01 07/03/24 14:32 • (DUP) R4089766-4 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	167	170	1	2.80		20

⁴Cn

⁵Sr

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 07/03/24 14:32 • (DUP) R4089766-5 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	113	110	1	3.20		20

⁶Qc

⁷Gl

⁸Al

L1751514-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751514-01 07/03/24 14:32 • (DUP) R4089766-6 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	163	166	1	2.90		20

⁹Sc

L1751541-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751541-01 07/03/24 14:32 • (DUP) R4089766-7 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	215	215	1	0.000		20

L1752035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752035-01 07/03/24 14:32 • (DUP) R4089766-8 07/03/24 14:32

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	134	134	1	0.700		20

Wet Chemistry by Method 2580 [L1751541-01](#)

L1752035-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1752035-02 07/03/24 14:32 • (DUP) R4089766-9 07/03/24 14:32

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	<u>DUP Qualifier</u>	DUP Diff Limits mV
ORP	146	144	1	2.50		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4089766-1 07/03/24 14:32 • (LCSD) R4089766-2 07/03/24 14:32

Analyte	Spike Amount mV	LCS Result mV	LCSD Result mV	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	Diff mV	Diff Limits mV
ORP	238	227	223	95.3	93.8	90.0-110			3.70	20

Method Blank (MB)

(MB) R4088105-1 06/28/24 20:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Nitrate as (N)	U		0.0480	0.100
Nitrite as (N)	U		0.0420	0.100
Sulfate	U		0.594	5.00

L1751559-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751559-03 06/28/24 21:23 • (DUP) R4088105-3 06/28/24 21:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	1.31	ND	1	200	P1	15
Chloride	55.4	55.0	1	0.844		15
Fluoride	0.188	ND	1	26.9	P1	15
Nitrate as (N)	0.392	ND	1	200	P1	15
Nitrite as (N)	ND	ND	1	0.000		15
Sulfate	48.1	49.3	1	2.49		15

L1751627-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751627-01 06/29/24 01:14 • (DUP) R4088105-6 06/29/24 01:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	0.000		15
Chloride	16.1	16.1	1	0.0578		15
Fluoride	0.261	0.213	1	20.1	P1	15
Nitrate as (N)	4.06	4.09	1	0.771		15
Nitrite as (N)	0.109	ND	1	12.0		15
Sulfate	36.3	35.5	1	2.23		15

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4088105-2 06/28/24 20:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Bromide	40.0	38.7	96.8	90.0-110	
Chloride	40.0	39.4	98.5	90.0-110	
Fluoride	8.00	8.44	105	90.0-110	
Nitrate as (N)	8.00	7.31	91.3	90.0-110	
Nitrite as (N)	8.00	8.04	101	90.0-110	
Sulfate	40.0	39.3	98.2	90.0-110	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751559-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751559-03 06/28/24 21:23 • (MS) R4088105-4 06/28/24 21:49 • (MSD) R4088105-5 06/28/24 22:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Bromide	40.0	1.31	40.2	40.7	97.1	98.4	1	80.0-120			1.24	15
Chloride	40.0	55.4	84.5	84.4	72.5	72.4	1	80.0-120	<u>J6</u>	<u>J6</u>	0.0731	15
Fluoride	8.00	0.188	8.24	8.25	101	101	1	80.0-120			0.195	15
Nitrate as (N)	8.00	0.392	8.17	8.27	97.2	98.5	1	80.0-120			1.22	15
Nitrite as (N)	8.00	ND	8.62	8.63	108	108	1	80.0-120			0.0753	15
Sulfate	40.0	48.1	79.2	79.1	77.9	77.6	1	80.0-120	<u>J6</u>	<u>J6</u>	0.134	15

L1751627-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751627-01 06/29/24 01:14 • (MS) R4088105-7 06/29/24 01:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Bromide	40.0	ND	40.5	101	1	80.0-120	
Chloride	40.0	16.1	52.4	90.7	1	80.0-120	
Fluoride	8.00	0.261	8.23	99.6	1	80.0-120	
Nitrate as (N)	8.00	4.06	11.3	90.7	1	80.0-120	
Nitrite as (N)	8.00	0.109	8.45	104	1	80.0-120	
Sulfate	40.0	36.3	69.0	81.8	1	80.0-120	

Method Blank (MB)

(MB) R4091242-1 07/08/24 15:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	U		0.117	0.250

L1751504-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751504-01 07/08/24 15:51 • (DUP) R4091242-3 07/08/24 15:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	4.19	4.17	1	0.574		10

L1751602-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-06 07/08/24 16:27 • (DUP) R4091242-6 07/08/24 16:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	ND	ND	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R4091242-2 07/08/24 15:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.31	97.4	90.0-110	

L1751504-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751504-01 07/08/24 15:51 • (MS) R4091242-4 07/08/24 15:54 • (MSD) R4091242-5 07/08/24 15:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	4.19	8.95	9.12	95.0	98.6	1	90.0-110			1.96	10

L1751602-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751602-06 07/08/24 16:27 • (MS) R4091242-7 07/08/24 16:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	ND	5.02	100	1	90.0-110	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 3500Cr B-2011

[L1751541-01](#)

Method Blank (MB)

(MB) R4088099-1 06/29/24 11:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chromium,Hexavalent	U		0.00300	0.0100

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 06/29/24 11:23 • (DUP) R4088099-5 06/29/24 11:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits
Chromium,Hexavalent	ND	ND	1	0.000	20

Laboratory Control Sample (LCS)

(LCS) R4088099-2 06/29/24 11:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.539	108	80.0-120	

L1751478-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751478-01 06/29/24 11:23 • (MS) R4088099-3 06/29/24 11:23 • (MSD) R4088099-4 06/29/24 11:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium,Hexavalent	0.500	ND	0.525	0.493	105	98.6	1	75.0-125			6.29	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 351.2 [L1751541-01](#)

Method Blank (MB)

(MB) R4089234-1 07/02/24 14:52

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Kjeldahl Nitrogen, TKN	U		0.140	0.250

L1750623-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1750623-02 07/02/24 14:55 • (DUP) R4089234-3 07/02/24 14:56

	Original Result	DUP Result	Dilution	DUP RPD	DUP RPD Limits
Analyte	mg/l	mg/l		%	%
Kjeldahl Nitrogen, TKN	1.00	0.938	1	6.40	20

Laboratory Control Sample (LCS)

(LCS) R4089234-2 07/02/24 14:54

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Kjeldahl Nitrogen, TKN	12.3	13.5	110	80.0-120	

L1750623-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750623-02 07/02/24 14:55 • (MS) R4089234-4 07/02/24 14:58 • (MSD) R4089234-5 07/02/24 14:59

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Kjeldahl Nitrogen, TKN	5.00	1.00	7.43	7.30	129	126	1	90.0-110	J5	J5	1.77	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 353.2

L1751541-01

Method Blank (MB)

(MB) R4088907-1 07/01/24 23:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate-Nitrite	U		0.0500	0.100

L1751481-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-03 07/02/24 00:03 • (DUP) R4088907-3 07/02/24 00:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.458	0.455	1	0.657		20

L1751561-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751561-01 07/02/24 00:20 • (DUP) R4088907-6 07/02/24 00:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	1.20	1.24	1	3.28		20

Laboratory Control Sample (LCS)

(LCS) R4088907-2 07/02/24 00:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.65	106	90.0-110	

L1751492-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751492-01 07/02/24 00:09 • (MS) R4088907-4 07/02/24 00:15 • (MSD) R4088907-5 07/02/24 00:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	2.50	ND	2.52	2.60	101	104	1	90.0-110			3.13	20

L1751763-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1751763-02 07/02/24 00:39 • (MS) R4088907-7 07/02/24 00:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	0.621	3.20	103	1	90.0-110	

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Wet Chemistry by Method 410.4 [L1751541-01](#)

Method Blank (MB)

(MB) R4090607-1 07/05/24 22:10

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
COD	U		11.7	20.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751826-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1751826-06 07/05/24 22:20 • (DUP) R4090607-3 07/05/24 22:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
COD	75.7	78.0	1	2.98		20

L1751946-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751946-01 07/05/24 22:20 • (DUP) R4090607-4 07/05/24 22:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
COD	26.7	25.6	1	4.14		20

Laboratory Control Sample (LCS)

(LCS) R4090607-2 07/05/24 22:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
COD	500	504	101	90.0-110	

L1751976-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751976-02 07/05/24 22:21 • (MS) R4090607-5 07/05/24 22:21 • (MSD) R4090607-6 07/05/24 22:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
COD	500	36.8	552	582	103	109	1	90.0-110			5.18	20

Wet Chemistry by Method 4500Cl G-2011

[L1751541-01](#)

Method Blank (MB)

(MB) R4090818-1 07/07/24 12:21

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Chlorine,residual	U		0.0260	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1752000-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1752000-05 07/07/24 12:29 • (DUP) R4090818-3 07/07/24 12:29

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Chlorine,residual	ND	0.106	1	10.9		20

Laboratory Control Sample (LCS)

(LCS) R4090818-2 07/07/24 12:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Chlorine,residual	1.00	0.910	91.0	85.0-115	

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4090492-1 07/05/24 14:18

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.00180	0.00500

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751481-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-06 07/05/24 14:26 • (DUP) R4090492-3 07/05/24 14:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	ND	1	0.000		20

L1751604-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751604-03 07/05/24 14:41 • (DUP) R4090492-6 07/05/24 14:42

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4090492-2 07/05/24 14:19

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Cyanide	0.100	0.102	102	87.1-120	

L1751604-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751604-02 07/05/24 14:36 • (MS) R4090492-4 07/05/24 14:38 • (MSD) R4090492-5 07/05/24 14:39

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0908	0.0983	90.8	98.3	1	90.0-110			7.93	20

L1753243-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753243-01 07/05/24 15:04 • (MS) R4090492-7 07/05/24 15:05 • (MSD) R4090492-8 07/05/24 15:09

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0893	0.0943	89.3	94.3	1	90.0-110	J6		5.45	20

L1751481-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-01 07/03/24 18:15 • (DUP) R4089964-2 07/03/24 18:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.70	7.70	1	0.000		1

Sample Narrative:

OS: 7.7 at 22.8C

DUP: 7.7 at 22.9C

L1751602-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751602-03 07/03/24 18:15 • (DUP) R4089964-3 07/03/24 18:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.36	7.36	1	0.000		1

Sample Narrative:

OS: 7.36 at 23C

DUP: 7.36 at 23.8C

Laboratory Control Sample (LCS)

(LCS) R4089964-1 07/03/24 18:15

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 23.7C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 4500P E-2011

[L1751541-01](#)

Method Blank (MB)

(MB) R4087876-1 06/28/24 15:26

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Phosphate,Ortho	U		0.0140	0.0300

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751492-01 06/28/24 15:44 • (DUP) R4087876-3 06/28/24 15:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Phosphate,Ortho	0.288	0.294	1	2.06		20

Laboratory Control Sample (LCS)

(LCS) R4087876-2 06/28/24 15:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Phosphate,Ortho	0.245	0.274	112	85.0-115	

L1751541-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751541-01 06/28/24 15:45 • (MS) R4087876-4 06/28/24 15:46 • (MSD) R4087876-5 06/28/24 15:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Phosphate,Ortho	0.500	0.0300	0.461	0.444	86.2	82.8	1	80.0-120			3.76	20

Wet Chemistry by Method 4500S2 D-2011 [L1751541-01](#)

Method Blank (MB)

(MB) R4088721-1 07/01/24 13:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0250	0.0500

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751362-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751362-03 07/01/24 13:49 • (DUP) R4088721-3 07/01/24 13:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	ND	ND	1	200	P1	20

L1752169-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1752169-03 07/01/24 13:55 • (DUP) R4088721-6 07/01/24 13:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4088721-2 07/01/24 13:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.466	93.2	85.0-115	

L1751407-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751407-02 07/01/24 13:50 • (MS) R4088721-4 07/01/24 13:51 • (MSD) R4088721-5 07/01/24 13:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	1.00	0.394	0.953	1.05	55.9	66.0	2	80.0-120	J6	J6	10.1	20

Wet Chemistry by Method 4500SO3 B-2011

[L1751541-01](#)

Method Blank (MB)

(MB) R4090829-1 07/07/24 10:15

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Sulfite	U		1.19	3.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751541-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751541-01 07/07/24 10:15 • (DUP) R4090829-4 07/07/24 10:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Sulfite	65.0	65.0	5	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4090829-2 07/07/24 10:15 • (LCSD) R4090829-3 07/07/24 10:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Sulfite	20.0	17.5	17.0	87.5	85.0	85.0-115			2.90	20

L1752123-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752123-01 07/07/24 10:15 • (MS) R4090829-5 07/07/24 10:15 • (MSD) R4090829-6 07/07/24 10:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Sulfite	20.0	ND	16.5	16.5	82.5	82.5	1	85.0-115	<u>J6</u>	<u>J6</u>	0.000	20

Wet Chemistry by Method 5210 B-2016

[L1751541-01](#)

Method Blank (MB)

(MB) R4089929-1 07/03/24 08:24

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
BOD	U		0.200	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751481-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751481-01 07/03/24 11:45 • (DUP) R4089929-3 07/03/24 11:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
BOD	ND	ND	1	0		30

L1751681-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1751681-02 07/03/24 12:33 • (DUP) R4089929-4 07/03/24 12:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
BOD	13.9	12.7	1	9.01		30

Laboratory Control Sample (LCS)

(LCS) R4089929-2 07/03/24 11:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
BOD	198	197	99.4	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4089929-5 07/03/24 12:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
BOD	198	194	97.8	84.6-115	

Wet Chemistry by Method 5210 B-2016

[L1751541-01](#)

Method Blank (MB)

(MB) R4089930-1 07/03/24 08:24

Analyte	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
	mg/l		mg/l	mg/l
CBOD	U		0.200	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1751130-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1751130-02 07/03/24 12:59 • (DUP) R4089930-3 07/03/24 13:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
	mg/l	mg/l		%		%
CBOD	ND	ND	1	0		30

Laboratory Control Sample (LCS)

(LCS) R4089930-2 07/03/24 08:36

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	mg/l	mg/l	%	%	
CBOD	198	199	100	84.6-115	

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4089930-4 07/03/24 13:19

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	mg/l	mg/l	%	%	
CBOD	198	197	99.3	84.6-115	

Wet Chemistry by Method 5310 B-2014

L1751541-01

Method Blank (MB)

(MB) R4094191-2 07/15/24 22:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.246	⬇	0.102	1.00

L1755004-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1755004-21 07/16/24 00:44 • (DUP) R4094191-3 07/16/24 01:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits %
TOC (Total Organic Carbon)	2.08	1.81	1	13.9	20

L1756021-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1756021-06 07/16/24 05:16 • (DUP) R4094191-6 07/16/24 05:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits %
TOC (Total Organic Carbon)	3.83	3.79	1	0.997	20

Laboratory Control Sample (LCS)

(LCS) R4094191-1 07/15/24 21:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	24.5	97.9	85.0-115	

L1755004-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755004-22 07/16/24 01:20 • (MS) R4094191-4 07/16/24 01:42 • (MSD) R4094191-5 07/16/24 02:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	1.70	25.5	25.3	95.3	94.5	1	85.0-115			0.865	20

L1756021-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1756021-15 07/16/24 05:53 • (MS) R4094191-7 07/16/24 06:15 • (MSD) R4094191-8 07/16/24 06:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	1.69	25.8	25.9	96.3	96.9	1	85.0-115			0.581	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4094007-2 07/15/24 11:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
DOC	0.321	⬇	0.106	1.00

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1754024-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1754024-07 07/15/24 12:54 • (DUP) R4094007-3 07/15/24 13:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits
DOC	1.71	1.71	1	0.117	20

Laboratory Control Sample (LCS)

(LCS) R4094007-1 07/15/24 11:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
DOC	25.0	23.8	95.3	85.0-115	

L1754024-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754024-11 07/15/24 13:38 • (MS) R4094007-4 07/15/24 14:01 • (MSD) R4094007-5 07/15/24 14:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
DOC	25.0	3.94	28.7	28.4	98.9	97.7	1	80.0-120			1.05	20

Wet Chemistry by Method 5540 C-2011

[L1751541-01](#)

Method Blank (MB)

(MB) R4087820-1 06/28/24 14:01

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
MBAS	U		0.0190	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751529-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751529-01 06/28/24 14:11 • (DUP) R4087820-5 06/28/24 14:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
MBAS	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4087820-2 06/28/24 14:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
MBAS	1.00	0.956	95.6	85.0-115	

L1751514-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751514-01 06/28/24 14:06 • (MS) R4087820-3 06/28/24 14:09 • (MSD) R4087820-4 06/28/24 14:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
MBAS	1.00	ND	0.925	0.866	92.5	86.6	1	85.0-115			6.59	20

Mercury by Method 245.1 [L1751541-01](#)

Method Blank (MB)

(MB) R4089206-7 07/02/24 12:21

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000100	0.000200

Laboratory Control Sample (LCS)

(LCS) R4089206-1 07/02/24 10:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Mercury	0.00300	0.00340	113	85.0-115	

L1750960-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750960-01 07/02/24 10:59 • (MS) R4089206-3 07/02/24 11:09 • (MSD) R4089206-4 07/02/24 11:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00343	0.00331	110	106	1	70.0-130			3.56	20

L1751456-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751456-01 07/02/24 11:15 • (MS) R4089206-5 07/02/24 11:17 • (MSD) R4089206-6 07/02/24 11:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00346	0.00334	111	107	1	70.0-130			3.42	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Metals (ICP) by Method 200.7

L1751541-01

Method Blank (MB)

(MB) R4093057-1 07/12/24 07:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum	U		0.0592	0.200
Antimony	U		0.00398	0.0100
Arsenic	U		0.00645	0.0100
Barium	U		0.000795	0.00500
Beryllium	U		0.000401	0.00200
Cadmium	U		0.000552	0.00200
Chromium	U		0.00163	0.0100
Copper	U		0.00226	0.0100
Lead	U		0.00227	0.00500
Lithium	U		0.00689	0.0150
Nickel	U		0.00182	0.0100
Selenium	U		0.00616	0.0100
Silicon	U		0.0771	0.200
Silver	0.00480	U	0.00131	0.00500
Strontium	U		0.000683	0.0100
Thallium	U		0.00460	0.0100
Zinc	U		0.00578	0.0500
Phosphorus	U		0.00760	0.100

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4093057-2 07/12/24 07:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	10.6	106	85.0-115	
Antimony	1.00	1.04	104	85.0-115	
Arsenic	1.00	1.05	105	85.0-115	
Barium	1.00	1.01	101	85.0-115	
Beryllium	1.00	1.07	107	85.0-115	
Cadmium	1.00	1.05	105	85.0-115	
Chromium	1.00	1.07	107	85.0-115	
Copper	1.00	1.05	105	85.0-115	
Lead	1.00	1.01	101	85.0-115	
Lithium	1.00	1.04	104	85.0-115	
Nickel	1.00	0.974	97.4	85.0-115	
Selenium	1.00	1.01	101	85.0-115	
Silicon	1.00	0.992	99.2	85.0-115	
Silver	0.200	0.201	100	85.0-115	
Strontium	1.00	1.07	107	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4093057-2 07/12/24 07:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Thallium	1.00	1.08	108	85.0-115	
Zinc	1.00	1.07	107	85.0-115	
Phosphorus	1.00	1.05	105	85.0-115	

L1751498-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751498-01 07/12/24 07:55 • (MS) R4093057-4 07/12/24 07:58 • (MSD) R4093057-5 07/12/24 08:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum	10.0	ND	10.6	10.5	106	105	1	70.0-130			0.629	20
Antimony	1.00	ND	1.05	1.04	105	104	1	70.0-130			1.03	20
Arsenic	1.00	ND	1.07	1.05	107	105	1	70.0-130			1.90	20
Barium	1.00	0.00588	1.03	1.02	102	101	1	70.0-130			1.28	20
Beryllium	1.00	ND	1.07	1.06	107	106	1	70.0-130			0.466	20
Cadmium	1.00	ND	1.06	1.05	106	105	1	70.0-130			0.338	20
Chromium	1.00	ND	1.07	1.07	107	107	1	70.0-130			0.208	20
Copper	1.00	ND	1.05	1.06	105	106	1	70.0-130			0.742	20
Lead	1.00	ND	1.02	1.02	102	102	1	70.0-130			0.0928	20
Lithium	1.00	ND	1.04	1.04	104	104	1	70.0-130			0.0627	20
Nickel	1.00	ND	0.987	0.990	98.7	99.0	1	70.0-130			0.262	20
Selenium	1.00	ND	1.04	1.03	104	103	1	70.0-130			0.741	20
Silicon	1.00	0.571	1.54	1.53	96.6	95.8	1	70.0-130			0.509	20
Silver	0.200	ND	0.198	0.196	97.0	95.8	1	70.0-130			1.29	20
Strontium	1.00	0.0306	1.09	1.09	106	106	1	70.0-130			0.172	20
Thallium	1.00	ND	1.11	1.09	111	109	1	70.0-130			1.33	20
Zinc	1.00	ND	1.08	1.07	108	107	1	70.0-130			0.909	20
Phosphorus	1.00	ND	1.09	1.06	108	105	1	70.0-130			2.89	20

L1751515-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751515-01 07/12/24 10:07 • (MS) R4093057-8 07/12/24 10:08 • (MSD) R4093057-9 07/12/24 10:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum	10.0	2.44	11.9	11.9	94.6	94.8	5	70.0-130			0.189	20
Antimony	1.00	ND	0.997	0.971	96.0	93.3	5	70.0-130			2.67	20
Arsenic	1.00	ND	0.924	0.967	92.4	96.7	5	70.0-130			4.48	20
Barium	1.00	0.117	1.03	1.03	91.3	90.9	5	70.0-130			0.423	20
Beryllium	1.00	ND	0.946	0.942	94.6	94.2	5	70.0-130			0.426	20
Cadmium	1.00	ND	0.924	0.911	92.4	91.1	5	70.0-130			1.46	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Metals (ICP) by Method 200.7 [L1751541-01](#)

L1751515-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751515-01 07/12/24 10:07 • (MS) R4093057-8 07/12/24 10:08 • (MSD) R4093057-9 07/12/24 10:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chromium	1.00	ND	0.964	0.960	96.4	96.0	5	70.0-130			0.426	20
Copper	1.00	ND	0.959	0.953	94.5	93.9	5	70.0-130			0.631	20
Lead	1.00	ND	0.991	0.973	99.1	97.3	5	70.0-130			1.78	20
Lithium	1.00	ND	0.928	0.928	92.8	92.8	5	70.0-130			0.0504	20
Nickel	1.00	0.262	1.22	1.22	95.9	95.5	5	70.0-130			0.303	20
Selenium	1.00	ND	0.968	0.958	93.2	92.2	5	70.0-130			1.05	20
Silicon	1.00	3.24	3.98	3.99	73.4	75.1	5	70.0-130			0.417	20
Silver	0.200	ND	0.173	0.170	86.7	84.8	5	70.0-130			2.19	20
Strontium	1.00	0.0899	1.04	1.03	94.6	93.9	5	70.0-130			0.662	20
Thallium	1.00	ND	1.09	1.08	109	108	5	70.0-130			1.35	20
Zinc	1.00	ND	1.08	1.08	95.1	94.8	5	70.0-130			0.282	20
Phosphorus	1.00	ND	1.14	1.12	91.5	89.3	5	70.0-130			1.89	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Metals (ICPMS) by Method 200.8 [L1751541-01](#)

Method Blank (MB)

(MB) R4099390-1 07/28/24 16:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0177	0.0400
Calcium	U		0.112	1.00
Cobalt	U		0.000142	0.00200
Magnesium	U		0.0690	1.00
Manganese	U		0.000982	0.00500
Molybdenum	U		0.000841	0.00500
Potassium	U		0.151	1.00
Sodium	U		0.513	2.00
Tin	U		0.00106	0.00400
Titanium	U		0.00172	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4099398-1 07/28/24 17:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Iron	U		0.0447	0.100

Laboratory Control Sample (LCS)

(LCS) R4099390-2 07/28/24 16:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	0.0500	0.0534	107	85.0-115	
Calcium	5.00	5.28	106	85.0-115	
Cobalt	0.0500	0.0549	110	85.0-115	
Magnesium	5.00	5.24	105	85.0-115	
Manganese	0.0500	0.0526	105	85.0-115	
Molybdenum	0.0500	0.0525	105	85.0-115	
Potassium	5.00	5.17	103	85.0-115	
Sodium	5.00	5.34	107	85.0-115	
Tin	0.0500	0.0539	108	85.0-115	
Titanium	0.0500	0.0545	109	85.0-115	

Metals (ICPMS) by Method 200.8 [L1751541-01](#)

Laboratory Control Sample (LCS)

(LCS) R4099398-2 07/28/24 17:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Iron	1.00	1.05	105	85.0-115	

L1751551-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751551-01 07/28/24 16:45 • (MS) R4099390-4 07/28/24 16:49 • (MSD) R4099390-5 07/28/24 16:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Boron	0.0500		0.140	0.137	109	103	1	70.0-130			2.25	20
Calcium	5.00		45.2	42.4	118	61.7	1	70.0-130		V	6.41	20
Cobalt	0.0500		0.0559	0.0532	105	99.3	1	70.0-130			5.02	20
Magnesium	5.00		24.1	22.7	112	84.2	1	70.0-130			5.85	20
Manganese	0.0500		1.77	1.67	137	0.000	1	70.0-130	V	V	6.31	20
Molybdenum	0.0500		0.0506	0.0525	101	105	1	70.0-130			3.75	20
Potassium	5.00		9.87	9.24	108	95.1	1	70.0-130			6.54	20
Sodium	5.00		20.7	19.5	114	89.1	1	70.0-130			6.28	20
Tin	0.0500		0.0514	0.0543	103	109	1	70.0-130			5.45	20
Titanium	0.0500		0.0510	0.0507	102	101	1	70.0-130			0.632	20

L1751703-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751703-02 07/28/24 17:01 • (MS) R4099390-6 07/28/24 17:04 • (MSD) R4099390-7 07/28/24 17:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Boron	0.0500	0.130	0.185	0.186	111	113	1	70.0-130			0.645	20
Calcium	5.00	11.9	17.0	17.0	103	102	1	70.0-130			0.111	20
Cobalt	0.0500	ND	0.0519	0.0541	104	108	1	70.0-130			4.16	20
Magnesium	5.00	4.33	9.59	9.79	105	109	1	70.0-130			2.11	20
Manganese	0.0500	0.00846	0.0575	0.0602	98.2	104	1	70.0-130			4.58	20
Molybdenum	0.0500	ND	0.0552	0.0557	107	108	1	70.0-130			0.886	20
Potassium	5.00	22.3	27.6	27.6	106	106	1	70.0-130			0.00795	20
Sodium	5.00	259	256	264	0.000	97.3	1	70.0-130	V		3.07	20
Tin	0.0500	ND	0.0551	0.0563	110	113	1	70.0-130			2.16	20
Titanium	0.0500	ND	0.0524	0.0507	105	101	1	70.0-130			3.42	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Metals (ICPMS) by Method 200.8 [L1751541-01](#)

L1751703-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751703-02 07/28/24 17:39 • (MS) R4099398-6 07/28/24 17:42 • (MSD) R4099398-7 07/28/24 17:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Iron	1.00	ND	1.03	1.03	103	103	1	70.0-130			0.693	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC/MS) by Method 624.1

L1751541-01

Method Blank (MB)

(MB) R4090590-4 07/02/24 16:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
2-Chloroethyl vinyl ether	U		0.000575	0.0500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
Ethylbenzene	U		0.000137	0.00100
Methylene Chloride	U		0.000430	0.00500
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
Vinyl chloride	U		0.000234	0.00100
o-Xylene	U		0.000174	0.00100
m&p-Xylene	U		0.000430	0.00200
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	111			80.0-120
(S) 4-Bromofluorobenzene	106			80.0-120
(S) 1,2-Dichloroethane-d4	106			70.0-130

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4090590-1 07/02/24 15:23 • (LCSD) R4090590-2 07/02/24 15:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00515	0.00532	103	106	65.0-135			3.25	20
Bromodichloromethane	0.00500	0.00490	0.00497	98.0	99.4	65.0-135			1.42	20
Bromoform	0.00500	0.00428	0.00439	85.6	87.8	70.0-130			2.54	20
Bromomethane	0.00500	0.00166	0.00181	33.2	36.2	15.0-185			8.65	20
Carbon tetrachloride	0.00500	0.00527	0.00528	105	106	70.0-130			0.190	20
Chlorobenzene	0.00500	0.00477	0.00497	95.4	99.4	65.0-135			4.11	20
Chlorodibromomethane	0.00500	0.00450	0.00462	90.0	92.4	70.0-135			2.63	20
Chloroethane	0.00500	0.00704	0.00711	141	142	40.0-160			0.989	20
2-Chloroethyl vinyl ether	0.0250	0.00788	0.00697	31.5	27.9	0.100-225			12.3	20
Chloroform	0.00500	0.00515	0.00521	103	104	70.0-135			1.16	20
Chloromethane	0.00500	0.00520	0.00512	104	102	0.100-205			1.55	20
1,2-Dichlorobenzene	0.00500	0.00498	0.00497	99.6	99.4	65.0-135			0.201	20
1,3-Dichlorobenzene	0.00500	0.00445	0.00460	89.0	92.0	70.0-130			3.31	20
1,4-Dichlorobenzene	0.00500	0.00466	0.00460	93.2	92.0	65.0-135			1.30	20
Dichlorodifluoromethane	0.00500	0.00667	0.00670	133	134	49.0-155			0.449	20
1,1-Dichloroethane	0.00500	0.00558	0.00571	112	114	70.0-130			2.30	20
1,2-Dichloroethane	0.00500	0.00525	0.00537	105	107	70.0-130			2.26	20
1,1-Dichloroethene	0.00500	0.00506	0.00532	101	106	50.0-150			5.01	20
trans-1,2-Dichloroethene	0.00500	0.00494	0.00507	98.8	101	70.0-130			2.60	20
1,2-Dichloropropane	0.00500	0.00554	0.00551	111	110	35.0-165			0.543	20
cis-1,3-Dichloropropene	0.00500	0.00502	0.00494	100	98.8	25.0-175			1.61	20
trans-1,3-Dichloropropene	0.00500	0.00461	0.00481	92.2	96.2	50.0-150			4.25	20
Ethylbenzene	0.00500	0.00478	0.00490	95.6	98.0	60.0-140			2.48	20
Methylene Chloride	0.00500	0.00500	0.00505	100	101	60.0-140			0.995	20
Methyl tert-butyl ether	0.00500	0.00530	0.00551	106	110	64.0-123			3.89	20
Naphthalene	0.00500	0.00363	0.00376	72.6	75.2	62.0-128			3.52	20
1,1,2,2-Tetrachloroethane	0.00500	0.00455	0.00446	91.0	89.2	60.0-140			2.00	20
Tetrachloroethene	0.00500	0.00478	0.00521	95.6	104	70.0-130			8.61	20
Toluene	0.00500	0.00482	0.00495	96.4	99.0	70.0-130			2.66	20
1,1,1-Trichloroethane	0.00500	0.00519	0.00524	104	105	70.0-130			0.959	20
1,1,2-Trichloroethane	0.00500	0.00490	0.00507	98.0	101	70.0-130			3.41	20
Trichloroethene	0.00500	0.00541	0.00557	108	111	65.0-135			2.91	20
Trichlorofluoromethane	0.00500	0.00589	0.00599	118	120	50.0-150			1.68	20
Vinyl chloride	0.00500	0.00612	0.00631	122	126	5.00-195			3.06	20
o-Xylene	0.00500	0.00455	0.00472	91.0	94.4	78.0-120			3.67	20
m&p-Xylene	0.0100	0.00946	0.00956	94.6	95.6	77.0-120			1.05	20
Xylenes, Total	0.0150	0.0140	0.0143	93.3	95.3	77.0-120			2.12	20
(S) Toluene-d8				104	106	80.0-120				
(S) 4-Bromofluorobenzene				103	103	80.0-120				
(S) 1,2-Dichloroethane-d4				105	105	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

TPH by TCEQ Method 1005 [L1751541-01](#)

Method Blank (MB)

(MB) R4090295-1 07/03/24 17:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH C6 - C12	U		0.600	0.900
TPH C12 - C28	U		0.600	0.900
TPH C28 - C35	U		0.600	0.900
TPH C6 - C35	U		0.600	0.900
(S) o-Terphenyl	86.9			70.0-130
(S) 1-chlorooctane	72.5			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4090295-2 07/03/24 17:25 • (LCSD) R4090295-3 07/03/24 17:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH C6 - C12	41.7	37.8	36.6	90.6	87.8	75.0-125			3.23	20
TPH C12 - C28	41.7	43.9	42.1	105	101	75.0-125			4.19	20
TPH C6 - C35	83.4	81.7	78.7	98.0	94.4	75.0-125			3.74	20
(S) o-Terphenyl				103	103	70.0-130				
(S) 1-chlorooctane				98.2	94.9	70.0-130				

⁶Qc

⁷Gl

⁸Al

⁹Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751541-01

Method Blank (MB)

(MB) R4090525-2 07/04/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.0000886	0.00100
Acenaphthylene	U		0.0000921	0.00100
Anthracene	U		0.0000804	0.00100
Benzidine	U		0.00374	0.0100
Benzo(a)anthracene	U		0.000199	0.00100
Benzo(b)fluoranthene	U		0.000130	0.00100
Benzo(k)fluoranthene	U		0.000120	0.00100
Benzo(g,h,i)perylene	U		0.000121	0.00100
Benzo(a)pyrene	U		0.0000381	0.00100
Bis(2-chlorethoxy)methane	U		0.000116	0.0100
Bis(2-chloroethyl)ether	U		0.000137	0.0100
2,2-Oxybis(1-Chloropropane)	U		0.000210	0.0100
4-Bromophenyl-phenylether	U		0.0000877	0.0100
2-Chloronaphthalene	U		0.0000648	0.00100
4-Chlorophenyl-phenylether	U		0.0000926	0.0100
Chrysene	U		0.000130	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.00100
3,3-Dichlorobenzidine	U		0.000212	0.0100
2,4-Dinitrotoluene	U		0.0000983	0.0100
2,6-Dinitrotoluene	U		0.000250	0.0100
1,2-Diphenylhydrazine	U	N2	0.000105	0.0100
Fluoranthene	U		0.000102	0.00100
Fluorene	U		0.0000844	0.00100
Hexachlorobenzene	U		0.0000755	0.00100
Hexachloro-1,3-butadiene	U		0.0000968	0.0100
Hexachlorocyclopentadiene	U		0.0000598	0.0100
Hexachloroethane	U		0.000127	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000143	0.0100
Naphthalene	U		0.000159	0.00100
Nitrobenzene	U		0.000297	0.0100
n-Nitrosodimethylamine	U		0.000998	0.0100
n-Nitrosodiphenylamine	U		0.00237	0.0100
n-Nitrosodi-n-propylamine	U		0.000261	0.0100
Phenanthrene	U		0.000112	0.00100
Benzylbutyl phthalate	U		0.000765	0.00300
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300
Di-n-butyl phthalate	U		0.000453	0.00300
Diethyl phthalate	U		0.000287	0.00300
Dimethyl phthalate	U		0.000260	0.00300

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751541-01

Method Blank (MB)

(MB) R4090525-2 07/04/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Di-n-octyl phthalate	U		0.000932	0.00300
Pyrene	U		0.000107	0.00100
1,2,4-Trichlorobenzene	U		0.0000698	0.0100
4-Chloro-3-methylphenol	U		0.000131	0.0100
2-Chlorophenol	U		0.000133	0.0100
2,4-Dichlorophenol	U		0.000102	0.0100
2,4-Dimethylphenol	U		0.0000636	0.0100
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100
2,4-Dinitrophenol	U		0.00593	0.0100
2-Nitrophenol	U		0.000117	0.0100
4-Nitrophenol	U		0.000143	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.00433	0.0100
2,4,6-Trichlorophenol	U		0.000100	0.0100
(S) Nitrobenzene-d5	57.3			15.0-314
(S) 2-Fluorobiphenyl	61.3			22.0-127
(S) p-Terphenyl-d14	81.2			29.0-141
(S) Phenol-d5	19.4			8.00-424
(S) 2-Fluorophenol	25.4			10.0-120
(S) 2,4,6-Tribromophenol	63.5			10.0-153

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0432	86.4	47.0-145	
Acenaphthylene	0.0500	0.0467	93.4	33.0-145	
Anthracene	0.0500	0.0464	92.8	27.0-133	
Benzidine	0.100	0.00535	5.35	1.00-120	
Benzo(a)anthracene	0.0500	0.0494	98.8	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0500	100	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0502	100	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0492	98.4	1.00-219	
Benzo(a)pyrene	0.0500	0.0489	97.8	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0395	79.0	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0426	85.2	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0387	77.4	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0515	103	53.0-127	

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

L1751541-01

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0411	82.2	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0546	109	25.0-158	
Chrysene	0.0500	0.0483	96.6	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0495	99.0	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0977	97.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0627	125	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0562	112	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0441	88.2	37.0-125	N2
Fluoranthene	0.0500	0.0540	108	26.0-137	
Fluorene	0.0500	0.0500	100	59.0-121	
Hexachlorobenzene	0.0500	0.0508	102	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0363	72.6	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0278	55.6	10.0-120	
Hexachloroethane	0.0500	0.0316	63.2	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0460	92.0	1.00-171	
Isophorone	0.0500	0.0394	78.8	21.0-196	
Naphthalene	0.0500	0.0358	71.6	21.0-133	
Nitrobenzene	0.0500	0.0362	72.4	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0216	43.2	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0449	89.8	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0439	87.8	1.00-230	
Phenanthrene	0.0500	0.0447	89.4	54.0-120	
Benzylbutyl phthalate	0.0500	0.0433	86.6	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0431	86.2	8.00-158	
Di-n-butyl phthalate	0.0500	0.0487	97.4	1.00-120	
Diethyl phthalate	0.0500	0.0514	103	1.00-120	
Dimethyl phthalate	0.0500	0.0507	101	1.00-120	
Di-n-octyl phthalate	0.0500	0.0447	89.4	4.00-146	
Pyrene	0.0500	0.0440	88.0	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0381	76.2	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0387	77.4	22.0-147	
2-Chlorophenol	0.0500	0.0325	65.0	23.0-134	
2,4-Dichlorophenol	0.0500	0.0393	78.6	39.0-135	
2,4-Dimethylphenol	0.0500	0.0449	89.8	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0645	129	1.00-181	
2,4-Dinitrophenol	0.0500	0.0681	136	1.00-191	
2-Nitrophenol	0.0500	0.0430	86.0	29.0-182	
4-Nitrophenol	0.0500	0.0236	47.2	1.00-132	
Pentachlorophenol	0.0500	0.0407	81.4	14.0-176	
Phenol	0.0500	0.0165	33.0	5.00-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625.1 [L1751541-01](#)

Laboratory Control Sample (LCS)

(LCS) R4090525-1 07/04/24 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
2,4,6-Trichlorophenol	0.0500	0.0472	94.4	37.0-144	
(S) Nitrobenzene-d5			72.6	15.0-314	
(S) 2-Fluorobiphenyl			90.2	22.0-127	
(S) p-Terphenyl-d14			104	29.0-141	
(S) Phenol-d5			34.4	8.00-424	
(S) 2-Fluorophenol			45.0	10.0-120	
(S) 2,4,6-Tribromophenol			115	10.0-153	

L1752168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752168-01 07/07/24 08:55 • (MS) R4091172-1 07/07/24 09:16 • (MSD) R4091172-2 07/07/24 09:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acenaphthene	0.0500	ND	0.0395	0.0357	79.0	71.4	1	47.0-145			10.1	48
Acenaphthylene	0.0500	ND	0.0430	0.0382	86.0	76.4	1	33.0-145			11.8	74
Anthracene	0.0500	ND	0.0406	0.0359	81.2	71.8	1	27.0-133			12.3	66
Benzydine	0.100	ND	0.0119	ND	11.9	4.72	1	1.00-120		J3	86.4	40
Benzo(a)anthracene	0.0500	ND	0.0410	0.0378	82.0	75.6	1	33.0-143			8.12	53
Benzo(b)fluoranthene	0.0500	ND	0.0408	0.0370	81.6	74.0	1	24.0-159			9.77	71
Benzo(k)fluoranthene	0.0500	ND	0.0407	0.0368	81.4	73.6	1	11.0-162			10.1	63
Benzo(g,h,i)perylene	0.0500	ND	0.0390	0.0341	78.0	68.2	1	1.00-219			13.4	97
Benzo(a)pyrene	0.0500	ND	0.0411	0.0369	82.2	73.8	1	17.0-163			10.8	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0383	0.0338	76.6	67.6	1	33.0-184			12.5	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0377	0.0338	75.4	67.6	1	12.0-158			10.9	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0342	0.0311	68.4	62.2	1	36.0-166			9.49	76
4-Bromophenyl-phenylether	0.0500	ND	0.0506	0.0459	101	91.8	1	53.0-127			9.74	43
2-Chloronaphthalene	0.0500	ND	0.0395	0.0357	79.0	71.4	1	60.0-120			10.1	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0497	0.0447	99.4	89.4	1	25.0-158			10.6	61
Chrysene	0.0500	ND	0.0396	0.0366	79.2	73.2	1	17.0-168			7.87	87
Dibenz(a,h)anthracene	0.0500	ND	0.0389	0.0340	77.8	68.0	1	1.00-227			13.4	126
3,3-Dichlorobenzidine	0.100	ND	0.0648	0.0582	64.8	58.2	1	1.00-262			10.7	108
2,4-Dinitrotoluene	0.0500	ND	0.0534	0.0485	107	97.0	1	39.0-139			9.62	42
2,6-Dinitrotoluene	0.0500	ND	0.0498	0.0456	99.6	91.2	1	50.0-158			8.81	48
1,2-Diphenylhydrazine	0.0500	ND	0.0361	0.0323	72.2	64.6	1	18.0-156	N2	N2	11.1	34
Fluoranthene	0.0500	ND	0.0437	0.0397	87.4	79.4	1	26.0-137			9.59	66
Fluorene	0.0500	ND	0.0441	0.0395	88.2	79.0	1	59.0-121			11.0	38
Hexachlorobenzene	0.0500	ND	0.0482	0.0432	96.4	86.4	1	1.00-152			10.9	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0417	0.0366	83.4	73.2	1	24.0-120			13.0	62
Hexachlorocyclopentadiene	0.0500	ND	0.0239	0.0280	47.8	56.0	1	10.0-146			15.8	34

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625.1 L1751541-01

L1752168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752168-01 07/07/24 08:55 • (MS) R4091172-1 07/07/24 09:16 • (MSD) R4091172-2 07/07/24 09:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexachloroethane	0.0500	ND	0.0306	0.0274	61.2	54.8	1	40.0-120			11.0	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0376	0.0327	75.2	65.4	1	1.00-171			13.9	99
Isophorone	0.0500	ND	0.0362	0.0326	72.4	65.2	1	21.0-196			10.5	93
Naphthalene	0.0500	ND	0.0356	0.0320	71.2	64.0	1	21.0-133			10.7	65
Nitrobenzene	0.0500	ND	0.0338	0.0318	67.6	63.6	1	35.0-180			6.10	62
n-Nitrosodimethylamine	0.0500	ND	0.0181	0.0159	36.2	31.8	1	10.0-120			12.9	40
n-Nitrosodiphenylamine	0.0500	ND	0.0429	0.0388	85.8	77.6	1	16.0-160			10.0	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0345	0.0315	69.0	63.0	1	1.00-230			9.09	87
Phenanthrene	0.0500	ND	0.0408	0.0371	81.6	74.2	1	54.0-120			9.50	39
Benzylbutyl phthalate	0.0500	ND	0.0369	0.0354	73.8	70.8	1	1.00-152			4.15	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0355	0.0307	71.0	61.4	1	8.00-158			14.5	82
Di-n-butyl phthalate	0.0500	ND	0.0411	0.0376	82.2	75.2	1	1.00-120			8.89	47
Diethyl phthalate	0.0500	ND	0.0437	0.0398	87.4	79.6	1	1.00-120			9.34	100
Dimethyl phthalate	0.0500	ND	0.0448	0.0405	89.6	81.0	1	1.00-120			10.1	183
Di-n-octyl phthalate	0.0500	ND	0.0349	0.0303	69.8	60.6	1	4.00-146			14.1	69
Pyrene	0.0500	ND	0.0417	0.0385	83.4	77.0	1	52.0-120			7.98	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0398	0.0362	79.6	72.4	1	44.0-142			9.47	50
4-Chloro-3-methylphenol	0.0500	ND	0.0391	0.0298	78.2	59.6	1	22.0-147			27.0	73
2-Chlorophenol	0.0500	ND	0.0290	0.0223	58.0	44.6	1	23.0-134			26.1	61
2,4-Dichlorophenol	0.0500	ND	0.0412	0.0305	82.4	61.0	1	39.0-135			29.8	50
2,4-Dimethylphenol	0.0500	ND	0.0464	0.0351	87.5	64.9	1	32.0-120			27.7	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0646	0.0526	129	105	1	1.00-181			20.5	203
2,4-Dinitrophenol	0.0500	ND	0.0745	0.0578	149	116	1	1.00-191			25.2	132
2-Nitrophenol	0.0500	ND	0.0437	0.0343	87.4	68.6	1	29.0-182			24.1	55
4-Nitrophenol	0.0500	ND	0.0203	0.0113	40.6	22.6	1	1.00-132			57.0	131
Pentachlorophenol	0.0500	ND	0.0433	0.0359	86.6	71.8	1	14.0-176			18.7	86
Phenol	0.0500	ND	0.0189	0.0151	37.8	30.2	1	5.00-120			22.4	64
2,4,6-Trichlorophenol	0.0500	ND	0.0434	0.0348	86.8	69.6	1	37.0-144			22.0	58
(S) Nitrobenzene-d5					74.6	64.3		15.0-314				
(S) 2-Fluorobiphenyl					87.8	79.2		22.0-127				
(S) p-Terphenyl-d14					94.7	86.6		29.0-141				
(S) Phenol-d5					28.0	23.3		8.00-424				
(S) 2-Fluorophenol					38.6	31.4		10.0-120				
(S) 2,4,6-Tribromophenol					108	88.5		10.0-153				

1Cp

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
N2	Analyte reported using a calibration and validation based on Azobenzene (CAS 103-33-3). 1,2-Diphenylhydrazine decomposes into Azobenzene during the analysis.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1Cp

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Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

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Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM



ANALYTICAL REPORT

July 31, 2024

- ¹Cp
- ²Tc
- ³Ss
- ⁴Cn
- ⁵Sr
- ⁶Qc
- ⁷Gl
- ⁸Al
- ⁹Sc

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1751543
Samples Received: 06/28/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot
Site: CCR
Report To: Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

Shane Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
FEED RAD L1751543-01	5	⁴ Cn
Qc: Quality Control Summary	6	
Radiochemistry by Method 900	6	⁵ Sr
Radiochemistry by Method 904/9320	7	
Radiochemistry by Method D3972 U-02	8	⁶ Qc
Radiochemistry by Method SM7500Ra B M	9	⁷ Gl
Gl: Glossary of Terms	10	
Al: Accreditations & Locations	11	⁸ Al
Sc: Sample Chain of Custody	12	⁹ Sc

FEED RAD L1751543-01 Non-Potable Water

Collected by
Danny Daniels

Collected date/time
06/27/24 09:00

Received date/time
06/28/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG2316723	1	07/08/24 08:58	07/15/24 17:39	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2319548	1	07/09/24 12:38	07/26/24 16:42	DDD	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG2327890	1	07/23/24 13:53	07/24/24 22:25	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2321048	1	07/12/24 11:45	07/16/24 10:52	ZRG	Mt. Juliet, TN

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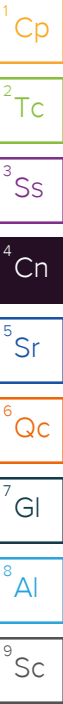
⁸Al

⁹Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Shane Gambill
Project Manager



Collected date/time: 06/27/24 09:00

L1751543

Radiochemistry by Method 900

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
GROSS ALPHA	1260		599	603	638	256	07/15/2024 17:39	WG2316723
GROSS BETA	1200		476	480	568	268	07/15/2024 17:39	WG2316723

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	310		2.35	2.45	1.06	0.552	07/26/2024 16:42	WG2319548
(T) Barium	554	C1				30.0-143	07/26/2024 16:42	WG2319548
(T) Yttrium	101					30.0-136	07/26/2024 16:42	WG2319548

Radiochemistry by Method D3972 U-02

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
URANIUM-234	0.618		0.299	0.430	0.170	0.140	07/24/2024 22:25	WG2327890
URANIUM-235	-0.0173	U	0.0322	0.163	0.170	0.140	07/24/2024 22:25	WG2327890
URANIUM-238	0.213		0.179	0.311	0.170	0.140	07/24/2024 22:25	WG2327890
(T) URANIUM-232	94.7					30.0-110	07/24/2024 22:25	WG2327890

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	31.8		1.98	2.10	0.149	0.123	07/16/2024 10:52	WG2321048
(T) Barium-133	108					30.0-143	07/16/2024 10:52	WG2321048

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Radiochemistry by Method 900

L1751543-01

Method Blank (MB)

(MB) R4095508-1 07/15/24 13:38

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
GROSS ALPHA	-0.0594	U	0.409	0.657	0.273
GROSS BETA	-0.0548	U	1.17	1.59	0.762

L1752343-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752343-01 07/15/24 17:39 • (DUP) R4095508-4 07/15/24 13:39

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
GROSS ALPHA	4.95	8.17	11.4	4.91	7.17	6.30	8.11	3.32	36.6	0.215	J	20	3
GROSS BETA	9.75	5.30	6.55	3.11	5.84	5.01	6.41	3.03	50.2	0.537	J	20	3

Laboratory Control Sample (LCS)

(LCS) R4095508-2 07/15/24 13:38

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	12.8	85.2	80.0-120	
GROSS BETA	40.2	37.6	93.5	80.0-120	

L1751637-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751637-01 07/15/24 17:39 • (MS) R4095508-6 07/16/24 22:40 • (MSD) R4095508-7 07/16/24 22:40

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	15.0	15.8	30.7	39.0	99.3	154	1	70.0-130		J3 J5	23.7		20
GROSS BETA	40.2	10.7	47.4	49.1	91.3	95.4	1	70.0-130			3.44		20

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Method Blank (MB)

(MB) R4100385-1 07/26/24 14:37

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.197	<u>U</u>	0.228	0.428	0.224
(T) Barium	90.3		90.3		
(T) Yttrium	82.6		82.6		

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L1718823-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1718823-07 07/26/24 14:37 • (DUP) R4100385-5 07/26/24 14:37

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	-0.323	0.362	0.710	0.375	-0.248	0.344	0.668	0.351	0.000	0.150	<u>U</u>	20	3
(T) Barium	84.0				105	105							
(T) Yttrium	96.6				91.9	91.9							

Laboratory Control Sample (LCS)

(LCS) R4100385-2 07/26/24 14:37

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.55	90.9	80.0-120	
(T) Barium			102		
(T) Yttrium			110		

L1751656-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751656-06 07/26/24 16:42 • (MS) R4100385-3 07/26/24 14:37 • (MSD) R4100385-4 07/26/24 14:37

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	1.96	18.1	17.2	96.5	91.3	1	70.0-130			4.88		20
(T) Barium		105			104	114							
(T) Yttrium		97.2			79.9	90.4							

Radiochemistry by Method D3972 U-02

L1751543-01

Method Blank (MB)

(MB) R4098626-1 07/24/24 22:24

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
URANIUM-234	0.106		0.0424	0.0287	0.0205
URANIUM-235	0.0486		0.0294	0.0239	0.0181
URANIUM-238	0.0980		0.0408	0.0287	0.0205
(T) URANIUM-232	95.7		95.7		

L1756891-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1756891-07 07/24/24 22:24 • (DUP) R4098626-5 07/24/24 22:24

Analyte	Original Result uCi/f	Original 2 sigma CE + / -	Original MDA uCi/f	Original Lc uCi/f	DUP Result uCi/f	DUP 2 sigma CE + / -	DUP MDA uCi/f	DUP Lc uCi/f	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
URANIUM-234	0.000000588	0.000000205	0.000000106	0.0000000802	0.000000641	0.000000235	0.000000127	0.0000000963	8.60	0.170		20	3
URANIUM-235	0.000000141	0.000000109	0.000000106	0.0000000802	0.000000216	0.000000144	0.000000127	0.0000000963	41.7	0.412		20	3
URANIUM-238	0.000000516	0.000000193	0.000000106	0.0000000802	0.000000598	0.000000227	0.000000127	0.0000000963	14.7	0.275		20	3
(T) URANIUM-232	91.6				87.1	87.1							

Laboratory Control Sample (LCS)

(LCS) R4098626-2 07/24/24 22:24

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	5.03	5.17	103	80.0-120	
URANIUM-238	4.90	5.16	105	80.0-120	
(T) URANIUM-232			82.0		

L1750527-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750527-01 07/24/24 22:24 • (MS) R4098626-3 07/24/24 22:24 • (MSD) R4098626-4 07/24/24 22:24

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
URANIUM-234	20.1	0.302	20.6	22.5	101	110	1	75.0-125			8.83		20
URANIUM-238	19.6	0.302	21.7	20.6	109	104	1	75.0-125			5.06		20
(T) URANIUM-232		96.1			72.9	82.1							

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Radiochemistry by Method SM7500Ra B M [L1751543-01](#)

Method Blank (MB)

(MB) R4094999-1 07/16/24 10:52

Analyte	MB Result pCi/l	<u>MB Qualifier</u>	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.000	<u>U</u>	0.0166	0.0369	0.0248
(T) Barium-133	88.6		88.6		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1752797-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752797-01 07/16/24 10:52 • (DUP) R4094999-5 07/16/24 10:52

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	<u>DUP Qualifier</u>	DUP RPD Limits %	DUP RER Limit
Radium-226	0.566	0.274	0.155	0.128	0.274	0.230	0.258	0.188	69.7	0.819		20	3
(T) Barium-133	95.9				103	103							

Laboratory Control Sample (LCS)

(LCS) R4094999-2 07/16/24 10:52

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Radium-226	5.00	5.93	119	75.0-125	
(T) Barium-133			79.8		

L1753540-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753540-01 07/16/24 10:52 • (MS) R4094999-3 07/16/24 10:52 • (MSD) R4094999-4 07/16/24 10:52

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	MS RER	RPD Limits %
Radium-226	20.0	2.30	19.5	23.8	86.2	107	1	75.0-125			19.5		20
(T) Barium-133		95.2			84.7	77.8							

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C1	Tracer recovery limits have been exceeded; values are outside upper control limits.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
U	Below Detectable Limits: Indicates that the analyte was not detected.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Released to Imaging: 9/6/2024 11:03:30 AM

Released to Imaging: 9/6/2024 11:03:30 AM

Devon Energy - Oklahoma City, OK

333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

Billing Information:

Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015Pres
ChkReport to:
Paul BarbourEmail To:
paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description:

Desalination Pilot

City/State

Collected:

July, NM

Please Circle:

PT MT CT ET

Phone: 405-228-4308

Client Project #

212C-HW-02831

Lab Project #

DEVENEOCOK-EFFLUENT

Collected by (print):

Denny Daniels

Site/Facility ID #

CCR

P.O. #

Collected by (signature):

Denny Daniels

Rush? (Lab MUST Be Notified)

☐ Same Day ☐ Five Day
☐ Next Day ☐ 5 Day (Rad Only)
☐ Two Day ☐ 10 Day (Rad Only)
☐ Three Day

Quote #

Date Results Needed

Immediately
Packed on Ice N ☐ Y ☒No.
of
Cntrs

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

FEED

G

GW

6-27-24 0900

FEED PEAS DD

GW DD

FEED RAD DD

RAD DD

* Matrix:

SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:

☐ UPS ☐ FedEx ☐ Courier

Tracking #

Relinquished by: (Signature)

Date:

6-27-24

Time:

1530

Received by: (Signature)

James Colton

pH Temp

Flow Other

Trip Blank Received: Yes / No

HCL / MeOH

TBR

Temp: °C Bottles Received:

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N
COC Signed/Accurate: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
If Applicable
VOA Zero Headspace: ☒ Y ☐ N
Preservation Correct/Checked: ☒ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

Relinquished by: (Signature)

Date:

6/27/24

Time:

17:00

Received by: (Signature)

James Colton

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

6-28-24

Time:

0900

Received for lab by: (Signature)

James Colton

Date: Time:

Hold:

Condition:
NCF / OK

Chain of Custody



MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody
constitutes acknowledgment and acceptance of the
Pace Terms and Conditions found at:
<https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

SDG #

Table #

Acctnum: DEVENEOCOK

Template: T253929

Prelogin: P1083751

PM: 3500 - Jennifer Gambill

PB: MW 6/19/24

Shipped Via: FedEx Ground

Remarks

Sample # (lab only)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 381294

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 381294
	Action Type: [C-147] Water Recycle Long (C-147L)

CONDITIONS

Created By	Condition	Condition Date
vvenegas	None	9/6/2024