

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

**[6137] Devon Energy
Production Company, L.P. –
Produced Water Treatment
Research Pilot Project
06.26.2024. Devon Desal
Analytical Reports**

September 06, 2024



ANALYTICAL REPORT

August 21, 2024

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

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1750560
Samples Received: 06/26/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot
Site: CCL
Report To: Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

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	
Sr: Sample Results	5	3 Ss
CONCENTRATED BRINE L1750560-01	5	
ADDITIONAL VOLUME L1750560-02	9	4 Cn
Qc: Quality Control Summary	11	5 Sr
Gravimetric Analysis by Method 2540 C-2011	11	
Gravimetric Analysis by Method 2540 D-2015	13	6 Qc
Wet Chemistry by Method 120.1	14	
Wet Chemistry by Method 130.1	16	7 Gl
Wet Chemistry by Method 2320 B-2011	17	
Wet Chemistry by Method 300.0	21	8 Al
Wet Chemistry by Method 350.1	23	
Wet Chemistry by Method 4500CO2 D-2011	24	9 Sc
Wet Chemistry by Method 4500H+ B-2011	25	
Wet Chemistry by Method 4500P E-2011	27	
Wet Chemistry by Method 4500S2 D-2011	28	
Wet Chemistry by Method 4500SO3 B-2011	29	
Wet Chemistry by Method 5310 B-2014	30	
Metals (ICP) by Method 200.7	32	
Metals (ICPMS) by Method 200.8	36	
Volatile Organic Compounds (GC/MS) by Method 624.1	38	
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	40	
Gl: Glossary of Terms	45	
Al: Accreditations & Locations	46	
Sc: Sample Chain of Custody	47	

CONCENTRATED BRINE L1750560-01 WW

Collected by
Danny Daniels

Collected date/time
06/25/24 09:45

Received date/time
06/26/24 09:00

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2312839	1	06/26/24 16:52	06/27/24 13:08	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2314279	1	06/29/24 18:02	06/29/24 19:37	JAC	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2312456	1	06/27/24 11:12	06/27/24 11:12	BJM	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG2315349	250	07/01/24 12:38	07/02/24 11:16	CAT	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2312465	1	06/26/24 15:23	06/26/24 15:23	BJM	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2325536	200	07/18/24 19:43	07/18/24 19:43	DLH	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2325536	2000	07/18/24 19:56	07/18/24 19:56	DLH	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2316588	200	07/03/24 12:43	07/03/24 12:43	LAS	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2312805	1	06/27/24 16:00	06/27/24 16:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2312800	5	06/27/24 09:50	06/27/24 09:50	CAH	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2313844	1	06/28/24 09:20	06/28/24 09:20	JAR	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2317277	20	07/05/24 04:52	07/05/24 04:52	SJF	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2316729	20	07/07/24 12:10	07/07/24 16:10	ASH	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2315410	100	07/06/24 07:32	07/07/24 08:44	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2315414	100	07/03/24 07:26	08/05/24 02:46	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2315414	1000	07/03/24 07:26	08/07/24 00:30	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2315092	10	07/01/24 07:00	07/01/24 07:00	KSD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2313044	5	06/28/24 05:41	07/03/24 14:27	AGW	Mt. Juliet, TN

Collected by
Danny Daniels

Collected date/time
06/25/24 09:45

Received date/time
06/26/24 09:00

ADDITIONAL VOLUME L1750560-02 WW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2336609	1	08/07/24 08:54	08/07/24 08:54	DJS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2320956	1	07/11/24 09:30	07/11/24 12:03	DLS	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2320609	1	07/10/24 22:00	07/10/24 22:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2321173	1	07/11/24 15:08	07/11/24 15:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 4500CO2 D-2011	WG2322529	1	07/15/24 09:29	07/15/24 09:29	BJM	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2325536	200	07/18/24 20:09	07/18/24 20:09	DLH	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2325536	2000	07/18/24 20:22	07/18/24 20:22	DLH	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2320799	1	07/10/24 22:30	07/10/24 22:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG2321030	1	07/11/24 18:21	07/11/24 18:21	ARV	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2331571	200	07/29/24 08:51	07/29/24 22:57	DJS	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2331571	50	07/29/24 08:51	07/29/24 22:58	DJS	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2336609	25	08/06/24 07:38	08/07/24 08:54	DJS	Mt. Juliet, TN
Subcontracted Analyses	WG2321064	1	07/19/24 00:00	07/19/24 00:00	ANF	Green Bay, WI 54302

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

Additional analyses requested for sample L1750560-02. Due to limited sample volume, could not complete Gravity. L1750560 -02 contains subout data that is included after the chain of custody.

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	292000		1000	1	06/27/2024 13:08	WG2312839

1
Cp

2
Tc

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Suspended Solids	689		25.0	1	06/29/2024 19:37	WG2314279

3
Ss

4
Cn

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	241		10.0	1	06/27/2024 11:12	WG2312456

5
Sr

6
Qc

Sample Narrative:
L1750560-01 WG2312456: at 25C

7
Gl

Wet Chemistry by Method 130.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hardness (colorimetric) as CaCO3	31500		7500	250	07/02/2024 11:16	WG2315349

8
Al

9
Sc

Wet Chemistry by Method 2320 B-2011/4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	134		20.0	1	06/26/2024 15:23	WG2312465
Alkalinity,Bicarbonate	134		20.0	1	06/26/2024 15:23	WG2312465
Alkalinity,Carbonate	ND		20.0	1	06/26/2024 15:23	WG2312465

Sample Narrative:
L1750560-01 WG2312465: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	1090		200	200	07/18/2024 19:43	WG2325536
Chloride	129000		2000	2000	07/18/2024 19:56	WG2325536
Sulfate	ND		1000	200	07/18/2024 19:43	WG2325536

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	1040		50.0	200	07/03/2024 12:43	WG2316588

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	5.69	T8	1	06/27/2024 16:00	WG2312805

Sample Narrative:
L1750560-01 WG2312805: 5.69 at 21.7C

Collected date/time: 06/25/24 09:45

L1750560

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfide	ND		0.250	5	06/27/2024 09:50	WG2312800

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfite	ND	T8	3.00	1	06/28/2024 09:20	WG2313844

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	171		20.0	20	07/05/2024 04:52	WG2317277

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
DOC	156	Q	20.0	20	07/07/2024 16:10	WG2316729

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Lithium	38.4		1.50	100	07/07/2024 08:44	WG2315410
Strontium	1240		1.00	100	07/07/2024 08:44	WG2315410

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Boron	200		40.0	1000	08/07/2024 00:30	WG2315414
Calcium	11700		100	100	08/05/2024 02:46	WG2315414
Iron	50.8		10.0	100	08/05/2024 02:46	WG2315414
Magnesium	1210		100	100	08/05/2024 02:46	WG2315414
Potassium	1510		100	100	08/05/2024 02:46	WG2315414
Sodium	79300		200	100	08/05/2024 02:46	WG2315414

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.0100	10	07/01/2024 07:00	WG2315092
Bromodichloromethane	ND		0.0100	10	07/01/2024 07:00	WG2315092
Bromoform	ND		0.0100	10	07/01/2024 07:00	WG2315092
Bromomethane	ND		0.0500	10	07/01/2024 07:00	WG2315092
Carbon tetrachloride	ND		0.0100	10	07/01/2024 07:00	WG2315092
Chlorobenzene	ND		0.0100	10	07/01/2024 07:00	WG2315092
Chlorodibromomethane	ND		0.0100	10	07/01/2024 07:00	WG2315092
Chloroethane	ND		0.0500	10	07/01/2024 07:00	WG2315092
2-Chloroethyl vinyl ether	ND		0.500	10	07/01/2024 07:00	WG2315092
Chloroform	ND		0.0500	10	07/01/2024 07:00	WG2315092
Chloromethane	ND		0.0250	10	07/01/2024 07:00	WG2315092
1,2-Dichlorobenzene	ND		0.0100	10	07/01/2024 07:00	WG2315092
1,3-Dichlorobenzene	ND		0.0100	10	07/01/2024 07:00	WG2315092
1,4-Dichlorobenzene	ND		0.0100	10	07/01/2024 07:00	WG2315092
Dichlorodifluoromethane	ND	J3	0.0500	10	07/01/2024 07:00	WG2315092
1,1-Dichloroethane	ND		0.0100	10	07/01/2024 07:00	WG2315092
1,2-Dichloroethane	ND		0.0100	10	07/01/2024 07:00	WG2315092

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		0.0100	10	07/01/2024 07:00	WG2315092
trans-1,2-Dichloroethene	ND		0.0100	10	07/01/2024 07:00	WG2315092
1,2-Dichloropropane	ND		0.0100	10	07/01/2024 07:00	WG2315092
cis-1,3-Dichloropropene	ND		0.0100	10	07/01/2024 07:00	WG2315092
trans-1,3-Dichloropropene	ND		0.0100	10	07/01/2024 07:00	WG2315092
Ethylbenzene	ND		0.0100	10	07/01/2024 07:00	WG2315092
Methylene Chloride	ND		0.0500	10	07/01/2024 07:00	WG2315092
Methyl tert-butyl ether	ND		0.0100	10	07/01/2024 07:00	WG2315092
Naphthalene	ND		0.0500	10	07/01/2024 07:00	WG2315092
1,1,2,2-Tetrachloroethane	ND		0.0100	10	07/01/2024 07:00	WG2315092
Tetrachloroethene	ND		0.0100	10	07/01/2024 07:00	WG2315092
Toluene	ND		0.0100	10	07/01/2024 07:00	WG2315092
1,1,1-Trichloroethane	ND		0.0100	10	07/01/2024 07:00	WG2315092
1,1,2-Trichloroethane	ND		0.0100	10	07/01/2024 07:00	WG2315092
Trichloroethene	ND		0.0100	10	07/01/2024 07:00	WG2315092
Trichlorofluoromethane	ND		0.0500	10	07/01/2024 07:00	WG2315092
Vinyl chloride	ND		0.0100	10	07/01/2024 07:00	WG2315092
o-Xylene	ND		0.0100	10	07/01/2024 07:00	WG2315092
m&p-Xylene	ND		0.0200	10	07/01/2024 07:00	WG2315092
Xylenes, Total	ND		0.0300	10	07/01/2024 07:00	WG2315092
(S) Toluene-d8	113		80.0-120		07/01/2024 07:00	WG2315092
(S) 4-Bromofluorobenzene	93.9		80.0-120		07/01/2024 07:00	WG2315092
(S) 1,2-Dichloroethane-d4	97.2		70.0-130		07/01/2024 07:00	WG2315092

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Sample Narrative:
L1750560-01 WG2315092: Dilution due to matrix.

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		0.00500	5	07/03/2024 14:27	WG2313044
Acenaphthylene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Anthracene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Benzidine	ND		0.0500	5	07/03/2024 14:27	WG2313044
Benzo(a)anthracene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Benzo(b)fluoranthene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Benzo(k)fluoranthene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Benzo(g,h,i)perylene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Benzo(a)pyrene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Bis(2-chlorethoxy)methane	ND		0.0500	5	07/03/2024 14:27	WG2313044
Bis(2-chloroethyl)ether	ND		0.0500	5	07/03/2024 14:27	WG2313044
2,2-Oxybis(1-Chloropropane)	ND		0.0500	5	07/03/2024 14:27	WG2313044
4-Bromophenyl-phenylether	ND		0.0500	5	07/03/2024 14:27	WG2313044
2-Chloronaphthalene	ND		0.00500	5	07/03/2024 14:27	WG2313044
4-Chlorophenyl-phenylether	ND		0.0500	5	07/03/2024 14:27	WG2313044
Chrysene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Dibenz(a,h)anthracene	ND		0.00500	5	07/03/2024 14:27	WG2313044
3,3-Dichlorobenzidine	ND		0.0500	5	07/03/2024 14:27	WG2313044
2,4-Dinitrotoluene	ND		0.0500	5	07/03/2024 14:27	WG2313044
2,6-Dinitrotoluene	ND		0.0500	5	07/03/2024 14:27	WG2313044
1,2-Diphenylhydrazine	ND	N2	0.0500	5	07/03/2024 14:27	WG2313044
Fluoranthene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Fluorene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Hexachlorobenzene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Hexachloro-1,3-butadiene	ND		0.0500	5	07/03/2024 14:27	WG2313044
Hexachlorocyclopentadiene	ND		0.0500	5	07/03/2024 14:27	WG2313044

Collected date/time: 06/25/24 09:45

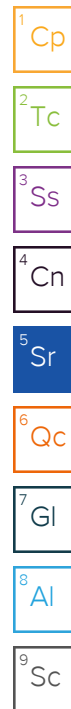
L1750560

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hexachloroethane	ND		0.0500	5	07/03/2024 14:27	WG2313044
Indeno(1,2,3-cd)pyrene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Isophorone	ND		0.0500	5	07/03/2024 14:27	WG2313044
Naphthalene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Nitrobenzene	ND		0.0500	5	07/03/2024 14:27	WG2313044
n-Nitrosodimethylamine	ND		0.0500	5	07/03/2024 14:27	WG2313044
n-Nitrosodiphenylamine	ND		0.0500	5	07/03/2024 14:27	WG2313044
n-Nitrosodi-n-propylamine	ND		0.0500	5	07/03/2024 14:27	WG2313044
Phenanthrene	ND		0.00500	5	07/03/2024 14:27	WG2313044
Benzylbutyl phthalate	ND		0.0150	5	07/03/2024 14:27	WG2313044
Bis(2-ethylhexyl)phthalate	ND		0.0150	5	07/03/2024 14:27	WG2313044
Di-n-butyl phthalate	ND		0.0150	5	07/03/2024 14:27	WG2313044
Diethyl phthalate	ND		0.0150	5	07/03/2024 14:27	WG2313044
Dimethyl phthalate	ND		0.0150	5	07/03/2024 14:27	WG2313044
Di-n-octyl phthalate	ND		0.0150	5	07/03/2024 14:27	WG2313044
Pyrene	ND		0.00500	5	07/03/2024 14:27	WG2313044
1,2,4-Trichlorobenzene	ND		0.0500	5	07/03/2024 14:27	WG2313044
4-Chloro-3-methylphenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
2-Chlorophenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
2,4-Dichlorophenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
2,4-Dimethylphenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
4,6-Dinitro-2-methylphenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
2,4-Dinitrophenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
2-Nitrophenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
4-Nitrophenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
Pentachlorophenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
Phenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
2,4,6-Trichlorophenol	ND		0.0500	5	07/03/2024 14:27	WG2313044
(S) Nitrobenzene-d5	55.1		15.0-314		07/03/2024 14:27	WG2313044
(S) 2-Fluorobiphenyl	55.2		22.0-127		07/03/2024 14:27	WG2313044
(S) p-Terphenyl-d14	56.2		29.0-141		07/03/2024 14:27	WG2313044
(S) Phenol-d5	50.0		8.00-424		07/03/2024 14:27	WG2313044
(S) 2-Fluorophenol	39.7		10.0-120		07/03/2024 14:27	WG2313044
(S) 2,4,6-Tribromophenol	49.7		10.0-153		07/03/2024 14:27	WG2313044

Sample Narrative:

L1750560-01 WG2313044: Dilution due to matrix.



Collected date/time: 06/25/24 09:45

L1750560

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Silica	50.8		10.7	1	08/07/2024 08:54	WG2336609

¹ Cp

² Tc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	220000	T8	1000	1	07/11/2024 12:03	WG2320956

³ Ss

⁴ Cn

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
RESISTIVITY	4.23		0.0100	1	07/10/2024 22:00	WG2320609
Specific Conductance	237000		10.0	1	07/10/2024 22:00	WG2320609

⁵ Sr

⁶ Qc

⁷ Gl

Sample Narrative:

L1750560-02 WG2320609: at 25C

⁸ Al

Wet Chemistry by Method 2320 B-2011/4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	1230	T8	20.0	1	07/15/2024 09:29	WG2322529
Alkalinity,Bicarbonate	113	T8	20.0	1	07/11/2024 15:08	WG2321173
Alkalinity,Carbonate	ND	T8	20.0	1	07/11/2024 15:08	WG2321173

⁹ Sc

Sample Narrative:

L1750560-02 WG2322529, WG2321173: Endpoint pH 4.5 Headspace

L1750560-02 WG2322529, WG2321173: Endpoint pH 4.5 headspace

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	116000		2000	2000	07/18/2024 20:22	WG2325536
Sulfate	ND		1000	200	07/18/2024 20:09	WG2325536

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	5.62	T8	1	07/10/2024 22:30	WG2320799

Sample Narrative:

L1750560-02 WG2320799: 5.62 at 22C

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Phosphate,Ortho	0.239	T8	0.0300	1	07/11/2024 18:21	WG2321030

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Aluminum	ND		10.0	50	07/29/2024 22:58	WG2331571
Barium	8.44		0.250	50	07/29/2024 22:58	WG2331571
Boron	188		10.0	50	07/29/2024 22:58	WG2331571

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Calcium	10700		50.0	50	07/29/2024 22:58	WG2331571
Iron	46.7		5.00	50	07/29/2024 22:58	WG2331571
Lithium	46.7		0.750	50	07/29/2024 22:58	WG2331571
Magnesium	1200		50.0	50	07/29/2024 22:58	WG2331571
Manganese	1.91		0.500	50	07/29/2024 22:58	WG2331571
Potassium	1650		50.0	50	07/29/2024 22:58	WG2331571
Silicon	23.8		5.00	25	08/07/2024 08:54	WG2336609
Sodium	80700		200	200	07/29/2024 22:57	WG2331571
Strontium	1390		2.00	200	07/29/2024 22:57	WG2331571
Zinc	ND		2.50	50	07/29/2024 22:58	WG2331571

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Gravimetric Analysis by Method 2540 C-2011 [L1750560-01](#)

Method Blank (MB)

(MB) R4088380-1 06/27/24 13:08

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1749734-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1749734-05 06/27/24 13:08 • (DUP) R4088380-3 06/27/24 13:08

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	517	543	1	4.91		10

L1749734-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1749734-07 06/27/24 13:08 • (DUP) R4088380-4 06/27/24 13:08

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	1150	1190	1	3.58		10

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4088380-2 06/27/24 13:08

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Dissolved Solids	8800	8710	99.0	85.0-115	

Method Blank (MB)

(MB) R4093596-1 07/11/24 12:03

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

L1755004-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1755004-01 07/11/24 12:03 • (DUP) R4093596-3 07/11/24 12:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	1370	1480	1	7.54		10

Laboratory Control Sample (LCS)

(LCS) R4093596-2 07/11/24 12:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Dissolved Solids	8800	8400	95.5	85.0-115	

⁷Gl

⁸Al

⁹Sc

Gravimetric Analysis by Method 2540 D-2015

[L1750560-01](#)

Method Blank (MB)

(MB) R4088400-1 06/29/24 19:37

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

L1750584-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750584-01 06/29/24 19:37 • (DUP) R4088400-3 06/29/24 19:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Suspended Solids	26.4	27.2	1	2.99		10

L1750587-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750587-01 06/29/24 19:37 • (DUP) R4088400-4 06/29/24 19:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Suspended Solids	92.0	94.0	1	2.15		10

Laboratory Control Sample (LCS)

(LCS) R4088400-2 06/29/24 19:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Suspended Solids	773	800	103	85.0-115	

Method Blank (MB)

(MB) R4087216-1 06/27/24 11:12

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

L1749583-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1749583-01 06/27/24 11:12 • (DUP) R4087216-3 06/27/24 11:12

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	977	985	1	0.815		20

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

L1750683-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1750683-03 06/27/24 11:12 • (DUP) R4087216-4 06/27/24 11:12

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	552	551	1	0.181		20

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

Laboratory Control Sample (LCS)

(LCS) R4087216-2 06/27/24 11:12

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	752	103	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 120.1

L1750560-02

Method Blank (MB)

(MB) R4092308-1 07/10/24 22:00

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

L1754754-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754754-01 07/10/24 22:00 • (DUP) R4092308-3 07/10/24 22:00

Analyte	Original Result ohm-cm	DUP Result ohm-cm	Dilution	DUP RPD %	DUP RPD Limits
RESISTIVITY	352	353	1	0.247	20
SPECIFIC CONDUCTANCE	2840	2830	1	0.247	20

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

Laboratory Control Sample (LCS)

(LCS) R4092308-2 07/10/24 22:00

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
SPECIFIC CONDUCTANCE	733	737	101	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) R4087020-2 06/26/24 13:00

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

L1750047-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1750047-04 06/26/24 13:52 • (DUP) R4087020-3 06/26/24 13:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	463	452	1	2.49		20
Alkalinity,Bicarbonate	463	452	1	2.49		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1750608-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-25 06/26/24 16:07 • (DUP) R4087020-4 06/26/24 16:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	ND	ND	1	0.000		20
Alkalinity,Bicarbonate	ND	ND	1	0.000		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) R4087020-1 06/26/24 12:53

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

Wet Chemistry by Method 2320 B-2011

L1750560-02

Method Blank (MB)

(MB) R4092743-2 07/11/24 14:49

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

Sample Narrative:

BLANK: Endpoint pH 4.5

L1755166-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1755166-01 07/11/24 14:58 • (DUP) R4092743-3 07/11/24 15:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	381	376	1	1.28		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1755233-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1755233-01 07/11/24 16:47 • (DUP) R4092743-4 07/11/24 16:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	245	245	1	0.0596		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1754232-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1754232-02 07/11/24 16:47 • (DUP) R4092743-5 07/11/24 16:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Bicarbonate	245	245	1	0.0596		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

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

L1754232-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1754232-02 07/11/24 16:47 • (DUP) R4092743-5 07/11/24 16:54

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%

Sample Narrative:
OS: Endpoint pH 4.5 headspace
DUP: Endpoint pH 4.5

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 300.0 L1750560-01,02

Method Blank (MB)

(MB) R4096118-1 07/18/24 18:52

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
Sulfate	U		0.594	5.00

L1750956-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1750956-24 07/18/24 20:34 • (DUP) R4096118-3 07/18/24 20:47

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	49.5	49.0	1	1.02		15
Sulfate	17.8	17.7	1	0.932		15

L1750956-26 Original Sample (OS) • Duplicate (DUP)

(OS) L1750956-26 07/18/24 21:51 • (DUP) R4096118-6 07/18/24 22:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	200	P1	15
Chloride	53.1	52.7	1	0.791		15
Sulfate	ND	ND	1	1.58		15

Laboratory Control Sample (LCS)

(LCS) R4096118-2 07/18/24 19:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	39.9	99.9	90.0-110	
Chloride	40.0	39.1	97.7	90.0-110	
Sulfate	40.0	38.2	95.4	90.0-110	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 300.0

L1750560-01.02

L1750956-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750956-24 07/18/24 20:34 • (MS) R4096118-4 07/18/24 21:00 • (MSD) R4096118-5 07/18/24 21:13

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Bromide	40.0	ND	34.0	36.0	85.1	90.0	1	80.0-120			5.56	15
Chloride	40.0	49.5	75.6	80.8	65.2	78.3	1	80.0-120	J6	J6	6.71	15
Sulfate	40.0	17.8	50.3	53.4	81.1	89.0	1	80.0-120			6.07	15

L1750956-26 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750956-26 07/18/24 21:51 • (MS) R4096118-7 07/18/24 22:17 • (MSD) R4096118-8 07/18/24 22:30

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Bromide	40.0	ND	36.4	36.6	88.7	89.3	1	80.0-120			0.647	15
Chloride	40.0	53.1	81.6	82.1	71.2	72.4	1	80.0-120	J6	J6	0.610	15
Sulfate	40.0	ND	39.0	39.1	93.7	94.0	1	80.0-120			0.257	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 350.1

L1750560-01

Method Blank (MB)

(MB) R4089842-1 07/03/24 12:32

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

L1750561-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750561-01 07/03/24 12:44 • (DUP) R4089842-3 07/03/24 12:46

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

L1750561-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1750561-04 07/03/24 12:52 • (DUP) R4089842-7 07/03/24 13:41

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) R4089842-2 07/03/24 12:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.61	101	90.0-110	

L1750561-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1750561-02 07/03/24 12:47 • (MS) R4089842-4 07/03/24 12:49

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	4.97	99.4	1	90.0-110	

L1750608-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750608-01 07/03/24 13:20 • (MS) R4089842-5 07/03/24 13:22 • (MSD) R4089842-6 07/03/24 13:23

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 %
Ammonia Nitrogen	5.00	0.550	5.69	5.77	103	104	1	90.0-110			1.34	10

Wet Chemistry by Method 4500CO2 D-2011

L1750560-02

Method Blank (MB)

(MB) R4093821-3 07/15/24 09:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Free Carbon Dioxide	U		6.67	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1755520-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1755520-01 07/15/24 09:21 • (DUP) R4093821-5 07/15/24 09:25

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

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1756525-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1756525-04 07/15/24 11:01 • (DUP) R4093821-7 07/15/24 11:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Free Carbon Dioxide	35.4	35.0	1	1.26		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Wet Chemistry by Method 4500H+ B-2011 [L1750560-01](#)

L1750512-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750512-01 06/27/24 16:00 • (DUP) R4087457-2 06/27/24 16:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	6.82	6.82	1	0.000		1

Sample Narrative:
OS: 6.82 at 21.5C
DUP: 6.82 at 21.6C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750603-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1750603-02 06/27/24 16:00 • (DUP) R4087457-3 06/27/24 16:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	7.09	7.09	1	0.000		1

Sample Narrative:
OS: 7.09 at 21.5C
DUP: 7.09 at 21.5C

Laboratory Control Sample (LCS)

(LCS) R4087457-1 06/27/24 16:00

	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 22C

L1750560-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1750560-02 07/10/24 22:30 • (DUP) R4092336-2 07/10/24 22:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	5.62	5.62	1	0.000		1

Sample Narrative:

OS: 5.62 at 22C

DUP: 5.62 at 22.3C

L1755022-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1755022-04 07/10/24 22:30 • (DUP) R4092336-3 07/10/24 22:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	3.58	3.58	1	0.000		1

Sample Narrative:

OS: 3.58 at 20.5C

DUP: 3.58 at 20.6C

Laboratory Control Sample (LCS)

(LCS) R4092336-1 07/10/24 22:30

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

Sample Narrative:

LCS: 10.01 at 21.3C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 4500P E-2011

[L1750560-02](#)

Method Blank (MB)

(MB) R4092794-1 07/11/24 18:20

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

L1755520-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1755520-02 07/11/24 18:22 • (DUP) R4092794-5 07/11/24 18:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Phosphate,Ortho	ND	ND	1	3.64		20

Laboratory Control Sample (LCS)

(LCS) R4092794-2 07/11/24 18:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Phosphate,Ortho	0.245	0.254	104	85.0-115	

L1755520-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755520-01 07/11/24 18:22 • (MS) R4092794-3 07/11/24 18:22 • (MSD) R4092794-4 07/11/24 18:22

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	ND	0.511	0.511	102	102	1	80.0-120			0.000	20

Method Blank (MB)

(MB) R4087129-1 06/27/24 09:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0250	0.0500

L1750047-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1750047-03 06/27/24 09:38 • (DUP) R4087129-3 06/27/24 09:39

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

L1750854-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1750854-06 06/27/24 09:57 • (DUP) R4087129-6 06/27/24 09:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits
Sulfide	ND	ND	1	3.51	20

Laboratory Control Sample (LCS)

(LCS) R4087129-2 06/27/24 09:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.540	108	85.0-115	

L1750791-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750791-02 06/27/24 09:55 • (MS) R4087129-4 06/27/24 09:55 • (MSD) R4087129-5 06/27/24 09:55

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 %
Sulfide	0.500	ND	0.487	0.503	97.4	101	1	80.0-120			3.23	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 4500SO3 B-2011

L1750560-01

Method Blank (MB)

(MB) R4087653-1 06/28/24 09:20

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Sulfite	U		1.19	3.00

L1749091-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1749091-01 06/28/24 09:20 • (DUP) R4087653-3 06/28/24 09:20

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

Laboratory Control Sample (LCS)

(LCS) R4087653-2 06/28/24 09:20

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Sulfite	20.0	18.5	92.5	85.0-115	

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

(OS) L1750497-01 06/28/24 09:20 • (MS) R4087653-4 06/28/24 09:20 • (MSD) R4087653-5 06/28/24 09:20

	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	%	%		%			%	%
Sulfite	20.0	ND	18.5	18.5	85.0	85.0	1	85.0-115			0.000	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 5310 B-2014

L1750560-01

Method Blank (MB)

(MB) R4091057-2 07/07/24 13:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
DOC	0.224	⬇	0.106	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750592-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1750592-02 07/07/24 16:45 • (DUP) R4091057-3 07/07/24 17:02

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	3.78	3.74	1	1.06		20

L1751067-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751067-01 07/07/24 20:50 • (DUP) R4091057-8 07/07/24 21:07

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	3.32	3.17	1	4.78		20

Laboratory Control Sample (LCS)

(LCS) R4091057-1 07/07/24 13:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
DOC	25.0	26.5	106	85.0-115	

L1750592-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750592-04 07/07/24 17:19 • (MS) R4091057-4 07/07/24 17:41 • (MSD) R4091057-5 07/07/24 18:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
DOC	25.0	ND	27.5	27.2	109	108	1	80.0-120			1.02	20

L1751064-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751064-04 07/07/24 19:56 • (MS) R4091057-6 07/07/24 20:16 • (MSD) R4091057-7 07/07/24 20:35

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	9.92	37.8	37.0	111	108	1	80.0-120			2.06	20

Wet Chemistry by Method 5310 B-2014

L1750560-01

Method Blank (MB)

(MB) R4090291-2 07/04/24 23:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.187	⬇	0.102	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1748254-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748254-02 07/05/24 00:13 • (DUP) R4090291-3 07/05/24 00:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	2.82	2.77	1	1.83		20

L1750679-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750679-01 07/05/24 05:11 • (DUP) R4090291-6 07/05/24 05:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	4.27	4.25	1	0.446		20

Laboratory Control Sample (LCS)

(LCS) R4090291-1 07/04/24 23:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	26.1	104	85.0-115	

L1748254-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748254-03 07/05/24 00:44 • (MS) R4090291-4 07/05/24 01:02 • (MSD) R4090291-5 07/05/24 01:19

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	7.00	33.8	34.0	107	108	1	85.0-115			0.561	20

L1750679-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750679-02 07/05/24 05:44 • (MS) R4090291-7 07/05/24 06:01 • (MSD) R4090291-8 07/05/24 06:19

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	6.27	32.2	32.3	104	104	1	85.0-115			0.403	20

Metals (ICP) by Method 200.7 [L1750560-01](#)

Method Blank (MB)

(MB) R4090823-1 07/07/24 08:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Lithium	U		0.00689	0.0150
Strontium	U		0.000683	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4090823-2 07/07/24 08:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lithium	1.00	1.00	100	85.0-115	
Strontium	1.00	1.08	108	85.0-115	

L1750889-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750889-01 07/07/24 08:26 • (MS) R4090823-4 07/07/24 08:29 • (MSD) R4090823-5 07/07/24 08:31

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 %
Lithium	1.00	ND	1.03	1.02	103	102	1	70.0-130			1.01	20
Strontium	1.00	0.183	1.30	1.27	111	109	1	70.0-130			2.04	20

L1750926-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750926-01 07/07/24 08:32 • (MS) R4090823-6 07/07/24 08:34 • (MSD) R4090823-7 07/07/24 08:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lithium	1.00	ND	1.03	1.02	103	102	1	70.0-130			0.148	20
Strontium	1.00	0.248	1.36	1.36	112	111	1	70.0-130			0.625	20

Metals (ICP) by Method 200.7 [L1750560-02](#)

Method Blank (MB)

(MB) R4099929-1 07/29/24 18:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum	U		0.0592	0.200
Barium	U		0.000795	0.00500
Boron	U		0.0396	0.200
Calcium	U		0.0473	1.00
Iron	U		0.0205	0.100
Lithium	U		0.00689	0.0150
Magnesium	U		0.115	1.00
Manganese	U		0.000855	0.0100
Potassium	U		0.313	1.00
Sodium	U		0.444	1.00
Strontium	U		0.000683	0.0100
Zinc	U		0.00578	0.0500

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4099929-2 07/29/24 18:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	9.59	95.9	85.0-115	
Barium	1.00	1.01	101	85.0-115	
Boron	1.00	0.944	94.4	85.0-115	
Calcium	10.0	9.71	97.1	85.0-115	
Iron	10.0	9.73	97.3	85.0-115	
Lithium	1.00	0.963	96.3	85.0-115	
Magnesium	10.0	9.59	95.9	85.0-115	
Manganese	1.00	1.02	102	85.0-115	
Potassium	10.0	9.59	95.9	85.0-115	
Sodium	10.0	9.79	97.9	85.0-115	
Strontium	1.00	0.987	98.7	85.0-115	
Zinc	1.00	0.966	96.6	85.0-115	

L1757538-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1757538-02 07/29/24 18:55 • (MS) R4099929-4 07/29/24 18:58 • (MSD) R4099929-5 07/29/24 19:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10.0	ND	9.47	9.44	93.5	93.2	1	70.0-130			0.276	20
Barium	1.00	0.0107	0.973	0.970	96.2	95.9	1	70.0-130			0.244	20
Boron	1.00	1.31	2.28	2.29	96.1	97.5	1	70.0-130			0.617	20

Metals (ICP) by Method 200.7 [L1750560-02](#)

L1757538-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1757538-02 07/29/24 18:55 • (MS) R4099929-4 07/29/24 18:58 • (MSD) R4099929-5 07/29/24 19:00

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 %
Calcium	10.0	22.4	32.5	33.0	102	106	1	70.0-130			1.39	20
Iron	10.0	1.05	10.6	10.6	95.7	95.9	1	70.0-130			0.182	20
Lithium	1.00	ND	0.933	0.928	93.3	92.8	1	70.0-130			0.495	20
Magnesium	10.0	5.40	14.9	14.9	95.0	95.0	1	70.0-130			0.0296	20
Manganese	1.00	0.0267	0.996	0.995	96.9	96.8	1	70.0-130			0.118	20
Potassium	10.0	11.4	21.2	21.5	98.3	101	1	70.0-130			1.15	20
Sodium	10.0	290	305	309	155	192	1	70.0-130	<u>V</u>	<u>V</u>	1.19	20
Strontium	1.00	0.104	1.06	1.06	95.8	95.4	1	70.0-130			0.341	20
Zinc	1.00	0.0617	1.01	1.01	95.1	94.9	1	70.0-130			0.214	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Metals (ICP) by Method 200.7 [L1750560-02](#)

Method Blank (MB)

(MB) R4103822-1 08/07/24 09:07

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4103822-2 08/07/24 09:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Silicon	1.00	0.964	96.4	85.0-115	

L1762142-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1762142-02 08/07/24 09:11 • (MS) R4103822-4 08/07/24 09:14 • (MSD) R4103822-5 08/07/24 09:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Silicon	1.00	51.1	52.5	52.2	140	110	1	70.0-130	<u>V</u>		0.571	20

L1762146-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1762146-02 08/07/24 09:17 • (MS) R4103822-6 08/07/24 09:19 • (MSD) R4103822-7 08/07/24 09:20

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 %
Silicon	1.00	51.6	53.1	50.3	154	0.000	1	70.0-130	<u>V</u>	<u>V</u>	5.42	20

Method Blank (MB)

(MB) R4102893-1 08/05/24 01:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium	U		0.112	1.00
Iron	U		0.0447	0.100
Magnesium	U		0.0690	1.00
Potassium	U		0.151	1.00
Sodium	U		0.513	2.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4103499-1 08/06/24 23:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0177	0.0400

Laboratory Control Sample (LCS)

(LCS) R4102893-2 08/05/24 01:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	5.00	5.24	105	85.0-115	
Iron	1.00	1.02	102	85.0-115	
Magnesium	5.00	5.18	104	85.0-115	
Potassium	5.00	5.07	101	85.0-115	
Sodium	5.00	5.35	107	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4103499-2 08/06/24 23:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	0.0500	0.0465	92.9	85.0-115	

L1749837-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749837-04 08/05/24 01:16 • (MS) R4102893-4 08/05/24 01:23 • (MSD) R4102893-5 08/05/24 01:26

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 %
Calcium	5.00	40.0	45.4	45.7	110	114	1	70.0-130			0.502	20
Iron	1.00	0.387	1.37	1.35	98.3	96.5	1	70.0-130			1.34	20

L1749837-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749837-04 08/05/24 01:16 • (MS) R4102893-4 08/05/24 01:23 • (MSD) R4102893-5 08/05/24 01:26

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 %
Magnesium	5.00	14.3	19.2	19.4	98.4	102	1	70.0-130			1.02	20
Potassium	5.00	2.03	6.85	7.14	96.5	102	1	70.0-130			4.08	20
Sodium	5.00	27.2	32.8	33.0	111	115	1	70.0-130			0.704	20

L1749837-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749837-05 08/05/24 01:29 • (MS) R4102893-6 08/05/24 01:33 • (MSD) R4102893-7 08/05/24 01:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	5.00	44.0	49.6	48.3	113	87.4	1	70.0-130			2.59	20
Iron	1.00	1.31	2.24	2.42	92.5	111	1	70.0-130			7.91	20
Magnesium	5.00	16.5	22.2	21.4	113	96.9	1	70.0-130			3.67	20
Potassium	5.00	1.96	7.11	7.09	103	103	1	70.0-130			0.309	20
Sodium	5.00	17.6	23.3	22.5	115	98.1	1	70.0-130			3.68	20

L1749837-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749837-04 08/06/24 23:48 • (MS) R4103499-4 08/06/24 23:54 • (MSD) R4103499-5 08/06/24 23:57

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 %
Boron	0.0500	0.0582	0.100	0.0961	84.0	75.9	1	70.0-130			4.16	20

L1749837-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749837-05 08/07/24 00:01 • (MS) R4103499-6 08/07/24 00:04 • (MSD) R4103499-7 08/07/24 00:07

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 %
Boron	0.0500	0.0476	0.0923	0.0885	89.5	81.8	1	70.0-130			4.24	20

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Method Blank (MB)

(MB) R4089703-2 06/30/24 21:11

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	113			80.0-120
(S) 4-Bromofluorobenzene	88.9			80.0-120
(S) 1,2-Dichloroethane-d4	94.3			70.0-130

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R4089703-1 06/30/24 20:14 • (LCSD) R4089703-3 07/01/24 00:49

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	0.00426	0.00398	85.2	79.6	65.0-135			6.80	20
Bromodichloromethane	0.00500	0.00437	0.00406	87.4	81.2	65.0-135			7.35	20
Bromoform	0.00500	0.00462	0.00438	92.4	87.6	70.0-130			5.33	20
Bromomethane	0.00500	0.00482	0.00451	96.4	90.2	15.0-185			6.65	20
Carbon tetrachloride	0.00500	0.00456	0.00414	91.2	82.8	70.0-130			9.66	20
Chlorobenzene	0.00500	0.00558	0.00519	112	104	65.0-135			7.24	20
Chlorodibromomethane	0.00500	0.00480	0.00453	96.0	90.6	70.0-135			5.79	20
Chloroethane	0.00500	0.00533	0.00500	107	100	40.0-160			6.39	20
2-Chloroethyl vinyl ether	0.0250	0.0219	0.0201	87.6	80.4	0.100-225			8.57	20
Chloroform	0.00500	0.00454	0.00426	90.8	85.2	70.0-135			6.36	20
Chloromethane	0.00500	0.00587	0.00504	117	101	0.100-205			15.2	20
1,2-Dichlorobenzene	0.00500	0.00556	0.00545	111	109	65.0-135			2.00	20
1,3-Dichlorobenzene	0.00500	0.00560	0.00506	112	101	70.0-130			10.1	20
1,4-Dichlorobenzene	0.00500	0.00537	0.00499	107	99.8	65.0-135			7.34	20
Dichlorodifluoromethane	0.00500	0.00535	0.00431	107	86.2	49.0-155		J3	21.5	20
1,1-Dichloroethane	0.00500	0.00454	0.00414	90.8	82.8	70.0-130			9.22	20
1,2-Dichloroethane	0.00500	0.00444	0.00434	88.8	86.8	70.0-130			2.28	20
1,1-Dichloroethene	0.00500	0.00433	0.00396	86.6	79.2	50.0-150			8.93	20
trans-1,2-Dichloroethene	0.00500	0.00449	0.00405	89.8	81.0	70.0-130			10.3	20
1,2-Dichloropropane	0.00500	0.00441	0.00416	88.2	83.2	35.0-165			5.83	20
cis-1,3-Dichloropropene	0.00500	0.00396	0.00378	79.2	75.6	25.0-175			4.65	20
trans-1,3-Dichloropropene	0.00500	0.00482	0.00444	96.4	88.8	50.0-150			8.21	20
Ethylbenzene	0.00500	0.00555	0.00502	111	100	60.0-140			10.0	20
Methylene Chloride	0.00500	0.00394	0.00376	78.8	75.2	60.0-140			4.68	20
Methyl tert-butyl ether	0.00500	0.00414	0.00399	82.8	79.8	64.0-123			3.69	20
Naphthalene	0.00500	0.00508	0.00529	102	106	62.0-128			4.05	20
1,1,2,2-Tetrachloroethane	0.00500	0.00488	0.00502	97.6	100	60.0-140			2.83	20
Tetrachloroethene	0.00500	0.00576	0.00507	115	101	70.0-130			12.7	20
Toluene	0.00500	0.00537	0.00479	107	95.8	70.0-130			11.4	20
1,1,1-Trichloroethane	0.00500	0.00451	0.00423	90.2	84.6	70.0-130			6.41	20
1,1,2-Trichloroethane	0.00500	0.00534	0.00499	107	99.8	70.0-130			6.78	20
Trichloroethene	0.00500	0.00473	0.00423	94.6	84.6	65.0-135			11.2	20
Trichlorofluoromethane	0.00500	0.00475	0.00461	95.0	92.2	50.0-150			2.99	20
Vinyl chloride	0.00500	0.00533	0.00478	107	95.6	5.00-195			10.9	20
o-Xylene	0.00500	0.00535	0.00491	107	98.2	78.0-120			8.58	20
m&p-Xylene	0.0100	0.0110	0.0101	110	101	77.0-120			8.53	20
Xylenes, Total	0.0150	0.0164	0.0150	109	100	77.0-120			8.92	20
(S) Toluene-d8				113	112	80.0-120				
(S) 4-Bromofluorobenzene				95.9	92.9	80.0-120				
(S) 1,2-Dichloroethane-d4				97.9	100	70.0-130				

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4088778-2 06/28/24 23:15

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

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

L1750560-01

Method Blank (MB)

(MB) R4088778-2 06/28/24 23:15

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	80.7			15.0-314
(S) 2-Fluorobiphenyl	82.1			22.0-127
(S) p-Terphenyl-d14	83.5			29.0-141
(S) Phenol-d5	24.3			8.00-424
(S) 2-Fluorophenol	39.8			10.0-120
(S) 2,4,6-Tribromophenol	71.0			10.0-153

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4088778-1 06/28/24 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0412	82.4	47.0-145	
Acenaphthylene	0.0500	0.0423	84.6	33.0-145	
Anthracene	0.0500	0.0421	84.2	27.0-133	
Benzidine	0.100	0.00658	6.58	1.00-120	
Benzo(a)anthracene	0.0500	0.0444	88.8	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0427	85.4	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0430	86.0	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0423	84.6	1.00-219	
Benzo(a)pyrene	0.0500	0.0445	89.0	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0386	77.2	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0463	92.6	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0414	82.8	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0406	81.2	53.0-127	

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

L1750560-01

Laboratory Control Sample (LCS)

(LCS) R4088778-1 06/28/24 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0389	77.8	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0396	79.2	25.0-158	
Chrysene	0.0500	0.0428	85.6	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0449	89.8	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0867	86.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0483	96.6	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0466	93.2	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0464	92.8	37.0-125	N2
Fluoranthene	0.0500	0.0412	82.4	26.0-137	
Fluorene	0.0500	0.0421	84.2	59.0-121	
Hexachlorobenzene	0.0500	0.0367	73.4	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0314	62.8	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0276	55.2	10.0-120	
Hexachloroethane	0.0500	0.0392	78.4	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0423	84.6	1.00-171	
Isophorone	0.0500	0.0337	67.4	21.0-196	
Naphthalene	0.0500	0.0340	68.0	21.0-133	
Nitrobenzene	0.0500	0.0429	85.8	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0210	42.0	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0435	87.0	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0370	74.0	1.00-230	
Phenanthrene	0.0500	0.0418	83.6	54.0-120	
Benzylbutyl phthalate	0.0500	0.0482	96.4	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0463	92.6	8.00-158	
Di-n-butyl phthalate	0.0500	0.0466	93.2	1.00-120	
Diethyl phthalate	0.0500	0.0452	90.4	1.00-120	
Dimethyl phthalate	0.0500	0.0427	85.4	1.00-120	
Di-n-octyl phthalate	0.0500	0.0473	94.6	4.00-146	
Pyrene	0.0500	0.0447	89.4	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0329	65.8	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0382	76.4	22.0-147	
2-Chlorophenol	0.0500	0.0350	70.0	23.0-134	
2,4-Dichlorophenol	0.0500	0.0375	75.0	39.0-135	
2,4-Dimethylphenol	0.0500	0.0429	85.8	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0467	93.4	1.00-181	
2,4-Dinitrophenol	0.0500	0.0468	93.6	1.00-191	
2-Nitrophenol	0.0500	0.0451	90.2	29.0-182	
4-Nitrophenol	0.0500	0.0158	31.6	1.00-132	
Pentachlorophenol	0.0500	0.0336	67.2	14.0-176	
Phenol	0.0500	0.0131	26.2	5.00-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4088778-1 06/28/24 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,6-Trichlorophenol	0.0500	0.0450	90.0	37.0-144	
(S) Nitrobenzene-d5			76.5	15.0-314	
(S) 2-Fluorobiphenyl			78.7	22.0-127	
(S) p-Terphenyl-d14			80.0	29.0-141	
(S) Phenol-d5			23.9	8.00-424	
(S) 2-Fluorophenol			33.6	10.0-120	
(S) 2,4,6-Tribromophenol			78.0	10.0-153	

L1750394-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750394-01 06/29/24 02:29 • (MS) R4088778-3 06/29/24 02:51 • (MSD) R4088778-4 06/29/24 03:12

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 %
Acenaphthene	0.0500	ND	0.0324	0.0316	64.8	63.2	1	47.0-145			2.50	48
Acenaphthylene	0.0500	ND	0.0334	0.0325	66.8	65.0	1	33.0-145			2.73	74
Anthracene	0.0500	ND	0.0363	0.0352	72.6	70.4	1	27.0-133			3.08	66
Benzidine	0.100	ND	ND	ND	0.000	0.000	1	1.00-120	J6	J6	0.000	40
Benzo(a)anthracene	0.0500	ND	0.0391	0.0372	78.2	74.4	1	33.0-143			4.98	53
Benzo(b)fluoranthene	0.0500	ND	0.0373	0.0358	74.6	71.6	1	24.0-159			4.10	71
Benzo(k)fluoranthene	0.0500	ND	0.0370	0.0359	74.0	71.8	1	11.0-162			3.02	63
Benzo(g,h,i)perylene	0.0500	ND	0.0368	0.0354	73.6	70.8	1	1.00-219			3.88	97
Benzo(a)pyrene	0.0500	ND	0.0396	0.0378	79.2	75.6	1	17.0-163			4.65	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0300	0.0283	60.0	56.6	1	33.0-184			5.83	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0374	0.0352	74.8	70.4	1	12.0-158			6.06	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0305	0.0283	61.0	56.6	1	36.0-166			7.48	76
4-Bromophenyl-phenylether	0.0500	ND	0.0338	0.0332	67.6	66.4	1	53.0-127			1.79	43
2-Chloronaphthalene	0.0500	ND	0.0297	0.0286	59.4	57.2	1	60.0-120	J6	J6	3.77	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0324	0.0315	64.8	63.0	1	25.0-158			2.82	61
Chrysene	0.0500	ND	0.0375	0.0359	75.0	71.8	1	17.0-168			4.36	87
Dibenz(a,h)anthracene	0.0500	ND	0.0389	0.0376	77.8	75.2	1	1.00-227			3.40	126
3,3-Dichlorobenzidine	0.100	ND	0.0552	0.0533	55.2	53.3	1	1.00-262			3.50	108
2,4-Dinitrotoluene	0.0500	ND	0.0418	0.0402	83.6	80.4	1	39.0-139			3.90	42
2,6-Dinitrotoluene	0.0500	ND	0.0387	0.0378	77.4	75.6	1	50.0-158			2.35	48
1,2-Diphenylhydrazine	0.0500	ND	0.0380	0.0374	76.0	74.8	1	18.0-156	N2	N2	1.59	34
Fluoranthene	0.0500	ND	0.0361	0.0350	72.2	70.0	1	26.0-137			3.09	66
Fluorene	0.0500	ND	0.0344	0.0339	68.8	67.8	1	59.0-121			1.46	38
Hexachlorobenzene	0.0500	ND	0.0306	0.0303	61.2	60.6	1	1.00-152			0.985	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0199	0.0194	39.8	38.8	1	24.0-120			2.54	62
Hexachlorocyclopentadiene	0.0500	ND	0.0208	0.0195	41.6	39.0	1	10.0-146			6.45	34

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625.1 L1750560-01

L1750394-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750394-01 06/29/24 02:29 • (MS) R4088778-3 06/29/24 02:51 • (MSD) R4088778-4 06/29/24 03:12

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 %
Hexachloroethane	0.0500	ND	0.0234	0.0227	46.8	45.4	1	40.0-120			3.04	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0358	0.0345	71.6	69.0	1	1.00-171			3.70	99
Isophorone	0.0500	ND	0.0265	0.0250	53.0	50.0	1	21.0-196			5.83	93
Naphthalene	0.0500	ND	0.0249	0.0235	49.8	47.0	1	21.0-133			5.79	65
Nitrobenzene	0.0500	ND	0.0332	0.0311	66.4	62.2	1	35.0-180			6.53	62
n-Nitrosodimethylamine	0.0500	ND	0.0234	0.0235	46.8	47.0	1	10.0-120			0.426	40
n-Nitrosodiphenylamine	0.0500	ND	0.0370	0.0369	74.0	73.8	1	16.0-160			0.271	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0311	0.0292	62.2	58.4	1	1.00-230			6.30	87
Phenanthrene	0.0500	ND	0.0352	0.0354	70.4	70.8	1	54.0-120			0.567	39
Benzylbutyl phthalate	0.0500	ND	0.0435	0.0417	85.0	81.4	1	1.00-152			4.23	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0414	0.0389	80.2	75.2	1	8.00-158			6.23	82
Di-n-butyl phthalate	0.0500	ND	0.0413	0.0407	82.6	81.4	1	1.00-120			1.46	47
Diethyl phthalate	0.0500	ND	0.0385	0.0374	77.0	74.8	1	1.00-120			2.90	100
Dimethyl phthalate	0.0500	ND	0.0357	0.0341	71.4	68.2	1	1.00-120			4.58	183
Di-n-octyl phthalate	0.0500	ND	0.0417	0.0403	83.4	80.6	1	4.00-146			3.41	69
Pyrene	0.0500	ND	0.0396	0.0377	79.2	75.4	1	52.0-120			4.92	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0226	0.0217	45.2	43.4	1	44.0-142		J6	4.06	50
4-Chloro-3-methylphenol	0.0500	ND	0.0289	0.0277	57.8	55.4	1	22.0-147			4.24	73
2-Chlorophenol	0.0500	ND	0.0249	0.0233	49.8	46.6	1	23.0-134			6.64	61
2,4-Dichlorophenol	0.0500	ND	0.0286	0.0271	57.2	54.2	1	39.0-135			5.39	50
2,4-Dimethylphenol	0.0500	ND	0.0340	0.0318	67.4	63.0	1	32.0-120			6.69	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0390	0.0377	78.0	75.4	1	1.00-181			3.39	203
2,4-Dinitrophenol	0.0500	ND	0.0391	0.0379	78.2	75.8	1	1.00-191			3.12	132
2-Nitrophenol	0.0500	ND	0.0331	0.0312	66.2	62.4	1	29.0-182			5.91	55
4-Nitrophenol	0.0500	ND	0.0152	0.0144	30.4	28.8	1	1.00-132			5.41	131
Pentachlorophenol	0.0500	ND	0.0320	0.0301	64.0	60.2	1	14.0-176			6.12	86
Phenol	0.0500	ND	0.0104	ND	20.8	19.4	1	5.00-120			6.97	64
2,4,6-Trichlorophenol	0.0500	ND	0.0359	0.0344	71.8	68.8	1	37.0-144			4.27	58
(S) Nitrobenzene-d5					60.5	55.5		15.0-314				
(S) 2-Fluorobiphenyl					60.6	59.1		22.0-127				
(S) p-Terphenyl-d14					71.8	66.4		29.0-141				
(S) Phenol-d5					19.7	17.9		8.00-424				
(S) 2-Fluorophenol					27.0	25.8		10.0-120				
(S) 2,4,6-Tribromophenol					68.5	65.0		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.
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.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
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

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

[illegible]

[illegible]

6/26/24 - NCF L1750560 DEVENOCOK

Shortholds

Time estimate: oh

Time spent: oh

Members

 Matthew Shacklock (responsible)  Jennifer Gambill

- ☒ Login Clarification needed
- ☐ Chain of custody is incomplete
- ☐ Please specify Metals requested
- ☐ Please specify TCLP requested
- ☐ Received additional samples not listed on COC
- ☐ Sample IDs on containers do not match IDs on COC
- ☐ Client did not "X" analysis
- ☐ Chain of Custody is missing
- ☐ If no COC: Received by: _____
- ☐ If no COC: Date/Time: _____
- ☐ If no COC: Temp./Cont.Rec./pH: _____
- ☐ If no COC: Carrier: _____
- ☐ If no COC: Tracking #: _____
- ☐ Client informed by call
- ☐ Client informed by Email
- ☐ Client informed by Voicemail
- ☐ Date/Time: _____
- ☐ PM initials: _____
- ☐ Client Contact: _____

Comments

Matthew Shacklock

26 June 2024 10:21 AM

Received 5 (Other containers) listed as below:

Brine Concentration 6/21/24 0730 PM
PW Brine Concentrate 6/23/24 1500
Brine Concentration 6/21/24 0730 PM
Concentration 6/22/24 900 PM
Concentration 6/22/24 900 PM

We received bottles for analysis on the chain. Please clarify what these are for.

Jennifer Gambill

27 June 2024 5:35 PM

We do not need to log these sample containers. This was to be additional volume.

Matthew Shacklock

28 June 2024 3:43 PM

Done



July 19, 2024

MTJLSuboutTeam
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1750560 WG2321064
Pace Project No.: 40281154

Dear MTJLSuboutTeam:

Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



CERTIFICATIONS

Project: L1750560 WG2321064

Pace Project No.: 40281154

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: L1750560 WG2321064

Pace Project No.: 40281154

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40281154001	ADDITIONAL VOLUME	Water	06/25/24 09:45	07/16/24 09:30

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: L1750560 WG2321064

Pace Project No.: 40281154

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40281154001	ADDITIONAL VOLUME	SM 2710F	HML	2

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: L1750560 WG2321064

Pace Project No.: 40281154

Sample: ADDITIONAL VOLUME Lab ID: 40281154001 Collected: 06/25/24 09:45 Received: 07/16/24 09:30 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	1.2	g/mL			1		07/18/24 15:27		
Specific Gravity	1.2	no units			1		07/18/24 15:27		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/19/2024 09:25 AM

Page 5 of 11



QUALITY CONTROL DATA

Project: L1750560 WG2321064

Pace Project No.: 40281154

QC Batch: 479700

QC Batch Method: SM 2710F

Analysis Method: SM 2710F

Analysis Description: Specific Gravity /Bulk Density

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40281154001

SAMPLE DUPLICATE: 2747225

Parameter	Units	40280667010 Result	Dup Result	RPD	Max RPD	Qualifiers
Density	g/mL	2.4	2.3	3	20	
Specific Gravity	no units	2.4	2.3	3	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/19/2024 09:25 AM

Page 6 of 11



QUALIFIERS

Project: L1750560 WG2321064

Pace Project No.: 40281154

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/19/2024 09:25 AM

Page 7 of 11



1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1750560 WG2321064

Pace Project No.: 40281154

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40281154001	ADDITIONAL VOLUME	SM 2710F	479700		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/19/2024 09:25 AM

Page 8 of 11

Sub-Contract Chain of Custody

Batch Date/Time: 07/11/24 09:23
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: WG2321064

Email: MTJLSuboutTeam@pacelabs.com

Results Due Date: 07/25/24

ESC Purchase Order #: L1750560

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
ADDITIONAL VOLUME	WW	NM	06/25/24 09:45	Specific Gravity	2. L1750560-02	001

Relinquished by: [Signature] Date 7/11/24

Received by: _____ Date _____

Relinquished by: Fedex Date 7/11/24 09:30

Received by: [Signature] Date 7/11/24 09:30

DC#_Title: ENV-FRM-GBAY-0035 v03_Sample Preservation Receipt Form

Effective Date: 8/16/2022

Sample Preservation Receipt Form

Client Name: Pace National

Project #

40201154

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) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 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	JG9U	JG9U	WG9U	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	JG9U	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	WG9U	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	150 mL clear glass unpres
						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 NaturalCourier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Walto☐ Client ☐ Pace Other: _____Tracking #: 4047 5442 7674Custody 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 ☐ OtherThermometer Used SR - 120 Type of Ice: ☒ Wet ☐ Blue ☐ Dry ☐ None ☐ Meltwater OnlyCooler Temperature Uncorr: 0.0 /Corr: 0.0Temp 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: 7/11/24 /Initials: mtLabeled By Initials: mtChain 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.

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: ☐ Yes ☒ No

8.

For Analysis: ☒ Yes ☐ No MS/MSD: ☐ Yes ☒ No ☐ N/ACorrect Containers Used: ☒ Yes ☐ No

9.

Correct Type: Pace Green Bay, Pace IR, Non-PaceContainers 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: WTrip 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 logi

Page 2 of 2



ANALYTICAL REPORT

August 07, 2024

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

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1750512
Samples Received: 06/26/2024
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

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Sr: Sample Results 5

FEED L1750512-01 5

Qc: Quality Control Summary 11

Gravimetric Analysis by Method 2540 C-2011 11

Gravimetric Analysis by Method 2540 D-2015 12

Wet Chemistry by Method 120.1 13

Wet Chemistry by Method 130.1 14

Wet Chemistry by Method 1664A 15

Wet Chemistry by Method 2120 B-2011 16

Wet Chemistry by Method 2130 B-2011 17

Wet Chemistry by Method 2320 B-2011 18

Wet Chemistry by Method 2580 20

Wet Chemistry by Method 300.0 24

Wet Chemistry by Method 350.1 26

Wet Chemistry by Method 3500Cr B-2011 27

Wet Chemistry by Method 351.2 28

Wet Chemistry by Method 353.2 29

Wet Chemistry by Method 410.4 30

Wet Chemistry by Method 4500Cl G-2011 31

Wet Chemistry by Method 4500CN E-2016 32

Wet Chemistry by Method 4500H+ B-2011 33

Wet Chemistry by Method 4500P E-2011 34

Wet Chemistry by Method 4500S2 D-2011 35

Wet Chemistry by Method 4500SO3 B-2011 36

Wet Chemistry by Method 5210 B-2016 37

Wet Chemistry by Method 5310 B-2014 39

Wet Chemistry by Method 5540 C-2011 41

Mercury by Method 245.1 42

Metals (ICP) by Method 200.7 43

Metals (ICPMS) by Method 200.8 46

Volatile Organic Compounds (GC/MS) by Method 624.1 49

TPH by TCEQ Method 1005 52

Semi Volatile Organic Compounds (GC/MS) by Method 625.1 53

Gl: Glossary of Terms 58

Al: Accreditations & Locations 60

Sc: Sample Chain of Custody 61

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

SAMPLE SUMMARY

FEED L1750512-01 WW

Collected by
Danny Daniels

Collected date/time
06/25/24 09:00

Received date/time
06/26/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2315409	1	07/02/24 23:32	07/02/24 23:32	DJS	Mt. Juliet, TN
Calculated Results	WG2316588	1	07/03/24 12:41	07/03/24 12:41	LAS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2313082	1	06/27/24 08:48	06/27/24 11:35	DLS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2313846	1	06/28/24 09:38	06/28/24 10:46	DLS	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2312456	1	06/27/24 11:12	06/27/24 11:12	BJM	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG2315349	100	07/01/24 12:38	07/02/24 11:13	CAT	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG2313560	1	06/27/24 16:19	06/28/24 00:40	DAL	Mt. Juliet, TN
Wet Chemistry by Method 2120 B-2011	WG2312677	2	06/26/24 15:41	06/26/24 15:41	SJA	Mt. Juliet, TN
Wet Chemistry by Method 2130 B-2011	WG2313235	1	06/27/24 09:55	06/27/24 09:55	JAR	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2313127	1	06/27/24 10:17	06/27/24 10:17	KA	Mt. Juliet, TN
Wet Chemistry by Method 2580	WG2312710	1	06/27/24 15:30	06/27/24 15:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2312393	100	06/27/24 04:23	06/27/24 04:23	DLH	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2312393	1000	06/27/24 04:41	06/27/24 04:41	DLH	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2316588	200	07/03/24 12:41	07/03/24 12:41	LAS	Mt. Juliet, TN
Wet Chemistry by Method 3500Cr B-2011	WG2312663	1	06/26/24 15:13	06/26/24 15:13	SJA	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2313935	100	06/28/24 12:00	06/30/24 20:00	LDT	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2312509	1	06/30/24 20:49	06/30/24 20:49	RTW	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG2314262	25	06/28/24 11:00	06/28/24 16:15	SJA	Mt. Juliet, TN
Wet Chemistry by Method 4500Cl G-2011	WG2312459	1	06/26/24 14:57	06/26/24 14:57	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2313105	1	06/27/24 09:35	06/27/24 15:52	KMB	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2312805	1	06/27/24 16:00	06/27/24 16:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 4500O G-2016	WG2316214	1	07/02/24 15:05	07/02/24 15:05	BGE	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG2312444	1	06/26/24 14:52	06/26/24 14:52	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2312800	1	06/27/24 09:49	06/27/24 09:49	CAH	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2313844	1	06/28/24 09:20	06/28/24 09:20	JAR	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2312359	10	06/26/24 13:05	07/01/24 10:43	MEL	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2312496	10	06/26/24 13:14	07/01/24 11:15	MEL	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2322979	2	07/15/24 11:00	07/15/24 12:14	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2318644	2	07/10/24 09:16	07/10/24 09:16	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5540 C-2011	WG2312771	1	06/27/24 08:16	06/27/24 10:19	CAH	Mt. Juliet, TN
Mercury by Method 245.1	WG2312527	1	06/26/24 17:11	06/28/24 17:55	LAS	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2315409	20	07/02/24 07:37	07/02/24 23:32	DJS	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2315409	20	07/02/24 07:37	07/02/24 23:35	DJS	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2315409	50	07/02/24 07:37	07/02/24 23:31	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2315414	100	07/03/24 07:26	08/05/24 02:39	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2315414	500	07/03/24 07:26	08/07/24 00:23	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2315092	10	07/01/24 06:41	07/01/24 06:41	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2317036	50	07/03/24 22:37	07/03/24 22:37	DYW	Mt. Juliet, TN
TPH by TCEQ Method 1005	WG2315560	1	07/02/24 09:24	07/03/24 00:38	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2313044	1	06/28/24 05:41	06/29/24 01:26	AGW	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.



T. Alan Harvill
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
L1750512-01	FEED	300.0

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

Lab Sample ID	Project Sample ID	Method
L1750512-01	FEED	1664A, 4500O G-2016

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

Collected date/time: 06/25/24 09:00

L1750512

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Trivalent	ND		0.0100	1	07/02/2024 23:32	WG2315409
Organic Nitrogen	ND		25.0	1	07/03/2024 12:41	WG2316588

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	117000		1000	1	06/27/2024 11:35	WG2313082

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Suspended Solids	26.3		7.15	1	06/28/2024 10:46	WG2313846

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	150000		10.0	1	06/27/2024 11:12	WG2312456

Sample Narrative:

L1750512-01 WG2312456: at 25C

Wet Chemistry by Method 130.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hardness (colorimetric) as CaCO3	15000		3000	100	07/02/2024 11:13	WG2315349

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	17.3		5.62	1	06/28/2024 00:40	WG2313560

Wet Chemistry by Method 2120 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Color, Apparent	80.0		2.00	2	06/26/2024 15:41	WG2312677

Sample Narrative:

L1750512-01 WG2312677: 6.74

Wet Chemistry by Method 2130 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Turbidity	73.7	Q	0.400	1	06/27/2024 09:55	WG2313235

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	297		20.0	1	06/27/2024 10:17	WG2313127
Alkalinity, Bicarbonate	297		20.0	1	06/27/2024 10:17	WG2313127
Alkalinity, Carbonate	ND		20.0	1	06/27/2024 10:17	WG2313127

Sample Narrative:

Collected date/time: 06/25/24 09:00

L1750512

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
L1750512-01 WG2313127: Endpoint pH 4.5 headspace						

Wet Chemistry by Method 2580

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	-73.8	T8	1	06/27/2024 15:30	WG2312710

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	883		100	100	06/27/2024 04:23	WG2312393
Chloride	72000		1000	1000	06/27/2024 04:41	WG2312393
Fluoride	38.6		15.0	100	06/27/2024 04:23	WG2312393
Nitrate as (N)	ND		10.0	100	06/27/2024 04:23	WG2312393
Nitrite as (N)	ND		10.0	100	06/27/2024 04:23	WG2312393
Sulfate	582		500	100	06/27/2024 04:23	WG2312393

Sample Narrative:

L1750512-01 WG2312393: dilution due to high CL hit

Wet Chemistry by Method 350.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	567		50.0	200	07/03/2024 12:41	WG2316588

Wet Chemistry by Method 3500Cr B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	0.0470	Q	0.0100	1	06/26/2024 15:13	WG2312663

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	539		25.0	100	06/30/2024 20:00	WG2313935

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	06/30/2024 20:49	WG2312509

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	4930		500	25	06/28/2024 16:15	WG2314262

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	06/26/2024 14:57	WG2312459

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 06/25/24 09:00

L1750512

Wet Chemistry by Method 4500CN E-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	06/27/2024 15:52	WG2313105

¹Cp

²Tc

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	6.82	T8	1	06/27/2024 16:00	WG2312805

³Ss

⁴Cn

Sample Narrative:

L1750512-01 WG2312805: 6.82 at 21.5C

⁵Sr

Wet Chemistry by Method 4500O G-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Oxygen	9.3 at 20.1c	T8	3	1	07/02/2024 15:05	WG2316214

⁶Qc

⁷Gl

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Phosphate,Ortho	0.0810		0.0300	1	06/26/2024 14:52	WG2312444

⁸Al

⁹Sc

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfide	ND		0.0500	1	06/27/2024 09:49	WG2312800

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfite	ND	T8	3.00	1	06/28/2024 09:20	WG2313844

Wet Chemistry by Method 5210 B-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
BOD	188	B1	100	10	07/01/2024 11:15	WG2312496
CBOD	181	B1 J+	100	10	07/01/2024 10:43	WG2312359

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
DOC	71.8	Q	2.00	2	07/15/2024 12:14	WG2322979

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	75.1		2.00	2	07/10/2024 09:16	WG2318644

Wet Chemistry by Method 5540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
MBAS	1.37		0.100	1	06/27/2024 10:19	WG2312771

Collected date/time: 06/25/24 09:00

L1750512

Mercury by Method 245.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	06/28/2024 17:55	WG2312527

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	ND		4.00	20	07/02/2024 23:32	WG2315409
Antimony	ND		0.200	20	07/02/2024 23:32	WG2315409
Arsenic	ND		0.200	20	07/02/2024 23:32	WG2315409
Barium	4.39		0.100	20	07/02/2024 23:32	WG2315409
Beryllium	ND		0.0400	20	07/02/2024 23:32	WG2315409
Cadmium	ND		0.0400	20	07/02/2024 23:32	WG2315409
Chromium	ND		0.200	20	07/02/2024 23:32	WG2315409
Copper	ND		0.200	20	07/02/2024 23:32	WG2315409
Lead	ND		0.100	20	07/02/2024 23:32	WG2315409
Lithium	22.4		0.300	20	07/02/2024 23:32	WG2315409
Nickel	ND		0.200	20	07/02/2024 23:32	WG2315409
Selenium	ND		0.200	20	07/02/2024 23:32	WG2315409
Silicon	17.9		4.00	20	07/02/2024 23:35	WG2315409
Silver	ND		0.100	20	07/02/2024 23:32	WG2315409
Strontium	733		0.500	50	07/02/2024 23:31	WG2315409
Thallium	ND		0.200	20	07/02/2024 23:32	WG2315409
Zinc	ND		1.00	20	07/02/2024 23:32	WG2315409
Phosphorus	ND		2.00	20	07/02/2024 23:32	WG2315409

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	96.7		20.0	500	08/07/2024 00:23	WG2315414
Calcium	5460		100	100	08/05/2024 02:39	WG2315414
Cobalt	ND		0.200	100	08/05/2024 02:39	WG2315414
Iron	23.8		10.0	100	08/05/2024 02:39	WG2315414
Magnesium	574		100	100	08/05/2024 02:39	WG2315414
Manganese	0.749		0.500	100	08/05/2024 02:39	WG2315414
Molybdenum	ND		0.500	100	08/05/2024 02:39	WG2315414
Potassium	708		100	100	08/05/2024 02:39	WG2315414
Sodium	37400		200	100	08/05/2024 02:39	WG2315414
Tin	ND		0.400	100	08/05/2024 02:39	WG2315414
Titanium	ND		1.00	100	08/05/2024 02:39	WG2315414

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.32		0.0500	50	07/03/2024 22:37	WG2317036
Bromodichloromethane	ND		0.0100	10	07/01/2024 06:41	WG2315092
Bromoform	ND		0.0100	10	07/01/2024 06:41	WG2315092
Bromomethane	ND		0.0500	10	07/01/2024 06:41	WG2315092
Carbon tetrachloride	ND		0.0100	10	07/01/2024 06:41	WG2315092
Chlorobenzene	ND		0.0100	10	07/01/2024 06:41	WG2315092
Chlorodibromomethane	ND		0.0100	10	07/01/2024 06:41	WG2315092
Chloroethane	ND		0.0500	10	07/01/2024 06:41	WG2315092
2-Chloroethyl vinyl ether	ND		0.500	10	07/01/2024 06:41	WG2315092
Chloroform	ND		0.0500	10	07/01/2024 06:41	WG2315092
Chloromethane	ND		0.0250	10	07/01/2024 06:41	WG2315092
1,2-Dichlorobenzene	ND		0.0100	10	07/01/2024 06:41	WG2315092
1,3-Dichlorobenzene	ND		0.0100	10	07/01/2024 06:41	WG2315092

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Collected date/time: 06/25/24 09:00

L1750512

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	07/01/2024 06:41	WG2315092
Dichlorodifluoromethane	ND	J3	0.0500	10	07/01/2024 06:41	WG2315092
1,1-Dichloroethane	ND		0.0100	10	07/01/2024 06:41	WG2315092
1,2-Dichloroethane	ND		0.0100	10	07/01/2024 06:41	WG2315092
1,1-Dichloroethene	ND		0.0100	10	07/01/2024 06:41	WG2315092
trans-1,2-Dichloroethene	ND		0.0100	10	07/01/2024 06:41	WG2315092
1,2-Dichloropropane	ND		0.0100	10	07/01/2024 06:41	WG2315092
cis-1,3-Dichloropropene	ND		0.0100	10	07/01/2024 06:41	WG2315092
trans-1,3-Dichloropropene	ND		0.0100	10	07/01/2024 06:41	WG2315092
Ethylbenzene	0.0460		0.0100	10	07/01/2024 06:41	WG2315092
Methylene Chloride	ND		0.0500	10	07/01/2024 06:41	WG2315092
Methyl tert-butyl ether	ND		0.0100	10	07/01/2024 06:41	WG2315092
Naphthalene	ND		0.0500	10	07/01/2024 06:41	WG2315092
1,1,2,2-Tetrachloroethane	ND		0.0100	10	07/01/2024 06:41	WG2315092
Tetrachloroethene	ND		0.0100	10	07/01/2024 06:41	WG2315092
Toluene	1.18		0.0500	50	07/03/2024 22:37	WG2317036
1,1,1-Trichloroethane	ND		0.0100	10	07/01/2024 06:41	WG2315092
1,1,2-Trichloroethane	ND		0.0100	10	07/01/2024 06:41	WG2315092
Trichloroethene	ND		0.0100	10	07/01/2024 06:41	WG2315092
Trichlorofluoromethane	ND		0.0500	10	07/01/2024 06:41	WG2315092
Vinyl chloride	ND		0.0100	10	07/01/2024 06:41	WG2315092
o-Xylene	0.157		0.0100	10	07/01/2024 06:41	WG2315092
m&p-Xylene	0.555		0.0200	10	07/01/2024 06:41	WG2315092
Xylenes, Total	0.712		0.0300	10	07/01/2024 06:41	WG2315092
(S) Toluene-d8	119		80.0-120		07/01/2024 06:41	WG2315092
(S) Toluene-d8	107		80.0-120		07/03/2024 22:37	WG2317036
(S) 4-Bromofluorobenzene	98.1		80.0-120		07/01/2024 06:41	WG2315092
(S) 4-Bromofluorobenzene	98.1		80.0-120		07/03/2024 22:37	WG2317036
(S) 1,2-Dichloroethane-d4	93.6		70.0-130		07/01/2024 06:41	WG2315092
(S) 1,2-Dichloroethane-d4	99.0		70.0-130		07/03/2024 22:37	WG2317036

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

TPH by TCEQ Method 1005

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH C6 - C12	10.4		0.900	1	07/03/2024 00:38	WG2315560
TPH C12 - C28	22.8		0.900	1	07/03/2024 00:38	WG2315560
TPH C28 - C35	3.65		0.900	1	07/03/2024 00:38	WG2315560
TPH C6 - C35	36.9		0.900	1	07/03/2024 00:38	WG2315560
(S) o-Terphenyl	117		70.0-130		07/03/2024 00:38	WG2315560
(S) 1-chlorooctane	93.3		70.0-130		07/03/2024 00:38	WG2315560

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

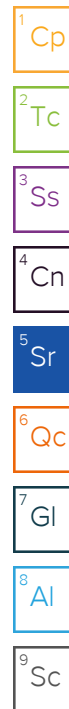
Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Acenaphthylene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Anthracene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Benzdine	ND		0.0100	1	06/29/2024 01:26	WG2313044
Benzo(a)anthracene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Benzo(b)fluoranthene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Benzo(k)fluoranthene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Benzo(g,h,i)perylene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Benzo(a)pyrene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Bis(2-chlorethoxy)methane	ND		0.0100	1	06/29/2024 01:26	WG2313044
Bis(2-chloroethyl)ether	ND		0.0100	1	06/29/2024 01:26	WG2313044

Collected date/time: 06/25/24 09:00

L1750512

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	06/29/2024 01:26	WG2313044
4-Bromophenyl-phenylether	ND		0.0100	1	06/29/2024 01:26	WG2313044
2-Chloronaphthalene	ND		0.00100	1	06/29/2024 01:26	WG2313044
4-Chlorophenyl-phenylether	ND		0.0100	1	06/29/2024 01:26	WG2313044
Chrysene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Dibenz(a,h)anthracene	ND		0.00100	1	06/29/2024 01:26	WG2313044
3,3-Dichlorobenzidine	ND		0.0100	1	06/29/2024 01:26	WG2313044
2,4-Dinitrotoluene	ND		0.0100	1	06/29/2024 01:26	WG2313044
2,6-Dinitrotoluene	ND		0.0100	1	06/29/2024 01:26	WG2313044
1,2-Diphenylhydrazine	ND	N2	0.0100	1	06/29/2024 01:26	WG2313044
Fluoranthene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Fluorene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Hexachlorobenzene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Hexachloro-1,3-butadiene	ND		0.0100	1	06/29/2024 01:26	WG2313044
Hexachlorocyclopentadiene	ND		0.0100	1	06/29/2024 01:26	WG2313044
Hexachloroethane	ND		0.0100	1	06/29/2024 01:26	WG2313044
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Isophorone	ND		0.0100	1	06/29/2024 01:26	WG2313044
Naphthalene	0.00274		0.00100	1	06/29/2024 01:26	WG2313044
Nitrobenzene	ND		0.0100	1	06/29/2024 01:26	WG2313044
n-Nitrosodimethylamine	ND		0.0100	1	06/29/2024 01:26	WG2313044
n-Nitrosodiphenylamine	ND		0.0100	1	06/29/2024 01:26	WG2313044
n-Nitrosodi-n-propylamine	ND		0.0100	1	06/29/2024 01:26	WG2313044
Phenanthrene	ND		0.00100	1	06/29/2024 01:26	WG2313044
Benzylbutyl phthalate	ND		0.00300	1	06/29/2024 01:26	WG2313044
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	06/29/2024 01:26	WG2313044
Di-n-butyl phthalate	ND		0.00300	1	06/29/2024 01:26	WG2313044
Diethyl phthalate	ND		0.00300	1	06/29/2024 01:26	WG2313044
Dimethyl phthalate	ND		0.00300	1	06/29/2024 01:26	WG2313044
Di-n-octyl phthalate	ND		0.00300	1	06/29/2024 01:26	WG2313044
Pyrene	ND		0.00100	1	06/29/2024 01:26	WG2313044
1,2,4-Trichlorobenzene	ND		0.0100	1	06/29/2024 01:26	WG2313044
4-Chloro-3-methylphenol	ND		0.0100	1	06/29/2024 01:26	WG2313044
2-Chlorophenol	ND		0.0100	1	06/29/2024 01:26	WG2313044
2,4-Dichlorophenol	ND		0.0100	1	06/29/2024 01:26	WG2313044
2,4-Dimethylphenol	0.0296	C6	0.0100	1	06/29/2024 01:26	WG2313044
4,6-Dinitro-2-methylphenol	ND		0.0100	1	06/29/2024 01:26	WG2313044
2,4-Dinitrophenol	ND		0.0100	1	06/29/2024 01:26	WG2313044
2-Nitrophenol	ND		0.0100	1	06/29/2024 01:26	WG2313044
4-Nitrophenol	ND		0.0100	1	06/29/2024 01:26	WG2313044
Pentachlorophenol	ND		0.0100	1	06/29/2024 01:26	WG2313044
Phenol	0.141		0.0100	1	06/29/2024 01:26	WG2313044
2,4,6-Trichlorophenol	ND		0.0100	1	06/29/2024 01:26	WG2313044
(S) Nitrobenzene-d5	66.9		15.0-314		06/29/2024 01:26	WG2313044
(S) 2-Fluorobiphenyl	48.0		22.0-127		06/29/2024 01:26	WG2313044
(S) p-Terphenyl-d14	47.4		29.0-141		06/29/2024 01:26	WG2313044
(S) Phenol-d5	41.7		8.00-424		06/29/2024 01:26	WG2313044
(S) 2-Fluorophenol	34.2		10.0-120		06/29/2024 01:26	WG2313044
(S) 2,4,6-Tribromophenol	50.1		10.0-153		06/29/2024 01:26	WG2313044



Method Blank (MB)

(MB) R4088216-1 06/27/24 11:35

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

L1748254-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1748254-03 06/27/24 11:35 • (DUP) R4088216-3 06/27/24 11:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1410	1550	1	9.49		10

⁷Gl

⁸Al

L1748254-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1748254-05 06/27/24 11:35 • (DUP) R4088216-4 06/27/24 11:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1360	1570	1	14.3	J3	10

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4088216-2 06/27/24 11:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8610	97.8	85.0-115	

Method Blank (MB)

(MB) R4088167-1 06/28/24 10:46

	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

L1749227-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1749227-01 06/28/24 10:46 • (DUP) R4088167-3 06/28/24 10:46

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Suspended Solids	76.0	92.0	1	19.0	P1	10

L1749329-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1749329-03 06/28/24 10:46 • (DUP) R4088167-4 06/28/24 10:46

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Suspended Solids	16.8	19.2	1	13.3	P1	10

Laboratory Control Sample (LCS)

(LCS) R4088167-2 06/28/24 10:46

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Suspended Solids	773	684	88.5	85.0-115	

Method Blank (MB)

(MB) R4087216-1 06/27/24 11:12

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

L1749583-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1749583-01 06/27/24 11:12 • (DUP) R4087216-3 06/27/24 11:12

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	977	985	1	0.815		20

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

L1750683-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1750683-03 06/27/24 11:12 • (DUP) R4087216-4 06/27/24 11:12

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	552	551	1	0.181		20

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

Laboratory Control Sample (LCS)

(LCS) R4087216-2 06/27/24 11:12

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	752	103	85.0-115	

Sample Narrative:
LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 130.1

[L1750512-01](#)

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) R4087588-1 06/28/24 00:40

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) R4087588-2 06/28/24 00:40 • (LCSD) R4087588-3 06/28/24 00:40

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	35.6	38.6	89.0	96.5	78.0-114			8.09	20

L1748011-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748011-02 06/28/24 00:40 • (MS) R4087588-4 06/28/24 00:40

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	36.2	90.6	1	78.0-114	

Wet Chemistry by Method 2120 B-2011

[L1750512-01](#)

L1750497-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750497-01 06/26/24 15:41 • (DUP) R4086826-1 06/26/24 15:41

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pcu	pcu		%		%
Color, Apparent	5.00	5.00	1	0.000		20

Sample Narrative:

OS: 9.35

DUP: 9.35

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 2130 B-2011

Method Blank (MB)

(MB) R4087135-1 06/27/24 09:55

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1750497-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750497-01 06/27/24 09:55 • (DUP) R4087135-3 06/27/24 09:55

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	NTU	NTU		%		%
Turbidity	0.950	1.16	1	19.9		20

Laboratory Control Sample (LCS)

(LCS) R4087135-2 06/27/24 09:55

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	NTU	NTU	%	%	
Turbidity	40.0	39.0	97.5	90.0-110	

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 2320 B-2011

L1750512-01

Method Blank (MB)

(MB) R4087251-2 06/27/24 10:08

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

L1750564-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750564-01 06/27/24 10:25 • (DUP) R4087251-4 06/27/24 10:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	7540	7500	1	0.412		20
Alkalinity,Bicarbonate	7540	7500	1	0.412		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1750908-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750908-01 06/27/24 12:17 • (DUP) R4087251-6 06/27/24 12:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	534	539	1	0.946		20
Alkalinity,Bicarbonate	534	539	1	0.946		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

Wet Chemistry by Method 2320 B-2011

Laboratory Control Sample (LCS)

(LCS) R4087251-1 06/27/24 10:01

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

Sample Narrative:
LCS: Endpoint pH 4.5

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 2580

L1750512-01

L1750497-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750497-01 06/27/24 15:30 • (DUP) R4087483-3 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	64.0	64.7	1	0.700		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750522-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750522-01 06/27/24 15:30 • (DUP) R4087483-5 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	27.8	31.6	1	3.80		20

L1750608-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-01 06/27/24 15:30 • (DUP) R4087483-6 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	68.7	68.8	1	0.100		20

L1750608-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-02 06/27/24 15:30 • (DUP) R4087483-7 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	59.1	61.1	1	2.00		20

L1750608-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-03 06/27/24 15:30 • (DUP) R4087483-8 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	58.8	61.6	1	2.80		20

L1750608-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-04 06/27/24 15:30 • (DUP) R4087483-9 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	179	184	1	5.70		20

Wet Chemistry by Method 2580

L1750512-01

L1750608-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-05 06/27/24 15:30 • (DUP) R4087483-10 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	148	147	1	1.10		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1750608-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-06 06/27/24 15:30 • (DUP) R4087483-11 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	128	126	1	2.30		20

⁷Gl

⁸Al

⁹Sc

L1750608-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-07 06/27/24 15:30 • (DUP) R4087483-12 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	154	154	1	0.100		20

L1750608-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-08 06/27/24 15:30 • (DUP) R4087483-13 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	131	134	1	2.60		20

L1750608-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-09 06/27/24 15:30 • (DUP) R4087483-14 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	104	106	1	2.00		20

L1750608-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-10 06/27/24 15:30 • (DUP) R4087483-15 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	132	133	1	0.700		20

Wet Chemistry by Method 2580

L1750512-01

L1750608-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-11 06/27/24 15:30 • (DUP) R4087483-16 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	339	339	1	0.200		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750608-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-12 06/27/24 15:30 • (DUP) R4087483-17 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	284	283	1	0.600		20

L1750608-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-13 06/27/24 15:30 • (DUP) R4087483-18 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	83.9	78.1	1	5.80		20

L1750608-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-14 06/27/24 15:30 • (DUP) R4087483-19 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	64.9	69.0	1	4.10		20

L1750608-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-16 06/27/24 15:30 • (DUP) R4087483-21 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	70.9	70.9	1	0.000		20

L1750608-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-17 06/27/24 15:30 • (DUP) R4087483-22 06/27/24 15:30

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	83.0	84.5	1	1.50		20

L1750512-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750512-01 06/27/24 15:30 • (DUP) R4087483-4 06/27/24 15:30

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	-73.8	-75.1	1	0.000		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1750608-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-15 06/27/24 15:30 • (DUP) R4087483-20 06/27/24 15:30

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	-7.60	-1.50	1	0.000		20

⁷Gl

⁸Al

⁹Sc

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

(LCS) R4087483-1 06/27/24 15:30 • (LCSD) R4087483-2 06/27/24 15:30

Analyte	Spike Amount mV	LCS Result mV	LCSD Result mV	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	Diff mV	Diff Limits mV
ORP	238	223	220	93.8	92.3	90.0-110			3.60	20

Method Blank (MB)

(MB) R4087195-1 06/27/24 01:25

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

L1750497-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750497-01 06/27/24 02:18 • (DUP) R4087195-3 06/27/24 02:36

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	39.5	40.3	1	1.98		15
Fluoride	ND	ND	1	0.000		15
Nitrate as (N)	ND	ND	1	0.000		15
Sulfate	ND	ND	1	18.0	P1	15

Sample Narrative:

OS: NO2 duplicate failure. Reran to confirm results

Laboratory Control Sample (LCS)

(LCS) R4087195-2 06/27/24 01:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	41.8	105	90.0-110	
Chloride	40.0	39.9	99.7	90.0-110	
Fluoride	8.00	8.23	103	90.0-110	
Nitrate as (N)	8.00	7.41	92.6	90.0-110	
Nitrite as (N)	8.00	7.44	93.0	90.0-110	
Sulfate	40.0	38.9	97.3	90.0-110	

Wet Chemistry by Method 300.0

[L1750512-01](#)

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

(OS) L1750497-01 06/27/24 02:18 • (MS) R4087195-4 06/27/24 02:54 • (MSD) R4087195-5 06/27/24 03:12

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 %
Bromide	40.0	ND	43.4	42.4	108	106	1	80.0-120			2.15	15
Chloride	40.0	39.5	71.5	70.8	80.0	78.3	1	80.0-120		J6	0.957	15
Fluoride	8.00	ND	7.99	7.80	99.9	97.5	1	80.0-120			2.39	15
Nitrate as (N)	8.00	ND	7.70	7.52	96.3	94.0	1	80.0-120			2.38	15
Sulfate	40.0	ND	38.9	37.9	90.2	87.8	1	80.0-120			2.41	15

Sample Narrative:

OS: NO2 duplicate failure. Reran to confirm results

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 350.1

L1750512-01

Method Blank (MB)

(MB) R4089842-1 07/03/24 12:32

	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

L1750561-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750561-01 07/03/24 12:44 • (DUP) R4089842-3 07/03/24 12:46

	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

L1750561-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1750561-04 07/03/24 12:52 • (DUP) R4089842-7 07/03/24 13:41

	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) R4089842-2 07/03/24 12:34

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Ammonia Nitrogen	7.50	7.61	101	90.0-110	

L1750561-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1750561-02 07/03/24 12:47 • (MS) R4089842-4 07/03/24 12:49

	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	4.97	99.4	1	90.0-110	

L1750608-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750608-01 07/03/24 13:20 • (MS) R4089842-5 07/03/24 13:22 • (MSD) R4089842-6 07/03/24 13:23

	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	0.550	5.69	5.77	103	104	1	90.0-110			1.34	10

Wet Chemistry by Method 3500Cr B-2011

[L1750512-01](#)

Method Blank (MB)

(MB) R4086785-1 06/26/24 15:08

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1750522-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750522-01 06/26/24 15:14 • (DUP) R4086785-3 06/26/24 15:14

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) R4086785-2 06/26/24 15:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.546	109	80.0-120	

⁷Gl

⁸Al

⁹Sc

L1750525-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750525-01 06/26/24 15:14 • (MS) R4086785-4 06/26/24 15:14 • (MSD) R4086785-5 06/26/24 15:14

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	0.476	0.440	95.2	88.0	1	75.0-125			7.86	20

Method Blank (MB)

(MB) R4088409-1 06/30/24 17:10

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

L1750561-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750561-01 06/30/24 17:27 • (DUP) R4088409-5 06/30/24 17:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Kjeldahl Nitrogen, TKN	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4088409-2 06/30/24 17:11

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Kjeldahl Nitrogen, TKN	12.3	12.9	105	80.0-120	

L1749205-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1749205-02 06/30/24 17:14 • (MS) R4088409-4 06/30/24 17:15

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Kjeldahl Nitrogen, TKN	5.00	1.46	7.05	112	1	90.0-110	J5

Sample Narrative:

OS: Instrument QC failure

L1750561-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750561-04 06/30/24 17:32 • (MS) R4088409-6 06/30/24 17:33 • (MSD) R4088409-7 06/30/24 17:34

	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	%	%		%			%	%
Kjeldahl Nitrogen, TKN	5.00	0.576	7.50	7.35	138	135	1	90.0-110	J5	J5	2.02	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4088427-1 06/30/24 20:34

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

L1750459-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750459-01 06/30/24 20:38 • (DUP) R4088427-3 06/30/24 20:39

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Nitrate-Nitrite	0.187	0.187	1	0.000		20

L1750708-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750708-01 06/30/24 21:14 • (DUP) R4088427-7 06/30/24 21:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Nitrate-Nitrite	0.709	0.701	1	1.13		20

Laboratory Control Sample (LCS)

(LCS) R4088427-2 06/30/24 20:35

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Nitrate-Nitrite	2.50	2.27	90.8	90.0-110	

L1750522-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1750522-01 06/30/24 20:51 • (MS) R4088427-4 06/30/24 20:52

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	mg/l	mg/l	mg/l	%		%	
Nitrate-Nitrite	2.50	ND	2.83	113	1	90.0-110	J5

L1750561-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750561-01 06/30/24 20:54 • (MS) R4088427-5 06/30/24 20:56 • (MSD) R4088427-6 06/30/24 20:57

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Nitrate-Nitrite	2.50	ND	2.89	2.84	116	114	1	90.0-110	J5	J5	1.75	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 410.4 [L1750512-01](#)

Method Blank (MB)

(MB) R4087908-1 06/28/24 16:10

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1751035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751035-01 06/28/24 16:17 • (DUP) R4087908-5 06/28/24 16:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	56.0	46.4	1	18.9		20

L1750563-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750563-01 06/28/24 16:16 • (DUP) R4087908-6 06/28/24 16:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	394	403	1	2.29		20

Laboratory Control Sample (LCS)

(LCS) R4087908-2 06/28/24 16:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
COD	500	480	95.9	90.0-110	

L1749578-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749578-12 06/28/24 16:14 • (MS) R4087908-3 06/28/24 16:15 • (MSD) R4087908-4 06/28/24 16:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
COD	500	ND	486	483	93.4	92.7	1	90.0-110			0.735	20

Wet Chemistry by Method 4500Cl G-2011 [L1750512-01](#)

Method Blank (MB)

(MB) R4086781-1 06/26/24 14:50

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1750497-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750497-01 06/26/24 14:56 • (DUP) R4086781-3 06/26/24 14:56

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

Laboratory Control Sample (LCS)

(LCS) R4086781-2 06/26/24 14:55

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Chlorine,residual	1.00	0.956	95.6	85.0-115	

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4087419-1 06/27/24 15:16

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750151-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1750151-04 06/27/24 15:27 • (DUP) R4087419-3 06/27/24 15:29

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

L1750679-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750679-01 06/27/24 16:00 • (DUP) R4087419-6 06/27/24 16:02

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

Laboratory Control Sample (LCS)

(LCS) R4087419-2 06/27/24 15:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Cyanide	0.100	0.0957	95.7	87.1-120	

L1750522-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750522-01 06/27/24 15:53 • (MS) R4087419-4 06/27/24 15:55 • (MSD) R4087419-5 06/27/24 15:56

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 %
Cyanide	0.100	ND	0.0976	0.0982	97.6	98.2	1	90.0-110			0.613	20

Wet Chemistry by Method 4500H+ B-2011

[L1750512-01](#)

L1750512-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750512-01 06/27/24 16:00 • (DUP) R4087457-2 06/27/24 16:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	6.82	6.82	1	0.000		1

Sample Narrative:

OS: 6.82 at 21.5C
DUP: 6.82 at 21.6C

L1750603-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1750603-02 06/27/24 16:00 • (DUP) R4087457-3 06/27/24 16:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	7.09	7.09	1	0.000		1

Sample Narrative:

OS: 7.09 at 21.5C
DUP: 7.09 at 21.5C

Laboratory Control Sample (LCS)

(LCS) R4087457-1 06/27/24 16:00

	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 22C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 4500P E-2011

[L1750512-01](#)

Method Blank (MB)

(MB) R4086793-1 06/26/24 14:41

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

L1750522-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750522-01 06/26/24 14:52 • (DUP) R4086793-3 06/26/24 14:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Phosphate,Ortho	1.08	1.06	2	2.06		20

L1750608-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-19 06/26/24 15:00 • (DUP) R4086793-6 06/26/24 15:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Phosphate,Ortho	0.0560	0.0560	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4086793-2 06/26/24 14:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Phosphate,Ortho	0.245	0.257	105	85.0-115	

L1750608-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750608-11 06/26/24 14:56 • (MS) R4086793-4 06/26/24 14:57 • (MSD) R4086793-5 06/26/24 14:59

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	2.50	0.347	2.36	2.36	80.4	80.6	5	80.0-120			0.212	20

Sample Narrative:

OS: Dilution due to matrix interference

Method Blank (MB)

(MB) R4087129-1 06/27/24 09:36

	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

L1750047-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1750047-03 06/27/24 09:38 • (DUP) R4087129-3 06/27/24 09:39

	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

L1750854-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1750854-06 06/27/24 09:57 • (DUP) R4087129-6 06/27/24 09:58

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Sulfide	ND	ND	1	3.51		20

Laboratory Control Sample (LCS)

(LCS) R4087129-2 06/27/24 09:36

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Sulfide	0.500	0.540	108	85.0-115	

L1750791-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750791-02 06/27/24 09:55 • (MS) R4087129-4 06/27/24 09:55 • (MSD) R4087129-5 06/27/24 09:55

	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	0.500	ND	0.487	0.503	97.4	101	1	80.0-120			3.23	20

Wet Chemistry by Method 4500SO3 B-2011

[L1750512-01](#)

Method Blank (MB)

(MB) R4087653-1 06/28/24 09:20

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Sulfite	U		1.19	3.00

L1749091-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1749091-01 06/28/24 09:20 • (DUP) R4087653-3 06/28/24 09:20

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

Laboratory Control Sample (LCS)

(LCS) R4087653-2 06/28/24 09:20

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Sulfite	20.0	18.5	92.5	85.0-115	

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

(OS) L1750497-01 06/28/24 09:20 • (MS) R4087653-4 06/28/24 09:20 • (MSD) R4087653-5 06/28/24 09:20

	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	%	%		%			%	%
Sulfite	20.0	ND	18.5	18.5	85.0	85.0	1	85.0-115			0.000	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 5210 B-2016

[L1750512-01](#)

Method Blank (MB)

(MB) R4088724-1 07/01/24 09:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
CBOD	0.937	B1	0.200	0.200

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

L1750035-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1750035-02 07/01/24 10:28 • (DUP) R4088724-3 07/01/24 10:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
CBOD	ND	ND	1	0		30

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS)

(LCS) R4088724-2 07/01/24 09:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
CBOD	198	249	126	84.6-115	J+

Laboratory Control Sample (LCS)

(LCS) R4088724-4 07/01/24 10:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
CBOD	198	232	117	84.6-115	J+

Wet Chemistry by Method 5210 B-2016

[L1750512-01](#)

Method Blank (MB)

(MB) R4088725-1 07/01/24 09:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
BOD	0.937	B1	0.200	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750577-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750577-01 07/01/24 11:27 • (DUP) R4088725-3 07/01/24 11:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	17.6	15.8	1	11.3		30

L1750600-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750600-01 07/01/24 11:46 • (DUP) R4088725-4 07/01/24 11:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	32.3	30.6	1	5.15		30

Laboratory Control Sample (LCS)

(LCS) R4088725-2 07/01/24 10:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	216	109	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4088725-5 07/01/24 12:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	201	101	84.6-115	

Wet Chemistry by Method 5310 B-2014

L1750512-01

Method Blank (MB)

(MB) R4092079-2 07/10/24 03:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.133	⬇	0.102	1.00

L1750197-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1750197-03 07/10/24 07:10 • (DUP) R4092079-5 07/10/24 07:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	4.62	4.17	1	10.2		20

L1750818-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1750818-03 07/10/24 11:11 • (DUP) R4092079-6 07/10/24 11:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	ND	ND	1	17.4		20

Laboratory Control Sample (LCS)

(LCS) R4092079-1 07/10/24 03:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	23.5	93.9	85.0-115	

L1750197-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750197-01 07/10/24 05:42 • (MS) R4092079-3 07/10/24 06:05 • (MSD) R4092079-4 07/10/24 06:29

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	5.82	26.7	26.2	83.7	81.5	1	85.0-115	J6	J6	2.00	20

L1750818-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750818-04 07/10/24 11:48 • (MS) R4092079-7 07/10/24 12:11 • (MSD) R4092079-8 07/10/24 12:34

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	ND	24.5	23.9	97.1	94.7	1	85.0-115			2.40	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 5310 B-2014

[L1750512-01](#)

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

[L1750512-01](#)

Method Blank (MB)

(MB) R4087132-1 06/27/24 08:24

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

L1750525-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750525-01 06/27/24 10:21 • (DUP) R4087132-3 06/27/24 10:21

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) R4087132-2 06/27/24 08:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
MBAS	1.00	1.01	101	85.0-115	

L1750525-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750525-01 06/27/24 10:21 • (MS) R4087132-4 06/27/24 10:22 • (MSD) R4087132-5 06/27/24 10:23

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 %
MBAS	1.00	ND	1.08	1.06	108	106	1	85.0-115			1.87	20

Mercury by Method 245.1 [L1750512-01](#)

Method Blank (MB)

(MB) R4087991-1 06/28/24 17:26

	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

Laboratory Control Sample (LCS)

(LCS) R4087991-2 06/28/24 17:28

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Mercury	0.00300	0.00283	94.3	85.0-115	

⁷Gl

⁸Al

⁹Sc

L1750510-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750510-01 06/28/24 17:31 • (MS) R4087991-4 06/28/24 17:36 • (MSD) R4087991-5 06/28/24 17:44

	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	0.00277	0.00271	92.5	90.5	1	70.0-130			2.19	20

Metals (ICP) by Method 200.7

L1750512-01

Method Blank (MB)

(MB) R4089377-1 07/02/24 16:15

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	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

Method Blank (MB)

(MB) R4089392-1 07/02/24 17:52

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) R4089377-2 07/02/24 16:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	10.0	100	85.0-115	
Antimony	1.00	0.998	99.8	85.0-115	
Arsenic	1.00	0.994	99.4	85.0-115	
Barium	1.00	1.02	102	85.0-115	
Beryllium	1.00	1.02	102	85.0-115	
Cadmium	1.00	1.01	101	85.0-115	
Chromium	1.00	1.01	101	85.0-115	
Copper	1.00	1.06	106	85.0-115	
Lead	1.00	0.990	99.0	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4089377-2 07/02/24 16:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Lithium	1.00	0.985	98.5	85.0-115	
Nickel	1.00	0.949	94.9	85.0-115	
Selenium	1.00	1.02	102	85.0-115	
Silver	0.200	0.190	94.8	85.0-115	
Strontium	1.00	1.01	101	85.0-115	
Thallium	1.00	1.04	104	85.0-115	
Zinc	1.00	0.994	99.4	85.0-115	
Phosphorus	1.00	0.975	97.5	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4089392-2 07/02/24 17:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Silicon	1.00	0.977	97.7	85.0-115	

L1751645-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751645-01 07/02/24 16:19 • (MS) R4089377-4 07/02/24 16:22 • (MSD) R4089377-5 07/02/24 16:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum	10.0	1.05	11.3	11.3	103	103	1	70.0-130			0.164	20
Antimony	1.00	ND	1.02	1.02	102	102	1	70.0-130			0.221	20
Arsenic	1.00	0.0121	1.04	1.05	103	103	1	70.0-130			0.461	20
Barium	1.00	0.0487	1.07	1.08	103	103	1	70.0-130			0.175	20
Beryllium	1.00	ND	1.03	1.03	103	103	1	70.0-130			0.439	20
Cadmium	1.00	ND	1.04	1.03	104	103	1	70.0-130			0.386	20
Chromium	1.00	0.0196	1.04	1.03	102	101	1	70.0-130			0.543	20
Copper	1.00	ND	1.09	1.07	109	107	1	70.0-130			1.38	20
Lead	1.00	ND	1.03	1.03	103	103	1	70.0-130			0.650	20
Lithium	1.00	0.106	1.08	1.09	97.5	98.1	1	70.0-130			0.511	20
Nickel	1.00	ND	1.01	1.02	101	102	1	70.0-130			1.16	20
Selenium	1.00	ND	1.11	1.11	111	111	1	70.0-130			0.0191	20
Silver	0.200	ND	0.195	0.193	97.4	96.4	1	70.0-130			0.974	20
Strontium	1.00	0.414	1.43	1.43	102	102	1	70.0-130			0.172	20
Thallium	1.00	ND	1.04	1.06	104	106	1	70.0-130			1.02	20
Zinc	1.00	ND	1.03	1.03	103	103	1	70.0-130			0.259	20
Phosphorus	1.00	0.209	1.25	1.25	104	104	1	70.0-130			0.219	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1751645-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751645-01 07/02/24 17:56 • (MS) R4089392-4 07/02/24 18:00 • (MSD) R4089392-5 07/02/24 18:02

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 %
Silicon	1.00	10.6	13.2	13.4	255	277	1	70.0-130	<u>V</u>	<u>V</u>	1.72	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Metals (ICPMS) by Method 200.8 [L1750512-01](#)

Method Blank (MB)

(MB) R4102893-1 08/05/24 01:09

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Calcium	U		0.112	1.00
Cobalt	U		0.000142	0.00200
Iron	U		0.0447	0.100
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) R4103499-1 08/06/24 23:36

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0177	0.0400

Laboratory Control Sample (LCS)

(LCS) R4102893-2 08/05/24 01:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Calcium	5.00	5.24	105	85.0-115	
Cobalt	0.0500	0.0522	104	85.0-115	
Iron	1.00	1.02	102	85.0-115	
Magnesium	5.00	5.18	104	85.0-115	
Manganese	0.0500	0.0492	98.4	85.0-115	
Molybdenum	0.0500	0.0499	99.7	85.0-115	
Potassium	5.00	5.07	101	85.0-115	
Sodium	5.00	5.35	107	85.0-115	
Tin	0.0500	0.0487	97.5	85.0-115	
Titanium	0.0500	0.0507	101	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4103499-2 08/06/24 23:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Boron	0.0500	0.0465	92.9	85.0-115	

L1749837-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749837-04 08/05/24 01:16 • (MS) R4102893-4 08/05/24 01:23 • (MSD) R4102893-5 08/05/24 01:26

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 %
Calcium	5.00	40.0	45.4	45.7	110	114	1	70.0-130			0.502	20
Cobalt	0.0500	ND	0.0506	0.0511	99.5	101	1	70.0-130			1.07	20
Iron	1.00	0.387	1.37	1.35	98.3	96.5	1	70.0-130			1.34	20
Magnesium	5.00	14.3	19.2	19.4	98.4	102	1	70.0-130			1.02	20
Manganese	0.0500	0.237	0.292	0.280	111	86.3	1	70.0-130			4.37	20
Molybdenum	0.0500	ND	0.0495	0.0505	99.0	101	1	70.0-130			2.00	20
Potassium	5.00	2.03	6.85	7.14	96.5	102	1	70.0-130			4.08	20
Sodium	5.00	27.2	32.8	33.0	111	115	1	70.0-130			0.704	20
Tin	0.0500	ND	0.0499	0.0520	99.8	104	1	70.0-130			4.11	20
Titanium	0.0500	ND	0.0560	0.0614	93.6	104	1	70.0-130			9.27	20

L1749837-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749837-05 08/05/24 01:29 • (MS) R4102893-6 08/05/24 01:33 • (MSD) R4102893-7 08/05/24 01:36

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 %
Calcium	5.00	44.0	49.6	48.3	113	87.4	1	70.0-130			2.59	20
Cobalt	0.0500	0.00217	0.0521	0.0568	99.9	109	1	70.0-130			8.59	20
Iron	1.00	1.31	2.24	2.42	92.5	111	1	70.0-130			7.91	20
Magnesium	5.00	16.5	22.2	21.4	113	96.9	1	70.0-130			3.67	20
Manganese	0.0500	0.771	0.836	0.869	129	196	1	70.0-130		V	3.96	20
Molybdenum	0.0500	ND	0.0508	0.0506	102	101	1	70.0-130			0.285	20
Potassium	5.00	1.96	7.11	7.09	103	103	1	70.0-130			0.309	20
Sodium	5.00	17.6	23.3	22.5	115	98.1	1	70.0-130			3.68	20
Tin	0.0500	ND	0.0493	0.0497	98.7	99.5	1	70.0-130			0.827	20
Titanium	0.0500	ND	0.0585	0.0581	104	103	1	70.0-130			0.809	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Metals (ICPMS) by Method 200.8 [L1750512-01](#)

L1749837-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749837-04 08/06/24 23:48 • (MS) R4103499-4 08/06/24 23:54 • (MSD) R4103499-5 08/06/24 23:57

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	0.0582	0.100	0.0961	84.0	75.9	1	70.0-130			4.16	20

L1749837-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749837-05 08/07/24 00:01 • (MS) R4103499-6 08/07/24 00:04 • (MSD) R4103499-7 08/07/24 00:07

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	0.0476	0.0923	0.0885	89.5	81.8	1	70.0-130			4.24	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC/MS) by Method 624.1

L1750512-01

Method Blank (MB)

(MB) R4089703-2 06/30/24 21:11

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
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	113			80.0-120
(S) 4-Bromofluorobenzene	88.9			80.0-120
(S) 1,2-Dichloroethane-d4	94.3			70.0-130

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R4089703-1 06/30/24 20:14 • (LCSD) R4089703-3 07/01/24 00:49

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	0.00437	0.00406	87.4	81.2	65.0-135			7.35	20
Bromoform	0.00500	0.00462	0.00438	92.4	87.6	70.0-130			5.33	20
Bromomethane	0.00500	0.00482	0.00451	96.4	90.2	15.0-185			6.65	20
Carbon tetrachloride	0.00500	0.00456	0.00414	91.2	82.8	70.0-130			9.66	20
Chlorobenzene	0.00500	0.00558	0.00519	112	104	65.0-135			7.24	20
Chlorodibromomethane	0.00500	0.00480	0.00453	96.0	90.6	70.0-135			5.79	20
Chloroethane	0.00500	0.00533	0.00500	107	100	40.0-160			6.39	20
2-Chloroethyl vinyl ether	0.0250	0.0219	0.0201	87.6	80.4	0.100-225			8.57	20
Chloroform	0.00500	0.00454	0.00426	90.8	85.2	70.0-135			6.36	20
Chloromethane	0.00500	0.00587	0.00504	117	101	0.100-205			15.2	20
1,2-Dichlorobenzene	0.00500	0.00556	0.00545	111	109	65.0-135			2.00	20
1,3-Dichlorobenzene	0.00500	0.00560	0.00506	112	101	70.0-130			10.1	20
1,4-Dichlorobenzene	0.00500	0.00537	0.00499	107	99.8	65.0-135			7.34	20
Dichlorodifluoromethane	0.00500	0.00535	0.00431	107	86.2	49.0-155		J3	21.5	20
1,1-Dichloroethane	0.00500	0.00454	0.00414	90.8	82.8	70.0-130			9.22	20
1,2-Dichloroethane	0.00500	0.00444	0.00434	88.8	86.8	70.0-130			2.28	20
1,1-Dichloroethene	0.00500	0.00433	0.00396	86.6	79.2	50.0-150			8.93	20
trans-1,2-Dichloroethene	0.00500	0.00449	0.00405	89.8	81.0	70.0-130			10.3	20
1,2-Dichloropropane	0.00500	0.00441	0.00416	88.2	83.2	35.0-165			5.83	20
cis-1,3-Dichloropropene	0.00500	0.00396	0.00378	79.2	75.6	25.0-175			4.65	20
trans-1,3-Dichloropropene	0.00500	0.00482	0.00444	96.4	88.8	50.0-150			8.21	20
Ethylbenzene	0.00500	0.00555	0.00502	111	100	60.0-140			10.0	20
Methylene Chloride	0.00500	0.00394	0.00376	78.8	75.2	60.0-140			4.68	20
Methyl tert-butyl ether	0.00500	0.00414	0.00399	82.8	79.8	64.0-123			3.69	20
Naphthalene	0.00500	0.00508	0.00529	102	106	62.0-128			4.05	20
1,1,2,2-Tetrachloroethane	0.00500	0.00488	0.00502	97.6	100	60.0-140			2.83	20
Tetrachloroethene	0.00500	0.00576	0.00507	115	101	70.0-130			12.7	20
1,1,1-Trichloroethane	0.00500	0.00451	0.00423	90.2	84.6	70.0-130			6.41	20
1,1,2-Trichloroethane	0.00500	0.00534	0.00499	107	99.8	70.0-130			6.78	20
Trichloroethene	0.00500	0.00473	0.00423	94.6	84.6	65.0-135			11.2	20
Trichlorofluoromethane	0.00500	0.00475	0.00461	95.0	92.2	50.0-150			2.99	20
Vinyl chloride	0.00500	0.00533	0.00478	107	95.6	5.00-195			10.9	20
o-Xylene	0.00500	0.00535	0.00491	107	98.2	78.0-120			8.58	20
m&p-Xylene	0.0100	0.0110	0.0101	110	101	77.0-120			8.53	20
Xylenes, Total	0.0150	0.0164	0.0150	109	100	77.0-120			8.92	20
(S) Toluene-d8				113	112	80.0-120				
(S) 4-Bromofluorobenzene				95.9	92.9	80.0-120				
(S) 1,2-Dichloroethane-d4				97.9	100	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 624.1 [L1750512-01](#)

Method Blank (MB)

(MB) R4090332-3 07/03/24 17:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
(S) Toluene-d8	104			80.0-120
(S) 4-Bromofluorobenzene	97.5			80.0-120
(S) 1,2-Dichloroethane-d4	101			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4090332-1 07/03/24 16:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00561	112	65.0-135	
Toluene	0.00500	0.00520	104	70.0-130	
(S) Toluene-d8			105	80.0-120	
(S) 4-Bromofluorobenzene			96.0	80.0-120	
(S) 1,2-Dichloroethane-d4			102	70.0-130	

Method Blank (MB)

(MB) R4089490-1 07/02/24 21:46

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	110			70.0-130
(S) 1-chlorooctane	87.3			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R4089490-2 07/02/24 22:07 • (LCSD) R4089490-3 07/02/24 22:29

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	38.6	39.3	92.6	94.2	75.0-125			1.80	20
TPH C12 - C28	41.7	43.5	44.2	104	106	75.0-125			1.60	20
TPH C6 - C35	83.4	82.1	83.5	98.4	100	75.0-125			1.69	20
(S) o-Terphenyl				110	113	70.0-130				
(S) 1-chlorooctane				92.0	93.3	70.0-130				

L1750886-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750886-01 07/02/24 22:50 • (MS) R4089490-4 07/02/24 23:11 • (MSD) R4089490-5 07/02/24 23:33

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 %
TPH C6 - C12	38.7	ND	35.1	36.1	90.7	93.3	1	75.0-125			2.81	20
TPH C12 - C28	38.7	ND	39.4	40.8	102	105	1	75.0-125			3.49	20
TPH C6 - C35	77.3	ND	74.5	76.9	96.4	99.5	1	75.0-125			3.17	20
(S) o-Terphenyl					111	113		70.0-130				
(S) 1-chlorooctane					92.7	92.9		70.0-130				

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

L1750512-01

Method Blank (MB)

(MB) R4088778-2 06/28/24 23:15

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

L1750512-01

Method Blank (MB)

(MB) R4088778-2 06/28/24 23:15

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	80.7			15.0-314
(S) 2-Fluorobiphenyl	82.1			22.0-127
(S) p-Terphenyl-d14	83.5			29.0-141
(S) Phenol-d5	24.3			8.00-424
(S) 2-Fluorophenol	39.8			10.0-120
(S) 2,4,6-Tribromophenol	71.0			10.0-153

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4088778-1 06/28/24 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0412	82.4	47.0-145	
Acenaphthylene	0.0500	0.0423	84.6	33.0-145	
Anthracene	0.0500	0.0421	84.2	27.0-133	
Benzidine	0.100	0.00658	6.58	1.00-120	
Benzo(a)anthracene	0.0500	0.0444	88.8	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0427	85.4	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0430	86.0	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0423	84.6	1.00-219	
Benzo(a)pyrene	0.0500	0.0445	89.0	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0386	77.2	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0463	92.6	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0414	82.8	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0406	81.2	53.0-127	

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

L1750512-01

Laboratory Control Sample (LCS)

(LCS) R4088778-1 06/28/24 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0389	77.8	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0396	79.2	25.0-158	
Chrysene	0.0500	0.0428	85.6	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0449	89.8	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0867	86.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0483	96.6	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0466	93.2	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0464	92.8	37.0-125	N2
Fluoranthene	0.0500	0.0412	82.4	26.0-137	
Fluorene	0.0500	0.0421	84.2	59.0-121	
Hexachlorobenzene	0.0500	0.0367	73.4	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0314	62.8	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0276	55.2	10.0-120	
Hexachloroethane	0.0500	0.0392	78.4	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0423	84.6	1.00-171	
Isophorone	0.0500	0.0337	67.4	21.0-196	
Naphthalene	0.0500	0.0340	68.0	21.0-133	
Nitrobenzene	0.0500	0.0429	85.8	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0210	42.0	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0435	87.0	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0370	74.0	1.00-230	
Phenanthrene	0.0500	0.0418	83.6	54.0-120	
Benzylbutyl phthalate	0.0500	0.0482	96.4	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0463	92.6	8.00-158	
Di-n-butyl phthalate	0.0500	0.0466	93.2	1.00-120	
Diethyl phthalate	0.0500	0.0452	90.4	1.00-120	
Dimethyl phthalate	0.0500	0.0427	85.4	1.00-120	
Di-n-octyl phthalate	0.0500	0.0473	94.6	4.00-146	
Pyrene	0.0500	0.0447	89.4	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0329	65.8	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0382	76.4	22.0-147	
2-Chlorophenol	0.0500	0.0350	70.0	23.0-134	
2,4-Dichlorophenol	0.0500	0.0375	75.0	39.0-135	
2,4-Dimethylphenol	0.0500	0.0429	85.8	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0467	93.4	1.00-181	
2,4-Dinitrophenol	0.0500	0.0468	93.6	1.00-191	
2-Nitrophenol	0.0500	0.0451	90.2	29.0-182	
4-Nitrophenol	0.0500	0.0158	31.6	1.00-132	
Pentachlorophenol	0.0500	0.0336	67.2	14.0-176	
Phenol	0.0500	0.0131	26.2	5.00-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4088778-1 06/28/24 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,6-Trichlorophenol	0.0500	0.0450	90.0	37.0-144	
(S) Nitrobenzene-d5			76.5	15.0-314	
(S) 2-Fluorobiphenyl			78.7	22.0-127	
(S) p-Terphenyl-d14			80.0	29.0-141	
(S) Phenol-d5			23.9	8.00-424	
(S) 2-Fluorophenol			33.6	10.0-120	
(S) 2,4,6-Tribromophenol			78.0	10.0-153	

L1750394-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750394-01 06/29/24 02:29 • (MS) R4088778-3 06/29/24 02:51 • (MSD) R4088778-4 06/29/24 03:12

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 %
Acenaphthene	0.0500	ND	0.0324	0.0316	64.8	63.2	1	47.0-145			2.50	48
Acenaphthylene	0.0500	ND	0.0334	0.0325	66.8	65.0	1	33.0-145			2.73	74
Anthracene	0.0500	ND	0.0363	0.0352	72.6	70.4	1	27.0-133			3.08	66
Benzidine	0.100	ND	ND	ND	0.000	0.000	1	1.00-120	J6	J6	0.000	40
Benzo(a)anthracene	0.0500	ND	0.0391	0.0372	78.2	74.4	1	33.0-143			4.98	53
Benzo(b)fluoranthene	0.0500	ND	0.0373	0.0358	74.6	71.6	1	24.0-159			4.10	71
Benzo(k)fluoranthene	0.0500	ND	0.0370	0.0359	74.0	71.8	1	11.0-162			3.02	63
Benzo(g,h,i)perylene	0.0500	ND	0.0368	0.0354	73.6	70.8	1	1.00-219			3.88	97
Benzo(a)pyrene	0.0500	ND	0.0396	0.0378	79.2	75.6	1	17.0-163			4.65	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0300	0.0283	60.0	56.6	1	33.0-184			5.83	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0374	0.0352	74.8	70.4	1	12.0-158			6.06	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0305	0.0283	61.0	56.6	1	36.0-166			7.48	76
4-Bromophenyl-phenylether	0.0500	ND	0.0338	0.0332	67.6	66.4	1	53.0-127			1.79	43
2-Chloronaphthalene	0.0500	ND	0.0297	0.0286	59.4	57.2	1	60.0-120	J6	J6	3.77	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0324	0.0315	64.8	63.0	1	25.0-158			2.82	61
Chrysene	0.0500	ND	0.0375	0.0359	75.0	71.8	1	17.0-168			4.36	87
Dibenz(a,h)anthracene	0.0500	ND	0.0389	0.0376	77.8	75.2	1	1.00-227			3.40	126
3,3-Dichlorobenzidine	0.100	ND	0.0552	0.0533	55.2	53.3	1	1.00-262			3.50	108
2,4-Dinitrotoluene	0.0500	ND	0.0418	0.0402	83.6	80.4	1	39.0-139			3.90	42
2,6-Dinitrotoluene	0.0500	ND	0.0387	0.0378	77.4	75.6	1	50.0-158			2.35	48
1,2-Diphenylhydrazine	0.0500	ND	0.0380	0.0374	76.0	74.8	1	18.0-156	N2	N2	1.59	34
Fluoranthene	0.0500	ND	0.0361	0.0350	72.2	70.0	1	26.0-137			3.09	66
Fluorene	0.0500	ND	0.0344	0.0339	68.8	67.8	1	59.0-121			1.46	38
Hexachlorobenzene	0.0500	ND	0.0306	0.0303	61.2	60.6	1	1.00-152			0.985	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0199	0.0194	39.8	38.8	1	24.0-120			2.54	62
Hexachlorocyclopentadiene	0.0500	ND	0.0208	0.0195	41.6	39.0	1	10.0-146			6.45	34

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

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

L1750512-01

L1750394-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750394-01 06/29/24 02:29 • (MS) R4088778-3 06/29/24 02:51 • (MSD) R4088778-4 06/29/24 03:12

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 %
Hexachloroethane	0.0500	ND	0.0234	0.0227	46.8	45.4	1	40.0-120			3.04	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0358	0.0345	71.6	69.0	1	1.00-171			3.70	99
Isophorone	0.0500	ND	0.0265	0.0250	53.0	50.0	1	21.0-196			5.83	93
Naphthalene	0.0500	ND	0.0249	0.0235	49.8	47.0	1	21.0-133			5.79	65
Nitrobenzene	0.0500	ND	0.0332	0.0311	66.4	62.2	1	35.0-180			6.53	62
n-Nitrosodimethylamine	0.0500	ND	0.0234	0.0235	46.8	47.0	1	10.0-120			0.426	40
n-Nitrosodiphenylamine	0.0500	ND	0.0370	0.0369	74.0	73.8	1	16.0-160			0.271	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0311	0.0292	62.2	58.4	1	1.00-230			6.30	87
Phenanthrene	0.0500	ND	0.0352	0.0354	70.4	70.8	1	54.0-120			0.567	39
Benzylbutyl phthalate	0.0500	ND	0.0435	0.0417	85.0	81.4	1	1.00-152			4.23	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0414	0.0389	80.2	75.2	1	8.00-158			6.23	82
Di-n-butyl phthalate	0.0500	ND	0.0413	0.0407	82.6	81.4	1	1.00-120			1.46	47
Diethyl phthalate	0.0500	ND	0.0385	0.0374	77.0	74.8	1	1.00-120			2.90	100
Dimethyl phthalate	0.0500	ND	0.0357	0.0341	71.4	68.2	1	1.00-120			4.58	183
Di-n-octyl phthalate	0.0500	ND	0.0417	0.0403	83.4	80.6	1	4.00-146			3.41	69
Pyrene	0.0500	ND	0.0396	0.0377	79.2	75.4	1	52.0-120			4.92	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0226	0.0217	45.2	43.4	1	44.0-142		J6	4.06	50
4-Chloro-3-methylphenol	0.0500	ND	0.0289	0.0277	57.8	55.4	1	22.0-147			4.24	73
2-Chlorophenol	0.0500	ND	0.0249	0.0233	49.8	46.6	1	23.0-134			6.64	61
2,4-Dichlorophenol	0.0500	ND	0.0286	0.0271	57.2	54.2	1	39.0-135			5.39	50
2,4-Dimethylphenol	0.0500	ND	0.0340	0.0318	67.4	63.0	1	32.0-120			6.69	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0390	0.0377	78.0	75.4	1	1.00-181			3.39	203
2,4-Dinitrophenol	0.0500	ND	0.0391	0.0379	78.2	75.8	1	1.00-191			3.12	132
2-Nitrophenol	0.0500	ND	0.0331	0.0312	66.2	62.4	1	29.0-182			5.91	55
4-Nitrophenol	0.0500	ND	0.0152	0.0144	30.4	28.8	1	1.00-132			5.41	131
Pentachlorophenol	0.0500	ND	0.0320	0.0301	64.0	60.2	1	14.0-176			6.12	86
Phenol	0.0500	ND	0.0104	ND	20.8	19.4	1	5.00-120			6.97	64
2,4,6-Trichlorophenol	0.0500	ND	0.0359	0.0344	71.8	68.8	1	37.0-144			4.27	58
(S) Nitrobenzene-d5					60.5	55.5		15.0-314				
(S) 2-Fluorobiphenyl					60.6	59.1		22.0-127				
(S) p-Terphenyl-d14					71.8	66.4		29.0-141				
(S) Phenol-d5					19.7	17.9		8.00-424				
(S) 2-Fluorophenol					27.0	25.8		10.0-120				
(S) 2,4,6-Tribromophenol					68.5	65.0		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
B1	The blank depletion was greater than the recommended maximum depletion of 0.2mg/L.
C6	The initial calibration verification standard (SSCV) associated with this data responded low.
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.
J+	The associated batch QC was outside the upper control limits; associated data has a potential positive bias.
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.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Qualifier	Description
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

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

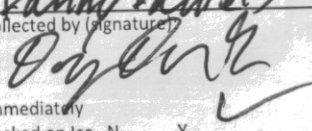
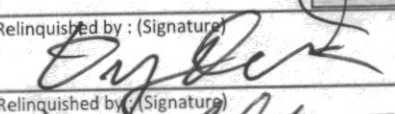
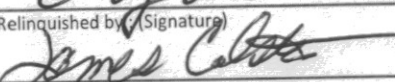
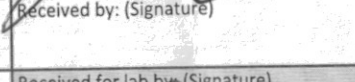
⁶Qc

⁷Gl

⁸Al

⁹Sc

Released to Imaging: 9/6/2024 10:49:42 AM

Company Name/Address: 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 73102-5015		Pres Chk		Analysis / Container / Preservative										Chain of Custody Page 123 of 338	
Report to: Paul Barbour		Email To: paul.barbour@dvn.com;asharma@ccrh2o.com														 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/hubs/pas-standard-terms.pdf	
Project Description: Desalinization Pilot		City/State Collected: Tal, NM		Please Circle: PT MT CT ET													
Phone: 405-228-4308		Client Project # 212C-HN-02821		Lab Project # DEVENEOCOK-EFFLUENT												SDG # U750512	
Collected by (print): Danny Daniels		Site/Facility ID # CCD		P.O. #												Table #	
Collected by (signature): 		Rush? (Lab MUST Be Notified) Same Day _____ Five Day _____ Next Day _____ 5 Day (Rad Only) _____ Two Day _____ 10 Day (Rad Only) _____ Three Day _____		Quote #												Acctnum: DEVENEOCOK Template: T253929 Pregoin: P1083750 PM: 3500 - Jennifer Gambill PB: MV 6/19/24 Shipped Via: FedEX Ground	
Immediately Packed on Ice N _____ Y _____		Date Results Needed		No. of Cntrs												Remarks Sample # (lab only)	
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	NH3 250mlHDPE+NaThioH2SO4	LOGHEX 1L-Clr-WT-HCl	PFAS 1633 500mlHDPE-Trizma	PORTHO 100ml Amb NoPres	RA-228 1L-HDPE-Add-HNO3	SUBGRAVITY 500mlHDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TDS 1L-HDPE-NoPres	TOC 250mlAmb-HCl	TPHTX 40mlAmbHCl-BT-trwtd	
FEED	G	GW		6-25-24	0900	36	X	X		X		X	X	X	X	X	-01
FEED PFAS	G	GW		6-25-24	0900	2			X								
FEED RAD	G	NPW		6-25-24	0900	4				X							
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other _____		Remarks:		pH _____ Temp _____ Flow _____ Other _____												Sample Receipt Checklist COC Seal Present/Intact: ☒ NP 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: 6-25-24		Time: 1530		Received by: (Signature) 		Trip Blank Received: ☒ Yes/No HCL/MeOH TBR		Bottles Received: 42		If preservation required by Login: Date/Time					
Relinquished by: (Signature) 		Date: 6/25/24		Time: 4:00		Received by: (Signature) 		Date: 6-26-24		Time: 0800		Hold:		Condition: OK			

Released to Imaging: 9/6/2024 10:49:42 AM

6/27-NCF-L1750512/L1750513/L1750514 DEVENEOCOK

Shortholds

Time estimate: oh Time spent: oh

Members

 Hailey Robertson (responsible)  Jennifer Gambill

Due on 1 July 2024 8:00 AM for target Done

- ☒ Login Clarification needed
- ☐ Chain of custody is incomplete
- ☐ Please specify Metals requested
- ☐ Please specify TCLP requested
- ☐ Received additional samples not listed on COC
- ☐ Sample IDs on containers do not match IDs on COC
- ☐ Client did not "X" analysis
- ☐ Chain of Custody is missing
- ☐ If no COC: Received by: _____
- ☐ If no COC: Date/Time: _____
- ☐ If no COC: Temp./Cont.Rec./pH: _____
- ☐ If no COC: Carrier: _____
- ☐ If no COC: Tracking #: _____
- ☐ Client informed by call
- ☐ Client informed by Email
- ☐ Client informed by Voicemail
- ☐ Date/Time: _____
- ☐ PM initials: _____
- ☐ Client Contact: _____

Comments

Hailey Robertson 27 June 2024 12:29 PM
Received 8 additional containers that do not appear to match the COC. There are different times and dates of collection on each container. I have attached a picture of the sample containers in question. How would you like to proceed?

Jennifer Gambill 27 June 2024 5:35 PM
We do not need to log these sample containers. This was to be additional volume.

Hailey Robertson 28 June 2024 7:44 AM
I will leave these containers in my NCF in the event we need additional volume. Done



ANALYTICAL REPORT

July 23, 2024

¹ Cp² Tc³ Ss⁴ Cn⁵ Gl⁶ Al⁷ Sc**Devon Energy - Oklahoma City, OK**

Sample Delivery Group: L1750513
Samples Received: 06/26/2024
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 "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

FEED L1750513-01 WW

Collected by
Danny Daniels

Collected date/time
06/25/24 09:00

Received date/time
06/26/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2312477	1	07/08/24 00:00	07/08/24 00:00	-	Indianapolis, IN 46268
Subcontracted Analyses	WG2312495	1	07/02/24 00:00	07/02/24 00:00	ANF	Beaver, WV 25813
Subcontracted Analyses	WG2312580	1	07/11/24 00:00	07/11/24 00:00	-	Green Bay, WI 54302

FEED PFAS L1750513-02 GW

Collected by
Danny Daniels

Collected date/time
06/25/24 09:00

Received date/time
06/26/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2312600	1	07/17/24 00:00	07/17/24 00:00	ANF	East Longmeadow, MA 01028

1Cp

2Tc

3Ss

4Cn

5Gl

6Al

7Sc

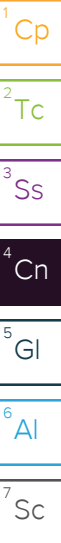
All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples 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

L1750513 -01, -02 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.

1

Cp

2

Tc

3

Ss

4

Cn

5

Gl

6

Al

7

Sc

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 10:49:42 AM

Released to Imaging: 9/6/2024 10:49:42 AM

Released to Imaging: 9/6/2024 10:49:42 AM



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

July 17, 2024

Subout Team
Pace National - TN
12065 Lebanon Road
Mt. Juliet, TN 37122

Project Location: NM
Client Job Number:
Project Number: WG2312600
Laboratory Work Order Number: 24F3946

Enclosed are results of analyses for samples as received by the laboratory on June 27, 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 A. Feliciano". The signature is fluid and cursive, with a large initial "K" and a long, sweeping underline.

Kaitlyn A. Feliciano
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

 24F3946-01 5

Sample Preparation Information 8

QC Data 9

 Semivolatile Organic Compounds by - LC/MS-MS 9

 B379732 9

 Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) 14

 B378608 14

Flag/Qualifier Summary 15

Certifications 16

Chain of Custody/Sample Receipt 18



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: Subout Team

REPORT DATE: 7/17/2024

PURCHASE ORDER NUMBER: L1750513

PROJECT NUMBER: WG2312600

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24F3946

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
FEED PFAS	24F3946-01	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:

D-03

Sample diluted pre-extraction due to elevated TSS pre-analysis result.

Analyte & Samples(s) Qualified:

24F3946-01[FEED 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: 24F3946

Date Received: 6/27/2024

Field Sample #: FEED PFAS

Sampled: 6/25/2024 09:00

Sample ID: 24F3946-01

Sample Matrix: Ground Water

Sample Flags: D-03

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	40	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluoropentanoic acid (PFPeA)	ND	20	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorohexanoic acid (PFHxA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluoroheptanoic acid (PFHpA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorooctanoic acid (PFOA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorononanoic acid (PFNA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorodecanoic acid (PFDA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluoroundecanoic acid (PFUnA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorododecanoic acid (PFDoA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorononanesulfonic acid (PFNS)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	40	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	40	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	40	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
N-MeFOSAA (NMeFOSAA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
N-EtFOSAA (NEtFOSAA)	ND	10	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	100	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	100	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	40	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	40	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
9Cl-PF3ONS (F53B Minor)	ND	40	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
11Cl-PF3OUDS (F53B Major)	ND	40	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	100	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
2H,2H,3H,3H-Perfluorooctanoic acid (FPePA)(5:3FTCA)	ND	500	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	500	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	20	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	20	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS



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

Project Location: NM

Sample Description:

Work Order: 24F3946

Date Received: 6/27/2024

Field Sample #: FEED PFAS

Sampled: 6/25/2024 09:00

Sample ID: 24F3946-01

Sample Matrix: Ground Water

Sample Flags: D-03

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	20	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	20	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:35	AMS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	81.1	10-130						7/12/24 23:35	
13C5-PFPeA	83.7	35-150						7/12/24 23:35	
13C5-PFHxA	85.1	55-150						7/12/24 23:35	
13C4-PFHpA	84.9	55-150						7/12/24 23:35	
13C8-PFOA	81.3	60-140						7/12/24 23:35	
13C9-PFNA	84.5	55-140						7/12/24 23:35	
13C6-PFDA	80.6	50-140						7/12/24 23:35	
13C7-PFUnA	76.1	30-140						7/12/24 23:35	
13C2-PFDoA	73.6	10-150						7/12/24 23:35	
13C2-PFTeDA	78.9	10-130						7/12/24 23:35	
13C3-PFBS	88.6	55-150						7/12/24 23:35	
13C3-PFHxS	85.9	55-150						7/12/24 23:35	
13C8-PFOS	78.2	45-140						7/12/24 23:35	
13C2-4:2FTS	79.0	60-200						7/12/24 23:35	
13C2-6:2FTS	110	60-200						7/12/24 23:35	
13C2-8:2FTS	60.8	50-200						7/12/24 23:35	
13C8-PFOSA	72.1	30-130						7/12/24 23:35	
D3-NMeFOSA	74.3	15-130						7/12/24 23:35	
D5-NEtFOSA	76.6	10-130						7/12/24 23:35	
D3-NMeFOSAA	78.2	45-200						7/12/24 23:35	
D5-NEtFOSAA	77.6	10-200						7/12/24 23:35	
D7-NMeFOSE	80.2	10-150						7/12/24 23:35	
D9-NEtFOSE	73.5	10-150						7/12/24 23:35	
13C3-HFPO-DA	95.4	25-160						7/12/24 23:35	



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

Project Location: NM

Date Received: 6/27/2024

Field Sample #: FEED PFAS

Sample ID: 24F3946-01

Sample Matrix: Ground Water

Sample Description:

Sampled: 6/25/2024 09:00

Work Order: 24F3946

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	590	10	mg/L	1		Draft Method 1633	6/28/24	6/28/24 10:42	LL



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

Sample Extraction Data

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24F3946-01 [FEED PFAS]	B378608	50.0	06/28/24

Prep Method:Draft Method 1633 Analytical Method:Draft Method 1633 Leachates were extracted on 6/28/2024 per NO PREP in Batch B378608

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24F3946-01 [FEED PFAS]	B379732	49.7	5.00	07/11/24



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
Batch B379732 - Draft Method 1633										
Blank (B379732-BLK1)										
				Prepared: 07/11/24 Analyzed: 07/12/24						
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.97	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.97	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.97	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.97	ng/L							
Perfluorodecanoic acid (PFDA)	ND	0.97	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.97	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.97	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.97	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.97	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.97	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.97	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.97	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.97	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.97	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	0.97	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.97	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.97	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.97	ng/L							
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.97	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.97	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.97	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.97	ng/L							
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	9.7	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.7	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.7	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	ND	1.9	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L							
Surrogate: 13C4-PFBA	91.6		ng/L	97.3		94.1	10-130			



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B379732 - Draft Method 1633

Blank (B379732-BLK1)

Prepared: 07/11/24 Analyzed: 07/12/24

Surrogate: 13C5-PFPeA	45.4		ng/L	48.6		93.3	35-150			
Surrogate: 13C5-PFHxA	22.8		ng/L	24.3		93.7	55-150			
Surrogate: 13C4-PFHpA	22.0		ng/L	24.3		90.4	55-150			
Surrogate: 13C8-PFOA	23.3		ng/L	24.3		95.6	60-140			
Surrogate: 13C9-PFNA	11.8		ng/L	12.2		97.4	55-140			
Surrogate: 13C6-PFDA	11.6		ng/L	12.2		95.8	50-140			
Surrogate: 13C7-PFUnA	10.8		ng/L	12.2		88.8	30-140			
Surrogate: 13C2-PFDoA	10.2		ng/L	12.2		84.2	10-150			
Surrogate: 13C2-PFTeDA	10.3		ng/L	12.2		84.4	10-130			
Surrogate: 13C3-PFBS	24.2		ng/L	24.3		99.4	55-150			
Surrogate: 13C3-PFHxS	22.9		ng/L	24.3		94.0	55-150			
Surrogate: 13C8-PFOS	22.3		ng/L	24.3		91.7	45-140			
Surrogate: 13C2-4:2FTS	50.5		ng/L	48.6		104	60-200			
Surrogate: 13C2-6:2FTS	45.2		ng/L	48.6		92.9	60-200			
Surrogate: 13C2-8:2FTS	40.6		ng/L	48.6		83.4	50-200			
Surrogate: 13C8-PFOA	21.4		ng/L	24.3		88.1	30-130			
Surrogate: D3-NMeFOSA	19.5		ng/L	24.3		80.0	15-130			
Surrogate: D5-NEtFOSA	21.1		ng/L	24.3		86.7	10-130			
Surrogate: D3-NMeFOSAA	48.3		ng/L	48.6		99.4	45-200			
Surrogate: D5-NEtFOSAA	43.3		ng/L	48.6		89.0	10-200			
Surrogate: D7-NMeFOSE	202		ng/L	243		83.0	10-150			
Surrogate: D9-NEtFOSE	209		ng/L	243		85.8	10-150			
Surrogate: 13C3-HFPO-DA	89.9		ng/L	97.3		92.5	25-160			

LCS (B379732-BS1)

Prepared: 07/11/24 Analyzed: 07/12/24

Perfluorobutanoic acid (PFBA)	90.6	3.9	ng/L	94.2		96.2	58-148			
Perfluoropentanoic acid (PFPeA)	45.3	2.0	ng/L	47.1		96.2	54-152			
Perfluorohexanoic acid (PFHxA)	22.6	0.98	ng/L	23.6		96.0	55-152			
Perfluoroheptanoic acid (PFHpA)	22.6	0.98	ng/L	23.6		95.9	54-154			
Perfluorooctanoic acid (PFOA)	22.2	0.98	ng/L	23.6		94.1	52-161			
Perfluorononanoic acid (PFNA)	21.5	0.98	ng/L	23.6		91.3	59-149			
Perfluorodecanoic acid (PFDA)	23.4	0.98	ng/L	23.6		99.1	52-147			
Perfluoroundecanoic acid (PFUnA)	22.8	0.98	ng/L	23.6		96.7	48-159			
Perfluorododecanoic acid (PFDoA)	23.6	0.98	ng/L	23.6		100	64-142			
Perfluorotridecanoic acid (PFTTrDA)	22.8	0.98	ng/L	23.6		96.9	49-148			
Perfluorotetradecanoic acid (PFTeDA)	22.6	0.98	ng/L	23.6		95.8	47-161			
Perfluorobutanesulfonic acid (PFBS)	19.8	0.98	ng/L	20.9		94.9	62-144			
Perfluoropentanesulfonic acid (PFPeS)	20.3	0.98	ng/L	22.1		91.8	59-151			
Perfluorohexanesulfonic acid (PFHxS)	23.8	0.98	ng/L	21.6		110	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	21.7	0.98	ng/L	22.4		96.7	55-152			
Perfluorooctanesulfonic acid (PFOS)	26.0	0.98	ng/L	21.9		119	58-149			
Perfluorononanesulfonic acid (PFNS)	21.2	0.98	ng/L	22.7		93.4	52-148			
Perfluorodecanesulfonic acid (PFDS)	20.5	0.98	ng/L	22.7		90.1	51-147			
Perfluorododecanesulfonic acid (PFDoS)	20.1	0.98	ng/L	22.9		87.7	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	92.0	3.9	ng/L	88.4		104	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	95.1	3.9	ng/L	89.5		106	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	91.3	3.9	ng/L	90.7		101	63-152			
Perfluorooctanesulfonamide (PFOSA)	22.3	0.98	ng/L	23.6		94.7	61-148			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	22.2	0.98	ng/L	23.6		94.4	63-145			



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B379732 - Draft Method 1633

LCS (B379732-BS1)

Prepared: 07/11/24 Analyzed: 07/12/24

N-ethyl perfluorooctanesulfonamide (NEtFOSA)	21.6	0.98	ng/L	23.6		91.9	65-139			
N-MeFOSAA (NMeFOSAA)	27.0	0.98	ng/L	23.6		115	58-144			
N-EtFOSAA (NEtFOSAA)	26.5	0.98	ng/L	23.6		112	59-146			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	234	9.8	ng/L	236		99.4	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	237	9.8	ng/L	236		101	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	92.1	3.9	ng/L	94.2		97.7	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	86.7	3.9	ng/L	88.9		97.5	68-146			
9Cl-PF3ONS (F53B Minor)	79.2	3.9	ng/L	88.4		89.7	56-156			
11Cl-PF3OUDS (F53B Major)	78.2	3.9	ng/L	88.9		88.0	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	219	9.8	ng/L	236		92.8	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1100	49	ng/L	1180		93.5	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	996	49	ng/L	1180		84.6	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	40.3	2.0	ng/L	41.9		96.1	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	45.8	2.0	ng/L	47.1		97.3	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	45.6	2.0	ng/L	47.1		96.7	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	49.2	2.0	ng/L	47.1		104	48-161			
Surrogate: 13C4-PFBA	86.2		ng/L	98.2		87.8	10-130			
Surrogate: 13C5-PFPeA	42.8		ng/L	49.1		87.2	35-150			
Surrogate: 13C5-PFHxA	21.6		ng/L	24.5		88.0	55-150			
Surrogate: 13C4-PFHpA	21.1		ng/L	24.5		85.8	55-150			
Surrogate: 13C8-PFOA	21.8		ng/L	24.5		88.8	60-140			
Surrogate: 13C9-PFNA	11.5		ng/L	12.3		93.5	55-140			
Surrogate: 13C6-PFDA	10.5		ng/L	12.3		85.9	50-140			
Surrogate: 13C7-PFUnA	9.75		ng/L	12.3		79.4	30-140			
Surrogate: 13C2-PFDoA	9.51		ng/L	12.3		77.5	10-150			
Surrogate: 13C2-PFTeDA	9.29		ng/L	12.3		75.7	10-130			
Surrogate: 13C3-PFBS	22.6		ng/L	24.5		92.1	55-150			
Surrogate: 13C3-PFHxS	21.9		ng/L	24.5		89.3	55-150			
Surrogate: 13C8-PFOS	22.1		ng/L	24.5		90.0	45-140			
Surrogate: 13C2-4:2FTS	42.6		ng/L	49.1		86.7	60-200			
Surrogate: 13C2-6:2FTS	41.1		ng/L	49.1		83.7	60-200			
Surrogate: 13C2-8:2FTS	35.7		ng/L	49.1		72.8	50-200			
Surrogate: 13C8-PFOSA	20.7		ng/L	24.5		84.2	30-130			
Surrogate: D3-NMeFOSA	18.5		ng/L	24.5		75.6	15-130			
Surrogate: D5-NEtFOSA	19.4		ng/L	24.5		78.9	10-130			
Surrogate: D3-NMeFOSAA	45.5		ng/L	49.1		92.7	45-200			
Surrogate: D5-NEtFOSAA	40.9		ng/L	49.1		83.4	10-200			
Surrogate: D7-NMeFOSE	193		ng/L	245		78.7	10-150			
Surrogate: D9-NEtFOSE	190		ng/L	245		77.2	10-150			
Surrogate: 13C3-HFPO-DA	89.2		ng/L	98.2		90.9	25-160			

MRL Check (B379732-MRL1)

Prepared: 07/11/24 Analyzed: 07/12/24

Perfluorobutanoic acid (PFBA)	7.69	4.0	ng/L	7.92		97.2	44-157			
Perfluoropentanoic acid (PFPeA)	3.82	2.0	ng/L	3.96		96.6	57-148			



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B379732 - Draft Method 1633

MRL Check (B379732-MRL1)

Prepared: 07/11/24 Analyzed: 07/12/24

Perfluorohexanoic acid (PFHxA)	2.02	0.99	ng/L	1.98		102	62-149			
Perfluoroheptanoic acid (PFHpA)	1.86	0.99	ng/L	1.98		94.1	56-150			
Perfluorooctanoic acid (PFOA)	2.19	0.99	ng/L	1.98		111	57-161			
Perfluorononanoic acid (PFNA)	1.92	0.99	ng/L	1.98		96.9	53-157			
Perfluorodecanoic acid (PFDA)	2.05	0.99	ng/L	1.98		104	43-158			
Perfluoroundecanoic acid (PFUnA)	1.78	0.99	ng/L	1.98		90.0	50-155			
Perfluorododecanoic acid (PFDoA)	1.95	0.99	ng/L	1.98		98.5	60-141			
Perfluorotridecanoic acid (PFTrDA)	1.92	0.99	ng/L	1.98		96.8	52-140			
Perfluorotetradecanoic acid (PFTeDA)	1.84	0.99	ng/L	1.98		93.1	52-156			
Perfluorobutanesulfonic acid (PFBS)	1.70	0.99	ng/L	1.76		96.9	63-145			
Perfluoropentanesulfonic acid (PFPeS)	1.69	0.99	ng/L	1.86		90.9	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.35	0.99	ng/L	1.81		130	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	1.83	0.99	ng/L	1.88		97.0	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.32	0.99	ng/L	1.84		127	43-162			
Perfluorononanesulfonic acid (PFNS)	1.90	0.99	ng/L	1.90		99.9	46-151			
Perfluorodecanesulfonic acid (PFDS)	1.70	0.99	ng/L	1.91		89.2	50-144			
Perfluorododecanesulfonic acid (PFDoS)	1.77	0.99	ng/L	1.92		92.0	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	7.69	4.0	ng/L	7.42		104	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	7.67	4.0	ng/L	7.52		102	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	7.64	4.0	ng/L	7.62		100	46-165			
Perfluorooctanesulfonamide (PFOSA)	1.98	0.99	ng/L	1.98		100	47-163			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	2.06	0.99	ng/L	1.98		104	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.96	0.99	ng/L	1.98		99.0	49-156			
N-MeFOSAA (NMeFOSAA)	2.62	0.99	ng/L	1.98		132	32-160			
N-EtFOSAA (NEtFOSAA)	2.34	0.99	ng/L	1.98		118	51-154			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	19.8	9.9	ng/L	19.8		100	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	20.2	9.9	ng/L	19.8		102	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.47	4.0	ng/L	7.92		94.3	58-154			
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	6.67	4.0	ng/L	7.47		89.2	61-148			
9Cl-PF3ONS (F53B Minor)	6.41	4.0	ng/L	7.42		86.3	44-167			
11Cl-PF3OUdS (F53B Major)	6.11	4.0	ng/L	7.47		81.8	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	16.4	9.9	ng/L	19.8		82.8	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	83.3	49	ng/L	98.9		84.2	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	78.6	49	ng/L	98.9		79.4	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	2.93	2.0	ng/L	3.52		83.2	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.43	2.0	ng/L	3.96		86.7	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.41	2.0	ng/L	3.96		86.2	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.67	2.0	ng/L	3.96		92.7	47-160			
Surrogate: 13C4-PFBA	88.8		ng/L	98.9		89.8	10-130			
Surrogate: 13C5-PFPeA	43.5		ng/L	49.5		87.9	35-150			
Surrogate: 13C5-PFHxA	21.6		ng/L	24.7		87.4	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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B379732 - Draft Method 1633

MRL Check (B379732-MRL1)

Prepared: 07/11/24 Analyzed: 07/12/24

Surrogate: 13C4-PFHpA	21.4		ng/L	24.7		86.5	55-150			
Surrogate: 13C8-PFOA	22.5		ng/L	24.7		91.1	60-140			
Surrogate: 13C9-PFNA	11.3		ng/L	12.4		91.5	55-140			
Surrogate: 13C6-PFDA	11.1		ng/L	12.4		89.4	50-140			
Surrogate: 13C7-PFUnA	10.1		ng/L	12.4		81.6	30-140			
Surrogate: 13C2-PFDoA	9.90		ng/L	12.4		80.0	10-150			
Surrogate: 13C2-PFTeDA	9.76		ng/L	12.4		78.9	10-130			
Surrogate: 13C3-PFBS	23.4		ng/L	24.7		94.4	55-150			
Surrogate: 13C3-PFHxS	22.3		ng/L	24.7		90.2	55-150			
Surrogate: 13C8-PFOS	21.9		ng/L	24.7		88.4	45-140			
Surrogate: 13C2-4:2FTS	48.2		ng/L	49.5		97.4	60-200			
Surrogate: 13C2-6:2FTS	45.8		ng/L	49.5		92.6	60-200			
Surrogate: 13C2-8:2FTS	41.0		ng/L	49.5		83.0	50-200			
Surrogate: 13C8-PFOSA	20.3		ng/L	24.7		82.0	30-130			
Surrogate: D3-NMeFOSA	18.5		ng/L	24.7		74.8	15-130			
Surrogate: D5-NEtFOSA	19.5		ng/L	24.7		78.7	10-130			
Surrogate: D3-NMeFOSAA	44.3		ng/L	49.5		89.5	45-200			
Surrogate: D5-NEtFOSAA	41.8		ng/L	49.5		84.5	10-200			
Surrogate: D7-NMeFOSE	193		ng/L	247		77.9	10-150			
Surrogate: D9-NEtFOSE	190		ng/L	247		76.6	10-150			
Surrogate: 13C3-HFPO-DA	91.7		ng/L	98.9		92.6	25-160			



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

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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B378608 - Draft Method 1633

Blank (B378608-BLK1)

Prepared & Analyzed: 06/28/24

Total Suspended Solids	ND	5.0	mg/L
------------------------	----	-----	------

LCS (B378608-BS1)

Prepared & Analyzed: 06/28/24

Total Suspended Solids	221	5.0	mg/L	200	110	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-03	Sample diluted pre-extraction due to elevated TSS pre-analysis result.



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

24F3946

Sub-Contract Chain of Custody

Batch Date/Time: 06/26/24 12:52

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: WG2312600

Email: MTJLSuboutTeam@pacelabs.com

Results Due Date: 07/25/24

ESC Purchase Order #: L1750513

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
FEED PFAS	GW	NM	06/25/24 09:00	SUBPFAS1633	2. L1750513-02	

Relinquished by: [Signature] Date 6-26-24Received by: GMU S.6 Date 6/27/24 441

Relinquished by: _____ Date _____

Received by: _____ Date _____



FedEx® Tracking



DELIVERED

Thursday

6/27/24 at 9:41 AM

Signed for by: L.ARROYO

↓ Obtain proof of delivery

DELIVERY STATUS

Delivered

Report missing package

TRACKING ID

746408516624

FROM

MOUNT JULIET, TN US

Label Created

6/26/24 5:52 PM

NASHVILLE, TN

6/26/24 5:59 PM

ON THE WAY

WINDSOR LOCKS, CT

6/27/24 8:08 AM

OUT FOR DELIVERY

WINDSOR LOCKS, CT

6/27/24 8:16 AM

DELIVERED

East Longmeadow, MA US

Delivered

6/27/24 at 9:41 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.

MORE OPTIONS



DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Log In Back-Sheet

Client Pace-TN
 Project NA
 MCP/RCP Required no
 Deliverable Package Requirement no
 Location NM
 PWSID# (When Applicable) NA
 Arrival Method:
 Courier ☐ Fed Ex ☒ Walk In ☐ Other ☐
 Received By / Date / Time 92 6/27/24 941
 Back-Sheet By / Date / Time 92 6/27/24 1615
 Temperature Method gun # 6
 WV samples: Yes (see note*) / No (follow normal procedure)
 Temp < 6° C Actual Temperature 5.6
 Rush Samples: Yes ☒ No ☐ Notify
 Short Hold: Yes ☒ No ☐ Notify

Notes regarding Samples/COC outside of SOP:

Log In Sample Receipt Checklist – (Rejection Criteria Using
 – 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 <u>6/26/24</u>	☒	☐
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.

Sample	Soils Jars				Ambers				Plastics							VOA Vials						Other / Fill in			
	(Circle Amb/Clear)				1 Liter				250ml				500ml			Unpreserved	HCl	MeOH	D.I. Water	BiSulfate	Col/Bact				
1	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									
13																									
14																									
15																									
16																									
17																									
18																									
19																									
20																									

500 ml Plastic Trizma

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Page 2



July 01, 2024

Subout Team
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1750513
Pace Project No.: 30695779

Dear Subout Team:

Enclosed are the analytical results for sample(s) received by the laboratory on June 27, 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: L1750513

Pace Project No.: 30695779

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



SAMPLE SUMMARY

Project: L1750513

Pace Project No.: 30695779

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30695779001	L1750513-01	Water	06/25/24 09:00	06/27/24 10:25

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



SAMPLE ANALYTE COUNT

Project: L1750513

Pace Project No.: 30695779

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30695779001	L1750513-01	SM 5910B-11	SDW	1	PASI-BV

PASI-BV = Pace Analytical Services - Beaver

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



ANALYTICAL RESULTS

Project: L1750513

Pace Project No.: 30695779

Sample: L1750513-01		Lab ID: 30695779001		Collected: 06/25/24 09:00		Received: 06/27/24 10:25		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		0.22	cm-1	0.0030	1		06/28/24 14:48		1c,H3,N2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/01/2024 02:34 PM

Page 5 of 10

**QUALITY CONTROL DATA**

Project: L1750513

Pace Project No.: 30695779

QC Batch: 679000

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: 30695779001

METHOD BLANK: 3306056

Matrix: Water

Associated Lab Samples: 30695779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
U254 UV Absorbing Organic	cm-1	ND	0.0030	06/28/24 14:41	N2

LABORATORY CONTROL SAMPLE: 3306057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
U254 UV Absorbing Organic	cm-1	0.072	0.078	108	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/01/2024 02:34 PM

Page 6 of 10



QUALIFIERS

Project: L1750513
 Pace Project No.: 30695779

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

1c	Sample Matrix behaves abnormal to typical samples
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

This report shall not be reproduced, except in full,
 without the written consent of Pace Analytical Services, LLC.

Date: 07/01/2024 02:34 PM

Page 7 of 10



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1750513
Pace Project No.: 30695779

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30695779001	L1750513-01	SM 5910B-11	679000		

REPORT OF LABORATORY ANALYSIS

Sub-Contract Chain of Custody

Batch Date/Time: 06/26/24 12:33

Sub-Contract Lab: PACEBWV

Address: 225 Industrial Park Road

City/State: Beaver, WV 25813

Contact:

Nikayla Yasurek@pacelabs.com

Owner Lab: PACEMTJL

Address: 12065 Lebanon Rd.

City/State: Mt. Juliet, TN 37122

Phone: (615) 773-9756

Fax: (615) 758-5859

WO: WG2312495

Email: MTJLSuboutTeam@pacelabs.com

Results Due Date: 07/11/24

ESC Purchase Order #: L1750513

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
FEED	WW	NM	06/25/24 09:00	UV-254	2. L1750513-01	UV-254

Relinquished by: *Rufus Colon* Date *6/26/24*Received by: *Rufus Colon* Date *6/27/24 1025*

Relinquished by: _____ Date _____

Received by: _____ Date _____

WO#: 30695779



30695779

WO#: 30695779

DC#_Title: ENV-FRM-BEAV-0058 v03_Pace WV Sample Condition Upon Receipt (\$
Effective Date: 2/8/2023

PM: NMY Due Date: 07/12/24
CLIENT: ESC

LIMS30 Lab Sample Condition Upon Receipt (West Virginia)

Put label here prior to scanning

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 6/27/24
---------------	--

	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: NW			
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	RC		Date: 6/27/24
Tests not preserved:			
Headspace in VOA Vials:	☒	☐	☐
Trip Blank Present:	☒	☐	☐
Initial when completed	RC		Date: 6/27/24

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

Jimmy Huckaba
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: Desalination Pilot/WG2312477
Pace Project No.: 50376928

Dear Jimmy Huckaba:

Enclosed are the analytical results for sample(s) received by the laboratory on June 27, 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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Desalination Pilot/WG2312477

Pace Project No.: 50376928

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



SAMPLE SUMMARY

Project: Desalination Pilot/WG2312477
Pace Project No.: 50376928

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50376928001	FEED	Water	06/25/24 09:00	06/27/24 08:55

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: Desalination Pilot/WG2312477

Pace Project No.: 50376928

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50376928001	FEED	EPA 9056	ADM	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



SUMMARY OF DETECTION

Project: Desalination Pilot/WG2312477
Pace Project No.: 50376928

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50376928001	FEED					
EPA 9056	Iodide	81.7	mg/L	50.0	07/06/24 15:02	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



ANALYTICAL RESULTS

Project: Desalination Pilot/WG2312477
Pace Project No.: 50376928

Sample: FEED		Lab ID: 50376928001		Collected: 06/25/24 09:00		Received: 06/27/24 08:55		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	81.7	mg/L	50.0	100			07/06/24 15:02		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



QUALITY CONTROL DATA

Project: Desalination Pilot/WG2312477

Pace Project No.: 50376928

QC Batch: 798157

Analysis Method: EPA 9056

QC Batch Method: EPA 9056

Analysis Description: 9056 Iodide by IC

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50376928001

METHOD BLANK: 3651992

Matrix: Water

Associated Lab Samples: 50376928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iodide	mg/L	ND	0.50	07/05/24 17:42	

LABORATORY CONTROL SAMPLE: 3651993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iodide	mg/L	5	5.7	114	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3655427 3655428

Parameter	Units	50376768001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iodide	mg/L	ND	5	5	5.8	5.7	115	113	80-120	2	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/08/2024 10:51 AM

Page 7 of 12



QUALIFIERS

Project: Desalination Pilot/WG2312477

Pace Project No.: 50376928

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/08/2024 10:51 AM

Page 8 of 12



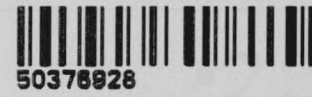
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Desalination Pilot/WG2312477
Pace Project No.: 50376928

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50376928001	FEED	EPA 9056	798157		

REPORT OF LABORATORY ANALYSIS

WO#: 50376928



Sub-Contract Chain of Custody

Batch Date/Time: 06/26/24 10:56
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: WG2312477
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/11/24
ESC Purchase Order #: L1750513
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
FEED	WW	NM	06/25/24 09:00	Iodide	2. L1750513-01	

Relinquished by: [Signature] Date: 6-26-24
Recieved by: Fedex Date:
Relinquished by: Fedex Date: 8:55 6/27/24
Recieved by: [Signature] Date: 8:55 6/27/24

F-IN-Q-290-rev.26, 30Apr2024



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 6/27/24 16:57 JG

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 A B C D E F G H

4. Cooler Temperature(s): 1.1/1.0
(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: HNO ₃ (<2) H ₂ SO ₄ (<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 Sent
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	WGFL	WGKU	BG1U	MeOH (only)	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS						PLASTIC										OTHER				Matrix							
				SBS					R	DG9H	VG9H	AG0U	AG1H	AG1U	AG3U	AG3S	AG3SF	AG3B	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H		CG3F	Syringe Kit	994V	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zr Ac >9
				DI																																

1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	CG3H	250mL HCl Clear Glass
DG9T	40mL Na Thio amber vial	CG3U	250mL Unpres Clear Glass
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass
BG1S	1L H2SO4 clear glass	AG3B	250mL NaOH amber glass

Plastic

NT3U	Non Teflon 250mL unpreserved plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe



July 11, 2024

MTJLSuboutTeam
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1750513 WG2312580
Pace Project No.: 40280338

Dear MTJLSuboutTeam:

Enclosed are the analytical results for sample(s) received by the laboratory on June 27, 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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



CERTIFICATIONS

Project: L1750513 WG2312580

Pace Project No.: 40280338

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: L1750513 WG2312580

Pace Project No.: 40280338

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40280338001	FEED	Water	06/25/24 09:00	06/27/24 09:45

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: L1750513 WG2312580

Pace Project No.: 40280338

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40280338001	FEED	SM 2710F	HML	2

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



ANALYTICAL RESULTS

Project: L1750513 WG2312580
Pace Project No.: 40280338

Sample: FEED Lab ID: 40280338001 Collected: 06/25/24 09:00 Received: 06/27/24 09:45 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	1.1	g/mL			1		07/09/24 16:42		
Specific Gravity	1.1	no units			1		07/09/24 16:42		

REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL DATA

Project: L1750513 WG2312580

Pace Project No.: 40280338

QC Batch: 479113

Analysis Method: SM 2710F

QC Batch Method: SM 2710F

Analysis Description: Specific Gravity /Bulk Density

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40280338001

SAMPLE DUPLICATE: 2743769

Parameter	Units	40280338001 Result	Dup Result	RPD	Max RPD	Qualifiers
Density	g/mL	1.1	1.1	0	20	
Specific Gravity	no units	1.1	1.1	0	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/11/2024 08:25 AM

Page 6 of 11



QUALIFIERS

Project: L1750513 WG2312580

Pace Project No.: 40280338

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/11/2024 08:25 AM

Page 7 of 11



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1750513 WG2312580
Pace Project No.: 40280338

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40280338001	FEED	SM 2710F	479113		

REPORT OF LABORATORY ANALYSIS

Date: 07/11/2024 08:25 AM

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

40280338

Sub-Contract Chain of Custody

Batch Date/Time: 06/26/24 12:45
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: WG2312580
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/11/24
ESC Purchase Order #: L1750513
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
FEED	WW	NM	06/25/24 09:00	Specific Gravity	2. L1750513-01	

Relinquished by: [Signature] Date 6-26-24

Received by: _____ Date _____

Relinquished by: Fedex Date 6/27/24 0945

Received by: [Signature] Date 6/27/24 0945

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 # 40280338

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) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 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 H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	500 mL poly unpres.
						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 National

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Walto
☐ Client ☐ Pace Other: _____

Tracking #: 7464 0851 6635Custody 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 / ICorr. 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: 9/6/24 / Initials: mtLabeled By Initials: SKW

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>IRWD mt 9/6/24</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 logi

Page 2 of 2



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: L1750524
Samples Received: 06/26/2024
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
POST CARBON FILTER RAD L1750524-01	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

POST CARBON FILTER RAD L1750524-01 Non-Potable Water

Collected by
Danny Daniels

Collected date/time
06/25/24 08:10

Received date/time
06/26/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG2312794	1	06/27/24 11:08	07/10/24 17:59	ALG	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2313415	1	06/28/24 19:23	07/16/24 17:59	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	WG2313141	1	06/28/24 08:17	07/05/24 11:55	ZRG	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

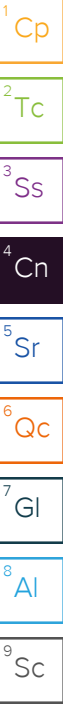
⁸Al

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



Collected date/time: 06/25/24 08:10

L1750524

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	13.4		2.19	2.20	1.30	0.533	07/10/2024 17:59	WG2312794
GROSS BETA	8.97		1.81	1.82	1.82	0.863	07/10/2024 17:59	WG2312794

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	-0.304	U	0.220	0.325	0.450	0.237	07/16/2024 17:59	WG2313415
(T) Barium	117					30.0-143	07/16/2024 17:59	WG2313415
(T) Yttrium	90.5					30.0-136	07/16/2024 17:59	WG2313415

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	0.439		0.255	0.397	0.171	0.142	07/24/2024 22:24	WG2327890
URANIUM-235	0.169	J	0.166	0.309	0.171	0.142	07/24/2024 22:24	WG2327890
URANIUM-238	0.179		0.166	0.309	0.171	0.142	07/24/2024 22:24	WG2327890
(T) URANIUM-232	87.0					30.0-110	07/24/2024 22:24	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	2.72		0.627	0.759	0.173	0.143	07/05/2024 11:55	WG2313141
(T) Barium-133	83.8					30.0-143	07/05/2024 11:55	WG2313141

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Radiochemistry by Method 900

L1750524-01

Method Blank (MB)

(MB) R4092238-1 07/10/24 14:21

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
GROSS ALPHA	-0.236	U	0.385	0.664	0.278
GROSS BETA	-0.423	U	0.976	1.36	0.647

L1750527-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750527-01 07/10/24 17:59 • (DUP) R4092238-4 07/10/24 14:21

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	0.738	0.519	0.640	0.266	-0.0849	0.382	0.622	0.259	200	1.28	U	20	3
GROSS BETA	0.282	1.01	1.35	0.640	0.146	0.969	1.32	0.624	63.5	0.0972	U	20	3

Laboratory Control Sample (LCS)

(LCS) R4092238-2 07/10/24 14:21

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	14.6	97.6	80.0-120	
GROSS BETA	40.2	41.0	102	80.0-120	

L1750276-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1750276-01 07/10/24 14:21 • (MS) R4092238-3 07/10/24 14:21

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
GROSS ALPHA	15.8	0.761	13.5	80.3	1	70.0-130	
GROSS BETA	42.3	2.32	44.8	101	1	70.0-130	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

L1750524-01

Method Blank (MB)

(MB) R4098628-1 07/16/24 17:59

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.282	<u>U</u>	0.151	0.314	0.166
(T) Barium	132		132		
(T) Yttrium	81.0		81.0		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750527-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750527-01 07/16/24 17:59 • (DUP) R4098628-3 07/16/24 17:59

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	-0.576	0.293	0.608	0.320	0.0865	0.275	0.546	0.288	200	1.65	<u>U</u>	20	3
(T) Barium	130				115	115							
(T) Yttrium	92.9				104	104							

Laboratory Control Sample (LCS)

(LCS) R4098628-2 07/16/24 17:59

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.16	103	80.0-120	
(T) Barium			110		
(T) Yttrium			98.0		

L1750694-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750694-04 07/25/24 13:54 • (MS) R4098628-4 07/25/24 13:54 • (MSD) R4098628-5 07/25/24 13:54

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	6.85	20.5	23.9	81.7	102	1	70.0-130			15.3		20
(T) Barium		76.0			72.3	83.6							
(T) Yttrium		100			105	86.5							

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

Method Blank (MB)

(MB) R4092362-1 07/05/24 11:55

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0135	<u>U</u>	0.0444	0.0759	0.0462
(T) Barium-133	64.2		64.2		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4092362-7 07/05/24 11:55

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.75	95.0	75.0-125	
(T) Barium-133			65.1		

L1750694-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750694-04 07/05/24 11:55 • (MS) R4092362-3 07/05/24 11:55 • (MSD) R4092362-4 07/05/24 11:55

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	2.49	22.5	19.8	99.9	86.5	1	75.0-125			12.6		20
(T) Barium-133		86.3			72.8	102							

L1750694-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750694-01 07/10/24 13:16 • (MS) R4092362-8 07/10/24 13:16 • (MSD) R4092362-9 07/10/24 13:16

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	50.0	4.86	47.0	46.0	84.3	82.3	1	75.0-125			2.17		20
(T) Barium-133		88.1			91.0	97.0							

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.
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

Company Name/Address: 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 73102-5015 Email To: paul.barbour@dmv.com;asharma@ccrh2o.com				Pres Chk		Analysis / Container / Preservative										Chain of Custody Page 1 of 7  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/hubs/pas-standard-terms.pdf																																																																																																																																																																																																																																																
Report to: Paul Barbour				Project Description: <i>Desalination Pilot</i>				City/State Collected: <i>Jul, NM</i>		Please Circle: PT MT CT ET		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>625, 1 100ml Amb-NaTio</td> <td>CHLORR, SPCON, NORG 250mlHDPE-NoPres</td> <td>CN 250mlHDPEAmb-NaOH</td> <td>Custom Metals, HARD 250mlHDPE-HNO3</td> <td>DO, NORG, CR6, CR3 125mlHDPE-NoPres</td> <td>DOC 250mlAmb-No Pres</td> <td>GROSS ALPHA/BETA 1L-HDPE-Add HNO3</td> <td>GROSS ALPHA/BETA 500mlHDPE-Add HNO3</td> <td>NH3 250mlHDPENaThioH2SO4</td> <td>OGHEX 1L-Cir-WT-HCl</td> </tr> </table>										625, 1 100ml Amb-NaTio	CHLORR, SPCON, NORG 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH	Custom Metals, HARD 250mlHDPE-HNO3	DO, NORG, CR6, CR3 125mlHDPE-NoPres	DOC 250mlAmb-No Pres	GROSS ALPHA/BETA 1L-HDPE-Add HNO3	GROSS ALPHA/BETA 500mlHDPE-Add HNO3	NH3 250mlHDPENaThioH2SO4	OGHEX 1L-Cir-WT-HCl																																																																																																																																																																																																																																					
625, 1 100ml Amb-NaTio	CHLORR, SPCON, NORG 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH	Custom Metals, HARD 250mlHDPE-HNO3	DO, NORG, CR6, CR3 125mlHDPE-NoPres	DOC 250mlAmb-No Pres	GROSS ALPHA/BETA 1L-HDPE-Add HNO3	GROSS ALPHA/BETA 500mlHDPE-Add HNO3	NH3 250mlHDPENaThioH2SO4	OGHEX 1L-Cir-WT-HCl																																																																																																																																																																																																																																																											
Phone: 405-228-4308				Client Project # <i>2125-HN-02831</i>		Lab Project # DEVENEOCOK-EFFLUENT		P.O. #		Quote #																																																																																																																																																																																																																																																										
Collected by (print): <i>Danny Daniels</i>				Site/Facility ID # <i>CCR</i>		Rush? (Lab MUST Be Notified) ☐ Same Day ☐ Five Day ☐ Next Day ☐ 5 Day (Rad Only) ☐ Two Day ☐ 10 Day (Rad Only) ☐ Three Day		Date Results Needed		No. of Cntrs																																																																																																																																																																																																																																																										
Collected by (signature): <i>[Signature]</i>				Immediately Packed on Ice N ☐ Y ☒		Date Results Needed		No. of Cntrs		No. of Cntrs																																																																																																																																																																																																																																																										
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Sample ID</th> <th>Comp/Grab</th> <th>Matrix *</th> <th>Depth</th> <th>Date</th> <th>Time</th> <th>No. of Cntrs</th> <th>625, 1 100ml Amb-NaTio</th> <th>CHLORR, SPCON, NORG 250mlHDPE-NoPres</th> <th>CN 250mlHDPEAmb-NaOH</th> <th>Custom Metals, HARD 250mlHDPE-HNO3</th> <th>DO, NORG, CR6, CR3 125mlHDPE-NoPres</th> <th>DOC 250mlAmb-No Pres</th> <th>GROSS ALPHA/BETA 1L-HDPE-Add HNO3</th> <th>GROSS ALPHA/BETA 500mlHDPE-Add HNO3</th> <th>NH3 250mlHDPENaThioH2SO4</th> <th>OGHEX 1L-Cir-WT-HCl</th> <th>Remarks</th> <th>Sample # (lab only)</th> </tr> </thead> <tbody> <tr> <td>POST CARBON FILTER</td> <td><i>G</i></td> <td>GW</td> <td></td> <td><i>6-25-24</i></td> <td><i>0810</i></td> <td>22</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>POST CARBON FILTER PFAS</td> <td><i>G</i></td> <td>GW</td> <td></td> <td></td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>POST CARBON FILTER RAD</td> <td><i>G</i></td> <td>NPW</td> <td></td> <td><i>6-25-24</i></td> <td><i>0810</i></td> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td><i>-01</i></td> </tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>														Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	625, 1 100ml Amb-NaTio	CHLORR, SPCON, NORG 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH	Custom Metals, HARD 250mlHDPE-HNO3	DO, NORG, CR6, CR3 125mlHDPE-NoPres	DOC 250mlAmb-No Pres	GROSS ALPHA/BETA 1L-HDPE-Add HNO3	GROSS ALPHA/BETA 500mlHDPE-Add HNO3	NH3 250mlHDPENaThioH2SO4	OGHEX 1L-Cir-WT-HCl	Remarks	Sample # (lab only)	POST CARBON FILTER	<i>G</i>	GW		<i>6-25-24</i>	<i>0810</i>	22	X	X	X	X	X	X			X	X			POST CARBON FILTER PFAS	<i>G</i>	GW				2													POST CARBON FILTER RAD	<i>G</i>	NPW		<i>6-25-24</i>	<i>0810</i>	4							X	X				<i>-01</i>																																																																																																																																																																											
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	625, 1 100ml Amb-NaTio	CHLORR, SPCON, NORG 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH	Custom Metals, HARD 250mlHDPE-HNO3	DO, NORG, CR6, CR3 125mlHDPE-NoPres	DOC 250mlAmb-No Pres	GROSS ALPHA/BETA 1L-HDPE-Add HNO3	GROSS ALPHA/BETA 500mlHDPE-Add HNO3	NH3 250mlHDPENaThioH2SO4	OGHEX 1L-Cir-WT-HCl	Remarks	Sample # (lab only)																																																																																																																																																																																																																																																		
POST CARBON FILTER	<i>G</i>	GW		<i>6-25-24</i>	<i>0810</i>	22	X	X	X	X	X	X			X	X																																																																																																																																																																																																																																																				
POST CARBON FILTER PFAS	<i>G</i>	GW				2																																																																																																																																																																																																																																																														
POST CARBON FILTER RAD	<i>G</i>	NPW		<i>6-25-24</i>	<i>0810</i>	4							X	X				<i>-01</i>																																																																																																																																																																																																																																																		
* 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 #				pH _____ Temp _____ Flow _____ Other _____				Sample Receipt Checklist COC Seal Present/Intact: ☒ NP ☐ 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) <i>[Signature]</i>				Date: <i>6-25-24</i>		Time: <i>1530</i>		Received by: (Signature) <i>[Signature]</i>				Trip Blank Received: Yes / ☒ No HCL / MeOH TBR				Temp: <i>EQW</i> °C Bottles Received: <i>28</i>				If preservation required by Login: Date/Time																																																																																																																																																																																																																																																
Relinquished by: (Signature) <i>[Signature]</i>				Date: <i>6/25/24</i>		Time: <i>4:00</i>		Received by: (Signature) <i>[Signature]</i>				Temp: <i>EQW</i> °C Bottles Received: <i>28</i>				If preservation required by Login: Date/Time																																																																																																																																																																																																																																																				
Relinquished by: (Signature) <i>[Signature]</i>				Date: <i>6/26/24</i>		Time: <i>0800</i>		Received for lab by: (Signature) <i>[Signature]</i>				Date: <i>6/26/24</i>				Time: <i>0800</i>				Hold:				Condition: NCF / ☒ OK																																																																																																																																																																																																																																												

[illegible]

[illegible]



ANALYTICAL REPORT

August 15, 2024

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

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1750525
Samples Received: 06/26/2024
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 L1750525-01	5	
Qc: Quality Control Summary	10	⁴ Cn
Gravimetric Analysis by Method 2540 C-2011	10	⁵ Sr
Gravimetric Analysis by Method 2540 D-2015	11	
Wet Chemistry by Method 120.1	12	⁶ Qc
Wet Chemistry by Method 1664A	13	
Wet Chemistry by Method 2580	14	⁷ Gl
Wet Chemistry by Method 300.0	18	⁸ Al
Wet Chemistry by Method 350.1	20	
Wet Chemistry by Method 3500Cr B-2011	21	⁹ Sc
Wet Chemistry by Method 4500H+ B-2011	22	
Wet Chemistry by Method 5310 B-2014	23	
Wet Chemistry by Method 5540 C-2011	25	
Mercury by Method 245.1	26	
Metals (ICP) by Method 200.7	27	
Metals (ICPMS) by Method 200.8	30	
Volatile Organic Compounds (GC/MS) by Method 624.1	32	
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	36	
Gl: Glossary of Terms	41	
Al: Accreditations & Locations	42	
Sc: Sample Chain of Custody	43	

CCR CLEAN EFFLUENT L1750525-01 WW

Collected by
Danny Daniels

Collected date/time
06/25/24 08:40

Received date/time
06/26/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2322999	1	07/16/24 17:26	07/16/24 17:26	ZSA	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2315704	1	07/02/24 01:45	07/02/24 13:52	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2314279	1	06/29/24 18:02	06/29/24 19:37	JAC	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2312456	1	06/27/24 11:12	06/27/24 11:12	BJM	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG2319687	1	07/09/24 13:41	07/09/24 20:29	DAL	Mt. Juliet, TN
Wet Chemistry by Method 2580	WG2312745	1	06/27/24 22:00	06/27/24 22:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2325536	10	07/18/24 19:18	07/18/24 19:18	DLH	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2320231	100	07/10/24 16:27	07/10/24 16:27	LAS	Mt. Juliet, TN
Wet Chemistry by Method 3500Cr B-2011	WG2312663	1	06/26/24 15:14	06/26/24 15:14	SJA	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2317653	1	07/05/24 17:30	07/05/24 17:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 45000 G-2016	WG2320191	1	06/26/24 15:30	06/26/24 15:30	BGE	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2318650	20	07/07/24 12:00	07/08/24 02:08	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2322028	1	07/14/24 01:50	07/14/24 01:50	DMA	Mt. Juliet, TN
Wet Chemistry by Method 5540 C-2011	WG2312771	1	06/27/24 08:16	06/27/24 10:21	CAH	Mt. Juliet, TN
Mercury by Method 245.1	WG2312527	1	06/26/24 17:11	06/28/24 18:00	LAS	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2322999	1	07/16/24 08:15	07/16/24 17:26	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2322999	1	07/16/24 08:15	07/29/24 17:40	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2319637	1	07/17/24 08:42	08/05/24 03:36	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2319637	5	07/17/24 08:42	08/07/24 18:50	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2318271	10	07/06/24 05:55	07/06/24 05:55	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2313044	1	06/28/24 05:41	06/28/24 23:39	AGW	Mt. Juliet, TN
Subcontracted Analyses	WG2312630	1	07/03/24 00:00	07/03/24 00:00	ANF	Beaver, WV 25813

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.



T. Alan Harvill
Project Manager

Project Narrative

L1750525 -01 contains subout data that is included after the chain of custody.

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
L1750525-01	CCR CLEAN EFFLUENT	4500O G-2016

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

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Trivalent	ND		0.0100	1	07/16/2024 17:26	WG2322999

1
Cp

2
Tc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	12.0		10.0	1	07/02/2024 13:52	WG2315704

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	06/29/2024 19:37	WG2314279

5
Sr

6
Qc

Wet Chemistry by Method 120.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	736		10.0	1	06/27/2024 11:12	WG2312456

7
Gl

8
Al

Sample Narrative:

L1750525-01 WG2312456: at 25C

9
Sc

Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	ND		5.88	1	07/09/2024 20:29	WG2319687

Wet Chemistry by Method 2580

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
ORP	151	T8	1	06/27/2024 22:00	WG2312745

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		10.0	10	07/18/2024 19:18	WG2325536
Chloride	ND		10.0	10	07/18/2024 19:18	WG2325536
Fluoride	ND		1.50	10	07/18/2024 19:18	WG2325536
Sulfate	ND		50.0	10	07/18/2024 19:18	WG2325536

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	118		25.0	100	07/10/2024 16:27	WG2320231

Wet Chemistry by Method 3500Cr B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND	Q	0.0100	1	06/26/2024 15:14	WG2312663

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.81	T8	1	07/05/2024 17:30	WG2317653

Sample Narrative:

L1750525-01 WG2317653: 8.81 at 23C

Wet Chemistry by Method 4500O G-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Oxygen	5.3 at 20.2c	T8	3	1	06/26/2024 15:30	WG2320191

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
DOC	ND	T8	20.0	20	07/08/2024 02:08	WG2318650

Wet Chemistry by Method 5310 B-2014

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	27.4	J6	1.00	1	07/14/2024 01:50	WG2322028

Wet Chemistry by Method 5540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
MBAS	ND		0.100	1	06/27/2024 10:21	WG2312771

Mercury by Method 245.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	06/28/2024 18:00	WG2312527

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Aluminum	ND		0.200	1	07/16/2024 17:26	WG2322999
Antimony	ND		0.0100	1	07/16/2024 17:26	WG2322999
Arsenic	ND		0.0100	1	07/16/2024 17:26	WG2322999
Barium	ND		0.00500	1	07/16/2024 17:26	WG2322999
Beryllium	ND		0.00200	1	07/16/2024 17:26	WG2322999
Cadmium	ND		0.00200	1	07/16/2024 17:26	WG2322999
Chromium	ND		0.0100	1	07/16/2024 17:26	WG2322999
Copper	ND		0.0100	1	07/16/2024 17:26	WG2322999
Lead	ND		0.00500	1	07/16/2024 17:26	WG2322999
Lithium	ND		0.0150	1	07/16/2024 17:26	WG2322999
Nickel	ND		0.0100	1	07/16/2024 17:26	WG2322999
Selenium	ND		0.0100	1	07/16/2024 17:26	WG2322999
Silicon	ND		0.200	1	07/29/2024 17:40	WG2322999
Silver	ND		0.00500	1	07/16/2024 17:26	WG2322999
Strontium	0.0582		0.0100	1	07/16/2024 17:26	WG2322999
Thallium	ND		0.0100	1	07/16/2024 17:26	WG2322999
Vanadium	ND		0.0200	1	07/16/2024 17:26	WG2322999
Zinc	ND		0.0500	1	07/16/2024 17:26	WG2322999
Phosphorus	ND		0.100	1	07/16/2024 17:26	WG2322999

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 06/25/24 08:40

L1750525

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	0.348		0.200	5	08/07/2024 18:50	WG2319637
Calcium	1.68		1.00	1	08/05/2024 03:36	WG2319637
Cobalt	ND		0.00200	1	08/05/2024 03:36	WG2319637
Iron	ND		0.100	1	08/05/2024 03:36	WG2319637
Magnesium	ND		1.00	1	08/05/2024 03:36	WG2319637
Manganese	ND		0.00500	1	08/05/2024 03:36	WG2319637
Molybdenum	ND		0.00500	1	08/05/2024 03:36	WG2319637
Potassium	ND		1.00	1	08/05/2024 03:36	WG2319637
Sodium	ND		2.00	1	08/05/2024 03:36	WG2319637
Tin	ND		0.00400	1	08/05/2024 03:36	WG2319637
Titanium	ND		0.0100	1	08/05/2024 03:36	WG2319637

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.404		0.0100	10	07/06/2024 05:55	WG2318271
Bromodichloromethane	ND		0.0100	10	07/06/2024 05:55	WG2318271
Bromoform	ND		0.0100	10	07/06/2024 05:55	WG2318271
Bromomethane	ND		0.0500	10	07/06/2024 05:55	WG2318271
Carbon tetrachloride	ND		0.0100	10	07/06/2024 05:55	WG2318271
Chlorobenzene	ND		0.0100	10	07/06/2024 05:55	WG2318271
Chlorodibromomethane	ND		0.0100	10	07/06/2024 05:55	WG2318271
Chloroethane	ND		0.0500	10	07/06/2024 05:55	WG2318271
2-Chloroethyl vinyl ether	ND		0.500	10	07/06/2024 05:55	WG2318271
Chloroform	ND		0.0500	10	07/06/2024 05:55	WG2318271
Chloromethane	ND		0.0250	10	07/06/2024 05:55	WG2318271
1,2-Dichlorobenzene	ND		0.0100	10	07/06/2024 05:55	WG2318271
1,3-Dichlorobenzene	ND		0.0100	10	07/06/2024 05:55	WG2318271
1,4-Dichlorobenzene	ND		0.0100	10	07/06/2024 05:55	WG2318271
Dichlorodifluoromethane	ND		0.0500	10	07/06/2024 05:55	WG2318271
1,1-Dichloroethane	ND		0.0100	10	07/06/2024 05:55	WG2318271
1,2-Dichloroethane	ND		0.0100	10	07/06/2024 05:55	WG2318271
1,1-Dichloroethene	ND		0.0100	10	07/06/2024 05:55	WG2318271
trans-1,2-Dichloroethene	ND		0.0100	10	07/06/2024 05:55	WG2318271
1,2-Dichloropropane	ND		0.0100	10	07/06/2024 05:55	WG2318271
cis-1,3-Dichloropropene	ND		0.0100	10	07/06/2024 05:55	WG2318271
trans-1,3-Dichloropropene	ND		0.0100	10	07/06/2024 05:55	WG2318271
Ethylbenzene	ND		0.0100	10	07/06/2024 05:55	WG2318271
Methylene Chloride	ND		0.0500	10	07/06/2024 05:55	WG2318271
Methyl tert-butyl ether	ND		0.0100	10	07/06/2024 05:55	WG2318271
Naphthalene	ND		0.0500	10	07/06/2024 05:55	WG2318271
1,1,2,2-Tetrachloroethane	ND		0.0100	10	07/06/2024 05:55	WG2318271
Tetrachloroethene	ND		0.0100	10	07/06/2024 05:55	WG2318271
Toluene	0.353		0.0100	10	07/06/2024 05:55	WG2318271
1,1,1-Trichloroethane	ND		0.0100	10	07/06/2024 05:55	WG2318271
1,1,2-Trichloroethane	ND		0.0100	10	07/06/2024 05:55	WG2318271
Trichloroethene	ND		0.0100	10	07/06/2024 05:55	WG2318271
Trichlorofluoromethane	ND		0.0500	10	07/06/2024 05:55	WG2318271
Vinyl chloride	ND		0.0100	10	07/06/2024 05:55	WG2318271
o-Xylene	0.0479		0.0100	10	07/06/2024 05:55	WG2318271
m&p-Xylene	0.120		0.0200	10	07/06/2024 05:55	WG2318271
Xylenes, Total	0.168		0.0300	10	07/06/2024 05:55	WG2318271
(S) Toluene-d8	106		80.0-120		07/06/2024 05:55	WG2318271
(S) 4-Bromofluorobenzene	100		80.0-120		07/06/2024 05:55	WG2318271
(S) 1,2-Dichloroethane-d4	99.1		70.0-130		07/06/2024 05:55	WG2318271

7 Gl

8 Al

9 Sc

Collected date/time: 06/25/24 08:40

L1750525

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	06/28/2024 23:39	WG2313044
Acenaphthylene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Anthracene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Benzidine	ND		0.0100	1	06/28/2024 23:39	WG2313044
Benzo(a)anthracene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Benzo(b)fluoranthene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Benzo(k)fluoranthene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Benzo(g,h,i)perylene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Benzo(a)pyrene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Bis(2-chlorethoxy)methane	ND		0.0100	1	06/28/2024 23:39	WG2313044
Bis(2-chloroethyl)ether	ND		0.0100	1	06/28/2024 23:39	WG2313044
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	06/28/2024 23:39	WG2313044
4-Bromophenyl-phenylether	ND		0.0100	1	06/28/2024 23:39	WG2313044
2-Chloronaphthalene	ND		0.00100	1	06/28/2024 23:39	WG2313044
4-Chlorophenyl-phenylether	ND		0.0100	1	06/28/2024 23:39	WG2313044
Chrysene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Dibenz(a,h)anthracene	ND		0.00100	1	06/28/2024 23:39	WG2313044
3,3-Dichlorobenzidine	ND		0.0100	1	06/28/2024 23:39	WG2313044
2,4-Dinitrotoluene	ND		0.0100	1	06/28/2024 23:39	WG2313044
2,6-Dinitrotoluene	ND		0.0100	1	06/28/2024 23:39	WG2313044
1,2-Diphenylhydrazine	ND	N2	0.0100	1	06/28/2024 23:39	WG2313044
Fluoranthene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Fluorene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Hexachlorobenzene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Hexachloro-1,3-butadiene	ND		0.0100	1	06/28/2024 23:39	WG2313044
Hexachlorocyclopentadiene	ND		0.0100	1	06/28/2024 23:39	WG2313044
Hexachloroethane	ND		0.0100	1	06/28/2024 23:39	WG2313044
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	06/28/2024 23:39	WG2313044
Isophorone	ND		0.0100	1	06/28/2024 23:39	WG2313044
Naphthalene	0.00331		0.00100	1	06/28/2024 23:39	WG2313044
Nitrobenzene	ND		0.0100	1	06/28/2024 23:39	WG2313044
n-Nitrosodimethylamine	ND		0.0100	1	06/28/2024 23:39	WG2313044
n-Nitrosodiphenylamine	ND		0.0100	1	06/28/2024 23:39	WG2313044
n-Nitrosodi-n-propylamine	ND		0.0100	1	06/28/2024 23:39	WG2313044
Phenanthrene	0.00101		0.00100	1	06/28/2024 23:39	WG2313044
Benzylbutyl phthalate	ND		0.00300	1	06/28/2024 23:39	WG2313044
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	06/28/2024 23:39	WG2313044
Di-n-butyl phthalate	ND		0.00300	1	06/28/2024 23:39	WG2313044
Diethyl phthalate	ND		0.00300	1	06/28/2024 23:39	WG2313044
Dimethyl phthalate	ND		0.00300	1	06/28/2024 23:39	WG2313044
Di-n-octyl phthalate	ND		0.00300	1	06/28/2024 23:39	WG2313044
Pyrene	ND		0.00100	1	06/28/2024 23:39	WG2313044
1,2,4-Trichlorobenzene	ND		0.0100	1	06/28/2024 23:39	WG2313044
4-Chloro-3-methylphenol	ND		0.0100	1	06/28/2024 23:39	WG2313044
2-Chlorophenol	ND		0.0100	1	06/28/2024 23:39	WG2313044
2,4-Dichlorophenol	ND		0.0100	1	06/28/2024 23:39	WG2313044
2,4-Dimethylphenol	0.0500	C6	0.0100	1	06/28/2024 23:39	WG2313044
4,6-Dinitro-2-methylphenol	ND		0.0100	1	06/28/2024 23:39	WG2313044
2,4-Dinitrophenol	ND		0.0100	1	06/28/2024 23:39	WG2313044
2-Nitrophenol	ND		0.0100	1	06/28/2024 23:39	WG2313044
4-Nitrophenol	ND		0.0100	1	06/28/2024 23:39	WG2313044
Pentachlorophenol	ND		0.0100	1	06/28/2024 23:39	WG2313044
Phenol	0.100		0.0100	1	06/28/2024 23:39	WG2313044
2,4,6-Trichlorophenol	ND		0.0100	1	06/28/2024 23:39	WG2313044
(S) Nitrobenzene-d5	77.5		15.0-314		06/28/2024 23:39	WG2313044
(S) 2-Fluorobiphenyl	69.8		22.0-127		06/28/2024 23:39	WG2313044

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
(S) p-Terphenyl-d14	76.2		29.0-141		06/28/2024 23:39	WG2313044
(S) Phenol-d5	18.7		8.00-424		06/28/2024 23:39	WG2313044
(S) 2-Fluorophenol	23.2		10.0-120		06/28/2024 23:39	WG2313044
(S) 2,4,6-Tribromophenol	73.1		10.0-153		06/28/2024 23:39	WG2313044

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Gravimetric Analysis by Method 2540 C-2011

[L1750525-01](#)

Method Blank (MB)

(MB) R4089955-1 07/02/24 13:52

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

L1750525-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750525-01 07/02/24 13:52 • (DUP) R4089955-3 07/02/24 13:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	12.0	12.0	1	0.000		10

L1750566-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750566-01 07/02/24 13:52 • (DUP) R4089955-4 07/02/24 13:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Dissolved Solids	448	457	1	1.99		10

Laboratory Control Sample (LCS)

(LCS) R4089955-2 07/02/24 13:52

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	

Method Blank (MB)

(MB) R4088400-1 06/29/24 19:37

	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

L1750584-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750584-01 06/29/24 19:37 • (DUP) R4088400-3 06/29/24 19:37

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Suspended Solids	26.4	27.2	1	2.99		10

⁷Gl

⁸Al

L1750587-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750587-01 06/29/24 19:37 • (DUP) R4088400-4 06/29/24 19:37

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Suspended Solids	92.0	94.0	1	2.15		10

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4088400-2 06/29/24 19:37

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Suspended Solids	773	800	103	85.0-115	

Method Blank (MB)

(MB) R4087216-1 06/27/24 11:12

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

L1749583-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1749583-01 06/27/24 11:12 • (DUP) R4087216-3 06/27/24 11:12

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	977	985	1	0.815		20

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

L1750683-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1750683-03 06/27/24 11:12 • (DUP) R4087216-4 06/27/24 11:12

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	552	551	1	0.181		20

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

Laboratory Control Sample (LCS)

(LCS) R4087216-2 06/27/24 11:12

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	752	103	85.0-115	

Sample Narrative:
LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4091767-1 07/09/24 20:29

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

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

(LCS) R4091767-2 07/09/24 20:29 • (LCSD) R4091767-3 07/09/24 20:29

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	34.8	36.8	87.0	92.0	78.0-114			5.59	20

L1753156-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753156-01 07/09/24 20:29 • (MS) R4091767-4 07/09/24 20:29 • (MSD) R4091767-5 07/09/24 20:29

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 %
Oil & Grease (Hexane Extr)	40.0	ND	41.7	41.1	94.2	92.8	1	78.0-114			1.30	18

⁷Gl

⁸Al

⁹Sc

L1750525-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750525-01 06/27/24 22:00 • (DUP) R4087572-3 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	151	153	1	1.90		20

L1750608-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-18 06/27/24 22:00 • (DUP) R4087572-4 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	156	148	1	7.30		20

L1750608-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-19 06/27/24 22:00 • (DUP) R4087572-5 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	149	147	1	1.80		20

L1750608-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-20 06/27/24 22:00 • (DUP) R4087572-6 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	140	140	1	0.300		20

L1750608-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-21 06/27/24 22:00 • (DUP) R4087572-7 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	146	141	1	4.90		20

L1750608-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-22 06/27/24 22:00 • (DUP) R4087572-8 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	247	247	1	0.000		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750608-23 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-23 06/27/24 22:00 • (DUP) R4087572-9 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	78.6	77.6	1	1.00		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750608-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-24 06/27/24 22:00 • (DUP) R4087572-10 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	75.2	79.0	1	3.80		20

L1750608-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-25 06/27/24 22:00 • (DUP) R4087572-11 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	340	334	1	5.80		20

L1750608-26 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-26 06/27/24 22:00 • (DUP) R4087572-12 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	206	206	1	0.100		20

L1750608-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-27 06/27/24 22:00 • (DUP) R4087572-13 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	109	115	1	5.20		20

L1750608-28 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-28 06/27/24 22:00 • (DUP) R4087572-14 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	338	335	1	2.70		20

L1750608-29 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-29 06/27/24 22:00 • (DUP) R4087572-15 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	224	238	1	14.3		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1750608-32 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-32 06/27/24 22:00 • (DUP) R4087572-16 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	129	129	1	0.500		20

L1750608-33 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-33 06/27/24 22:00 • (DUP) R4087572-17 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	3.20	0.300	1	3.20		20

L1750608-34 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-34 06/27/24 22:00 • (DUP) R4087572-18 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	88.6	92.1	1	3.50		20

L1750608-35 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-35 06/27/24 22:00 • (DUP) R4087572-19 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	343	345	1	2.50		20

L1750608-36 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-36 06/27/24 22:00 • (DUP) R4087572-20 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	226	222	1	4.20		20

Wet Chemistry by Method 2580 [L1750525-01](#)

L1750608-37 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-37 06/27/24 22:00 • (DUP) R4087572-21 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	228	231	1	2.50		20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1750608-38 Original Sample (OS) • Duplicate (DUP)

(OS) L1750608-38 06/27/24 22:00 • (DUP) R4087572-22 06/27/24 22:00

Analyte	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits
	mV	mV		mV		mV
ORP	220	216	1	4.40		20

⁷Gl

⁸Al

⁹Sc

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

(LCS) R4087572-1 06/27/24 22:00 • (LCSD) R4087572-2 06/27/24 22:00

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	Diff	Diff Limits
	mV	mV	mV	%	%	%			mV	mV
ORP	238	219	221	92.1	92.8	90.0-110			1.60	20

Method Blank (MB)

(MB) R4096118-1 07/18/24 18:52

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
Sulfate	U		0.594	5.00

L1750956-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1750956-24 07/18/24 20:34 • (DUP) R4096118-3 07/18/24 20:47

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	49.5	49.0	1	1.02		15
Fluoride	ND	ND	1	5.01		15
Sulfate	17.8	17.7	1	0.932		15

L1750956-26 Original Sample (OS) • Duplicate (DUP)

(OS) L1750956-26 07/18/24 21:51 • (DUP) R4096118-6 07/18/24 22:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	200	P1	15
Chloride	53.1	52.7	1	0.791		15
Fluoride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	1.58		15

Laboratory Control Sample (LCS)

(LCS) R4096118-2 07/18/24 19:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	39.9	99.9	90.0-110	
Chloride	40.0	39.1	97.7	90.0-110	
Fluoride	8.00	8.11	101	90.0-110	
Sulfate	40.0	38.2	95.4	90.0-110	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 300.0

L1750525-01

L1750956-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750956-24 07/18/24 20:34 • (MS) R4096118-4 07/18/24 21:00 • (MSD) R4096118-5 07/18/24 21:13

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	34.0	36.0	85.1	90.0	1	80.0-120			5.56	15
Chloride	40.0	49.5	75.6	80.8	65.2	78.3	1	80.0-120	J6	J6	6.71	15
Fluoride	8.00	ND	4.74	4.99	58.1	61.3	1	80.0-120	J6	J6	5.30	15
Sulfate	40.0	17.8	50.3	53.4	81.1	89.0	1	80.0-120			6.07	15

L1750956-26 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750956-26 07/18/24 21:51 • (MS) R4096118-7 07/18/24 22:17 • (MSD) R4096118-8 07/18/24 22:30

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	36.4	36.6	88.7	89.3	1	80.0-120			0.647	15
Chloride	40.0	53.1	81.6	82.1	71.2	72.4	1	80.0-120	J6	J6	0.610	15
Fluoride	8.00	ND	3.73	3.68	46.6	46.0	1	80.0-120	J6	J6	1.39	15
Sulfate	40.0	ND	39.0	39.1	93.7	94.0	1	80.0-120			0.257	15

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R4092197-1 07/10/24 15:22

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

L1752903-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752903-01 07/10/24 15:26 • (DUP) R4092197-3 07/10/24 15:28

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

L1752903-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1752903-03 07/10/24 15:34 • (DUP) R4092197-6 07/10/24 15:35

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

Laboratory Control Sample (LCS)

(LCS) R4092197-2 07/10/24 15:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.61	101	90.0-110	

L1752903-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752903-01 07/10/24 15:26 • (MS) R4092197-4 07/10/24 15:29 • (MSD) R4092197-5 07/10/24 15:31

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	ND	5.03	5.20	101	104	1	90.0-110			3.17	10

L1752903-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1752903-03 07/10/24 15:34 • (MS) R4092197-7 07/10/24 15:41

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	5.25	105	1	90.0-110	

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Wet Chemistry by Method 3500Cr B-2011

[L1750525-01](#)

Method Blank (MB)

(MB) R4086785-1 06/26/24 15:08

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

L1750522-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750522-01 06/26/24 15:14 • (DUP) R4086785-3 06/26/24 15:14

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) R4086785-2 06/26/24 15:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.546	109	80.0-120	

L1750525-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750525-01 06/26/24 15:14 • (MS) R4086785-4 06/26/24 15:14 • (MSD) R4086785-5 06/26/24 15:14

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	0.476	0.440	95.2	88.0	1	75.0-125			7.86	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1750525-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750525-01 07/05/24 17:30 • (DUP) R4090581-2 07/05/24 17:30

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.81	8.81	1	0.000		1

Sample Narrative:

OS: 8.81 at 23C

DUP: 8.81 at 23C

L1753234-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1753234-01 07/05/24 17:30 • (DUP) R4090581-3 07/05/24 17:30

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	6.41	6.40	1	0.156		1

Sample Narrative:

OS: 6.41 at 22.9C

DUP: 6.4 at 22.8C

Laboratory Control Sample (LCS)

(LCS) R4090581-1 07/05/24 17:30

	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 24C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 5310 B-2014

[L1750525-01](#)

Method Blank (MB)

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

Analyte	MB Result mg/l	<u>MB Qualifier</u>	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 %	<u>DUP Qualifier</u>	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 %	<u>DUP Qualifier</u>	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 %	<u>LCS Qualifier</u>
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 %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	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

L1750525-01

Method Blank (MB)

(MB) R4093687-2 07/14/24 00:36

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
TOC (Total Organic Carbon)	0.217		0.102	1.00

L1748410-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748410-01 07/14/24 01:17 • (DUP) R4093687-3 07/14/24 01:35

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
TOC (Total Organic Carbon)	40.5	40.6	1	0.0986		20

L1755179-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1755179-01 07/14/24 15:06 • (DUP) R4093687-6 07/14/24 15:21

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
TOC (Total Organic Carbon)	2.61	2.60	1	0.422		20

Laboratory Control Sample (LCS)

(LCS) R4093687-1 07/14/24 00:24

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
TOC (Total Organic Carbon)	25.0	25.9	104	85.0-115	

L1750525-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750525-01 07/14/24 01:50 • (MS) R4093687-4 07/14/24 02:08 • (MSD) R4093687-5 07/14/24 02:26

	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	%	%		%			%	%
TOC (Total Organic Carbon)	25.0	27.4	47.4	47.6	79.9	80.7	1	85.0-115	J6	J6	0.421	20

L1755413-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755413-01 07/14/24 15:36 • (MS) R4093687-7 07/14/24 15:55 • (MSD) R4093687-8 07/14/24 16:13

	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	%	%		%			%	%
TOC (Total Organic Carbon)	25.0	1.64	28.9	28.8	109	109	1	85.0-115			0.346	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 5540 C-2011

[L1750525-01](#)

Method Blank (MB)

(MB) R4087132-1 06/27/24 08:24

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

L1750525-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750525-01 06/27/24 10:21 • (DUP) R4087132-3 06/27/24 10:21

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) R4087132-2 06/27/24 08:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
MBAS	1.00	1.01	101	85.0-115	

L1750525-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750525-01 06/27/24 10:21 • (MS) R4087132-4 06/27/24 10:22 • (MSD) R4087132-5 06/27/24 10:23

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 %
MBAS	1.00	ND	1.08	1.06	108	106	1	85.0-115			1.87	20

Mercury by Method 245.1 [L1750525-01](#)

Method Blank (MB)

(MB) R4087991-1 06/28/24 17:26

	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

Laboratory Control Sample (LCS)

(LCS) R4087991-2 06/28/24 17:28

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Mercury	0.00300	0.00283	94.3	85.0-115	

⁷Gl

⁸Al

L1750510-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750510-01 06/28/24 17:31 • (MS) R4087991-4 06/28/24 17:36 • (MSD) R4087991-5 06/28/24 17:44

	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	0.00277	0.00271	92.5	90.5	1	70.0-130			2.19	20

⁹Sc

Metals (ICP) by Method 200.7

L1750525-01

Method Blank (MB)

(MB) R4094560-1 07/16/24 17:11

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	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) R4099943-1 07/29/24 17:23

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) R4094560-2 07/16/24 17:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	9.14	91.4	85.0-115	
Antimony	1.00	0.966	96.6	85.0-115	
Arsenic	1.00	0.981	98.1	85.0-115	
Barium	1.00	0.970	97.0	85.0-115	
Beryllium	1.00	0.941	94.1	85.0-115	
Cadmium	1.00	1.00	100	85.0-115	
Chromium	1.00	0.991	99.1	85.0-115	
Copper	1.00	0.998	99.8	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4094560-2 07/16/24 17:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead	1.00	0.969	96.9	85.0-115	
Lithium	1.00	0.917	91.7	85.0-115	
Nickel	1.00	0.974	97.4	85.0-115	
Selenium	1.00	0.979	97.9	85.0-115	
Silver	0.200	0.189	94.5	85.0-115	
Strontium	1.00	0.958	95.8	85.0-115	
Thallium	1.00	0.977	97.7	85.0-115	
Vanadium	1.00	0.924	92.4	85.0-115	
Zinc	1.00	0.998	99.8	85.0-115	
Phosphorus	1.00	0.975	97.5	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4099943-2 07/29/24 17:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silicon	1.00	0.931	93.1	85.0-115	

L1753124-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753124-01 07/16/24 17:14 • (MS) R4094560-4 07/16/24 17:17 • (MSD) R4094560-5 07/16/24 17:19

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	0.415	9.86	9.81	94.4	93.9	1	70.0-130			0.516	20
Antimony	1.00	ND	0.988	1.01	98.8	101	1	70.0-130			2.29	20
Arsenic	1.00	ND	1.02	1.03	102	103	1	70.0-130			1.61	20
Barium	1.00	0.0582	1.04	1.06	97.8	99.8	1	70.0-130			1.91	20
Beryllium	1.00	ND	0.974	0.976	97.4	97.6	1	70.0-130			0.239	20
Cadmium	1.00	ND	1.02	1.05	102	105	1	70.0-130			2.16	20
Chromium	1.00	ND	0.998	1.01	99.8	101	1	70.0-130			1.34	20
Copper	1.00	ND	1.01	1.04	101	104	1	70.0-130			2.79	20
Lead	1.00	ND	1.01	1.02	101	102	1	70.0-130			1.19	20
Lithium	1.00	ND	0.952	0.949	95.2	94.9	1	70.0-130			0.351	20
Nickel	1.00	ND	0.999	1.01	99.9	101	1	70.0-130			1.28	20
Selenium	1.00	ND	1.02	1.04	102	104	1	70.0-130			2.51	20
Silver	0.200	ND	0.192	0.193	96.0	96.4	1	70.0-130			0.397	20
Strontium	1.00	0.164	1.15	1.16	98.2	99.6	1	70.0-130			1.28	20
Thallium	1.00	ND	0.997	1.01	99.7	101	1	70.0-130			1.50	20
Vanadium	1.00	ND	0.956	0.954	95.6	95.4	1	70.0-130			0.224	20

Metals (ICP) by Method 200.7

L1750525-01

L1753124-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753124-01 07/16/24 17:14 • (MS) R4094560-4 07/16/24 17:17 • (MSD) R4094560-5 07/16/24 17:19

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 %
Zinc	1.00	ND	1.01	1.02	101	102	1	70.0-130			1.62	20
Phosphorus	1.00	ND	1.00	1.02	99.2	101	1	70.0-130			1.82	20

L1753168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753168-01 07/16/24 17:21 • (MS) R4094560-6 07/16/24 17:23 • (MSD) R4094560-7 07/16/24 17:24

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 %
Aluminum	10.0	0.375	9.96	9.54	95.8	91.6	1	70.0-130			4.28	20
Antimony	1.00	ND	1.00	0.983	100	98.3	1	70.0-130			2.19	20
Arsenic	1.00	ND	1.02	0.994	102	99.4	1	70.0-130			2.42	20
Barium	1.00	0.0385	1.02	1.00	98.0	96.3	1	70.0-130			1.76	20
Beryllium	1.00	ND	0.987	0.951	98.7	95.1	1	70.0-130			3.79	20
Cadmium	1.00	ND	1.03	1.01	103	101	1	70.0-130			2.17	20
Chromium	1.00	ND	0.997	0.981	99.7	98.1	1	70.0-130			1.56	20
Copper	1.00	ND	1.03	0.999	102	99.6	1	70.0-130			2.71	20
Lead	1.00	ND	1.01	0.983	101	98.3	1	70.0-130			2.22	20
Lithium	1.00	ND	0.966	0.922	96.6	92.2	1	70.0-130			4.67	20
Nickel	1.00	ND	0.992	0.974	98.9	97.2	1	70.0-130			1.75	20
Selenium	1.00	ND	1.02	1.01	102	101	1	70.0-130			1.05	20
Silver	0.200	ND	0.190	0.188	95.2	93.9	1	70.0-130			1.38	20
Strontium	1.00	0.107	1.10	1.07	99.1	95.9	1	70.0-130			2.97	20
Thallium	1.00	ND	0.990	0.979	99.0	97.9	1	70.0-130			1.15	20
Vanadium	1.00	ND	0.962	0.925	96.2	92.5	1	70.0-130			3.94	20
Zinc	1.00	ND	1.01	0.987	101	98.7	1	70.0-130			1.82	20
Phosphorus	1.00	ND	1.00	0.992	99.1	98.2	1	70.0-130			0.980	20

L1753124-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753124-01 07/29/24 17:29 • (MS) R4099943-4 07/29/24 17:34 • (MSD) R4099943-5 07/29/24 17:37

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 %
Silicon	1.00	1.09	2.05	2.14	96.1	105	1	70.0-130			4.27	20

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Metals (ICPMS) by Method 200.8

L1750525-01

Method Blank (MB)

(MB) R4102931-1 08/05/24 02:59

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
Iron	U		0.0447	0.100
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

Laboratory Control Sample (LCS)

(LCS) R4102931-2 08/05/24 03:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	0.0500	0.0558	112	85.0-115	
Calcium	5.00	4.89	97.8	85.0-115	
Cobalt	0.0500	0.0493	98.6	85.0-115	
Iron	1.00	0.977	97.7	85.0-115	
Magnesium	5.00	4.82	96.3	85.0-115	
Manganese	0.0500	0.0475	95.0	85.0-115	
Molybdenum	0.0500	0.0446	89.2	85.0-115	
Potassium	5.00	4.76	95.2	85.0-115	
Sodium	5.00	4.89	97.8	85.0-115	
Tin	0.0500	0.0429	85.9	85.0-115	
Titanium	0.0500	0.0471	94.2	85.0-115	

L1749318-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749318-01 08/05/24 03:06 • (MS) R4102931-4 08/05/24 03:12 • (MSD) R4102931-5 08/05/24 03:16

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 %
Boron	0.0500	0.192	0.229	0.240	72.5	95.0	1	70.0-130			4.81	20
Calcium	5.00	168	168	183	13.8	309	1	70.0-130	V	V	8.40	20
Cobalt	0.0500	ND	0.0472	0.0474	94.3	94.8	1	70.0-130			0.532	20
Iron	1.00	ND	0.968	0.952	96.8	95.2	1	70.0-130			1.61	20
Magnesium	5.00	16.5	20.5	22.5	79.9	121	1	70.0-130			9.55	20

Metals (ICPMS) by Method 200.8 L1750525-01

L1749318-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749318-01 08/05/24 03:06 • (MS) R4102931-4 08/05/24 03:12 • (MSD) R4102931-5 08/05/24 03:16

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 %
Manganese	0.0500	0.257	0.305	0.312	95.0	109	1	70.0-130			2.30	20
Molybdenum	0.0500	ND	0.0456	0.0513	91.1	103	1	70.0-130			11.9	20
Potassium	5.00	ND	4.57	4.95	91.4	99.1	1	70.0-130			8.06	20
Sodium	5.00	100	103	113	69.0	269	1	70.0-130	V	V	9.24	20
Tin	0.0500	ND	0.0445	0.0504	89.1	101	1	70.0-130			12.3	20
Titanium	0.0500	ND	0.0445	0.0508	89.0	102	1	70.0-130			13.2	20

L1749318-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749318-19 08/05/24 03:19 • (MS) R4102931-6 08/05/24 03:22 • (MSD) R4102931-7 08/05/24 03:26

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 %
Boron	0.0500	0.106	0.151	0.151	90.9	89.9	1	70.0-130			0.346	20
Calcium	5.00	101	108	109	147	161	1	70.0-130	V	V	0.643	20
Cobalt	0.0500	ND	0.0505	0.0445	99.2	87.1	1	70.0-130			12.7	20
Iron	1.00	ND	1.02	0.929	95.6	85.9	1	70.0-130			9.86	20
Magnesium	5.00	9.73	14.8	14.7	101	98.9	1	70.0-130			0.832	20
Manganese	0.0500	0.480	0.551	0.504	141	47.2	1	70.0-130	V	V	8.91	20
Molybdenum	0.0500	ND	0.0501	0.0483	98.4	94.8	1	70.0-130			3.66	20
Potassium	5.00	ND	5.68	5.53	95.7	92.8	1	70.0-130			2.57	20
Sodium	5.00	115	123	123	155	157	1	70.0-130	V	V	0.0988	20
Tin	0.0500	ND	0.0491	0.0486	98.2	97.1	1	70.0-130			1.14	20
Titanium	0.0500	ND	0.0517	0.0468	99.7	89.8	1	70.0-130			10.1	20

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Volatile Organic Compounds (GC/MS) by Method 624.1

L1750525-01

Method Blank (MB)

(MB) R4091218-3 07/05/24 20:48

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	0.000129	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	106			80.0-120
(S) 4-Bromofluorobenzene	101			80.0-120
(S) 1,2-Dichloroethane-d4	97.4			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) R4091218-1 07/05/24 19:48 • (LCSD) R4091218-2 07/05/24 20:08

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	0.00558	0.00530	112	106	65.0-135			5.15	20
Bromodichloromethane	0.00500	0.00563	0.00536	113	107	65.0-135			4.91	20
Bromoform	0.00500	0.00530	0.00528	106	106	70.0-130			0.378	20
Bromomethane	0.00500	0.00346	0.00314	69.2	62.8	15.0-185			9.70	20
Carbon tetrachloride	0.00500	0.00604	0.00566	121	113	70.0-130			6.50	20
Chlorobenzene	0.00500	0.00557	0.00533	111	107	65.0-135			4.40	20
Chlorodibromomethane	0.00500	0.00550	0.00545	110	109	70.0-135			0.913	20
Chloroethane	0.00500	0.00581	0.00511	116	102	40.0-160			12.8	20
2-Chloroethyl vinyl ether	0.0250	0.0238	0.0234	95.2	93.6	0.100-225			1.69	20
Chloroform	0.00500	0.00536	0.00524	107	105	70.0-135			2.26	20
Chloromethane	0.00500	0.00526	0.00498	105	99.6	0.100-205			5.47	20
1,2-Dichlorobenzene	0.00500	0.00552	0.00516	110	103	65.0-135			6.74	20
1,3-Dichlorobenzene	0.00500	0.00536	0.00521	107	104	70.0-130			2.84	20
1,4-Dichlorobenzene	0.00500	0.00531	0.00508	106	102	65.0-135			4.43	20
Dichlorodifluoromethane	0.00500	0.00636	0.00568	127	114	49.0-155			11.3	20
1,1-Dichloroethane	0.00500	0.00562	0.00521	112	104	70.0-130			7.57	20
1,2-Dichloroethane	0.00500	0.00553	0.00532	111	106	70.0-130			3.87	20
1,1-Dichloroethene	0.00500	0.00595	0.00545	119	109	50.0-150			8.77	20
trans-1,2-Dichloroethene	0.00500	0.00568	0.00515	114	103	70.0-130			9.79	20
1,2-Dichloropropane	0.00500	0.00548	0.00518	110	104	35.0-165			5.63	20
cis-1,3-Dichloropropene	0.00500	0.00540	0.00513	108	103	25.0-175			5.13	20
trans-1,3-Dichloropropene	0.00500	0.00532	0.00523	106	105	50.0-150			1.71	20
Ethylbenzene	0.00500	0.00579	0.00525	116	105	60.0-140			9.78	20
Methylene Chloride	0.00500	0.00565	0.00538	113	108	60.0-140			4.90	20
Methyl tert-butyl ether	0.00500	0.00547	0.00523	109	105	64.0-123			4.49	20
Naphthalene	0.00500	0.00450	0.00438	90.0	87.6	62.0-128			2.70	20
1,1,2,2-Tetrachloroethane	0.00500	0.00535	0.00494	107	98.8	60.0-140			7.97	20
Tetrachloroethene	0.00500	0.00577	0.00553	115	111	70.0-130			4.25	20
Toluene	0.00500	0.00551	0.00526	110	105	70.0-130			4.64	20
1,1,1-Trichloroethane	0.00500	0.00575	0.00534	115	107	70.0-130			7.39	20
1,1,2-Trichloroethane	0.00500	0.00544	0.00537	109	107	70.0-130			1.30	20
Trichloroethene	0.00500	0.00556	0.00546	111	109	65.0-135			1.81	20
Trichlorofluoromethane	0.00500	0.00607	0.00564	121	113	50.0-150			7.34	20
Vinyl chloride	0.00500	0.00538	0.00499	108	99.8	5.00-195			7.52	20
o-Xylene	0.00500	0.00560	0.00529	112	106	78.0-120			5.69	20
m&p-Xylene	0.0100	0.0112	0.0105	112	105	77.0-120			6.45	20
Xylenes, Total	0.0150	0.0168	0.0158	112	105	77.0-120			6.13	20
(S) Toluene-d8				101	102	80.0-120				
(S) 4-Bromofluorobenzene				96.8	97.6	80.0-120				
(S) 1,2-Dichloroethane-d4				105	104	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1752760-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752760-02 07/06/24 00:10 • (MS) R4091218-4 07/06/24 06:15 • (MSD) R4091218-5 07/06/24 06:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	ND	0.00547	0.00762	109	152	1	37.0-151		J5	32.8	61
Bromodichloromethane	0.00500	ND	0.00535	0.00751	107	150	1	35.0-155			33.6	56
Bromoform	0.00500	ND	0.00544	0.00735	109	147	1	45.0-169			29.9	42
Bromomethane	0.00500	ND	ND	ND	70.8	95.8	1	0.100-206			30.0	61
Carbon tetrachloride	0.00500	ND	0.00604	0.00840	121	168	1	70.0-140		J5	32.7	41
Chlorobenzene	0.00500	ND	0.00560	0.00765	112	153	1	37.0-160			30.9	53
Chlorodibromomethane	0.00500	ND	0.00573	0.00770	115	154	1	53.0-149		J5	29.3	50
Chloroethane	0.00500	ND	0.00551	0.00790	110	158	1	14.0-230			35.6	78
2-Chloroethyl vinyl ether	0.0250	ND	ND	ND	0.000	0.000	1	0.100-305	J6	J6	0.000	71
Chloroform	0.00500	ND	0.00530	0.00753	106	151	1	51.0-138		J5	34.8	54
Chloromethane	0.00500	ND	0.00494	0.00695	98.8	139	1	0.100-273			33.8	60
1,2-Dichlorobenzene	0.00500	ND	0.00509	0.00764	102	153	1	18.0-190			40.1	57
1,3-Dichlorobenzene	0.00500	ND	0.00499	0.00737	99.8	147	1	59.0-156			38.5	43
1,4-Dichlorobenzene	0.00500	ND	0.00507	0.00691	101	138	1	18.0-190			30.7	57
Dichlorodifluoromethane	0.00500	ND	0.00651	0.00896	130	179	1	20.0-160		J3 J5	31.7	20
1,1-Dichloroethane	0.00500	ND	0.00558	0.00743	112	149	1	59.0-155			28.4	40
1,2-Dichloroethane	0.00500	ND	0.00524	0.00764	105	153	1	49.0-155			37.3	49
1,1-Dichloroethene	0.00500	ND	0.00564	0.00823	113	165	1	0.100-234		J3	37.3	32
trans-1,2-Dichloroethene	0.00500	ND	0.00555	0.00769	111	154	1	54.0-156			32.3	45
1,2-Dichloropropane	0.00500	ND	0.00552	0.00787	110	157	1	0.100-210			35.1	55
cis-1,3-Dichloropropene	0.00500	ND	0.00497	0.00697	99.4	139	1	0.100-227			33.5	58
trans-1,3-Dichloropropene	0.00500	ND	0.00532	0.00738	106	148	1	17.0-183			32.4	86
Ethylbenzene	0.00500	ND	0.00538	0.00764	108	153	1	37.0-162			34.7	63
Methylene Chloride	0.00500	ND	0.00537	0.00752	107	150	1	0.100-221		J3	33.4	28
Methyl tert-butyl ether	0.00500	ND	0.00560	0.00759	112	152	1	42.0-142		J3 J5	30.2	20
Naphthalene	0.00500	ND	ND	0.00621	85.2	124	1	42.0-146		J3	37.2	20
1,1,2,2-Tetrachloroethane	0.00500	ND	0.00517	0.00757	103	151	1	46.0-157			37.7	61
Tetrachloroethene	0.00500	ND	0.00587	0.00782	117	156	1	64.0-148		J5	28.5	39
Toluene	0.00500	ND	0.00540	0.00757	108	151	1	47.0-150		J5	33.5	41
1,1,1-Trichloroethane	0.00500	ND	0.00573	0.00806	115	161	1	56.0-162			33.8	36
1,1,2-Trichloroethane	0.00500	ND	0.00557	0.00758	111	152	1	52.0-150		J5	30.6	45
Trichloroethene	0.00500	ND	0.00580	0.00785	116	157	1	70.0-157			30.0	48
Trichlorofluoromethane	0.00500	ND	0.00631	0.00877	126	175	1	17.0-181			32.6	84
Vinyl chloride	0.00500	ND	0.00547	0.00755	109	151	1	0.100-251			32.0	66
o-Xylene	0.00500	ND	0.00541	0.00747	108	149	1	44.0-146		J3 J5	32.0	20
m&p-Xylene	0.0100	ND	0.0109	0.0148	109	148	1	41.0-147		J3 J5	30.4	20
Xylenes, Total	0.0150	ND	0.0163	0.0223	109	149	1	41.0-148		J3 J5	31.1	20
(S) Toluene-d8					101	100		80.0-120				
(S) 4-Bromofluorobenzene					98.1	96.6		80.0-120				
(S) 1,2-Dichloroethane-d4					103	101		70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 624.1

L1750525-01

L1752769-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752769-03 07/06/24 01:59 • (MS) R4091218-6 07/06/24 06:56 • (MSD) R4091218-7 07/06/24 07:16

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 %
Benzene	0.00500	ND	0.00730	0.00726	146	145	1	37.0-151			0.549	61
Bromodichloromethane	0.00500	ND	0.00710	0.00710	142	142	1	35.0-155			0.000	56
Bromoform	0.00500	ND	0.00719	0.00719	144	144	1	45.0-169			0.000	42
Bromomethane	0.00500	ND	ND	0.00520	90.2	104	1	0.100-206			14.2	61
Carbon tetrachloride	0.00500	ND	0.00823	0.00835	165	167	1	70.0-140	J5	J5	1.45	41
Chlorobenzene	0.00500	ND	0.00741	0.00745	148	149	1	37.0-160			0.538	53
Chlorodibromomethane	0.00500	ND	0.00750	0.00741	150	148	1	53.0-149	J5		1.21	50
Chloroethane	0.00500	ND	0.00762	0.00804	152	161	1	14.0-230			5.36	78
2-Chloroethyl vinyl ether	0.0250	ND	ND	ND	0.000	0.000	1	0.100-305	J6	J6	0.000	71
Chloroform	0.00500	ND	0.00726	0.00728	145	146	1	51.0-138	J5	J5	0.275	54
Chloromethane	0.00500	ND	0.00678	0.00673	136	135	1	0.100-273			0.740	60
1,2-Dichlorobenzene	0.00500	ND	0.00716	0.00725	143	145	1	18.0-190			1.25	57
1,3-Dichlorobenzene	0.00500	ND	0.00701	0.00724	140	145	1	59.0-156			3.23	43
1,4-Dichlorobenzene	0.00500	ND	0.00719	0.00714	144	143	1	18.0-190			0.698	57
Dichlorodifluoromethane	0.00500	ND	0.00877	0.00887	175	177	1	20.0-160	J5	J5	1.13	20
1,1-Dichloroethane	0.00500	ND	0.00724	0.00758	145	152	1	59.0-155			4.59	40
1,2-Dichloroethane	0.00500	ND	0.00764	0.00721	153	144	1	49.0-155			5.79	49
1,1-Dichloroethene	0.00500	ND	0.00790	0.00811	158	162	1	0.100-234			2.62	32
trans-1,2-Dichloroethene	0.00500	ND	0.00736	0.00746	147	149	1	54.0-156			1.35	45
1,2-Dichloropropane	0.00500	ND	0.00713	0.00711	143	142	1	0.100-210			0.281	55
cis-1,3-Dichloropropene	0.00500	ND	0.00671	0.00685	134	137	1	0.100-227			2.06	58
trans-1,3-Dichloropropene	0.00500	ND	0.00714	0.00713	143	143	1	17.0-183			0.140	86
Ethylbenzene	0.00500	ND	0.00750	0.00778	150	156	1	37.0-162			3.66	63
Methylene Chloride	0.00500	ND	0.00699	0.00689	140	138	1	0.100-221			1.44	28
Methyl tert-butyl ether	0.00500	ND	0.00727	0.00719	145	144	1	42.0-142	J5	J5	1.11	20
Naphthalene	0.00500	ND	0.00603	0.00619	121	124	1	42.0-146			2.62	20
1,1,2,2-Tetrachloroethane	0.00500	ND	0.00735	0.00717	147	143	1	46.0-157			2.48	61
Tetrachloroethene	0.00500	ND	0.00808	0.00814	162	163	1	64.0-148	J5	J5	0.740	39
Toluene	0.00500	ND	0.00740	0.00734	148	147	1	47.0-150			0.814	41
1,1,1-Trichloroethane	0.00500	ND	0.00748	0.00796	150	159	1	56.0-162			6.22	36
1,1,2-Trichloroethane	0.00500	ND	0.00756	0.00758	151	152	1	52.0-150	J5	J5	0.264	45
Trichloroethene	0.00500	ND	0.00760	0.00767	152	153	1	70.0-157			0.917	48
Trichlorofluoromethane	0.00500	ND	0.00857	0.00863	171	173	1	17.0-181			0.698	84
Vinyl chloride	0.00500	ND	0.00718	0.00733	144	147	1	0.100-251			2.07	66
o-Xylene	0.00500	ND	0.00753	0.00753	151	151	1	44.0-146	J5	J5	0.000	20
m&p-Xylene	0.0100	ND	0.0145	0.0147	145	147	1	41.0-147			1.37	20
Xylenes, Total	0.0150	ND	0.0220	0.0222	147	148	1	41.0-148			0.905	20
(S) Toluene-d8					102	101		80.0-120				
(S) 4-Bromofluorobenzene					96.9	94.6		80.0-120				
(S) 1,2-Dichloroethane-d4					101	106		70.0-130				

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

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

L1750525-01

Method Blank (MB)

(MB) R4088778-2 06/28/24 23:15

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

L1750525-01

Method Blank (MB)

(MB) R4088778-2 06/28/24 23:15

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	80.7			15.0-314
(S) 2-Fluorobiphenyl	82.1			22.0-127
(S) p-Terphenyl-d14	83.5			29.0-141
(S) Phenol-d5	24.3			8.00-424
(S) 2-Fluorophenol	39.8			10.0-120
(S) 2,4,6-Tribromophenol	71.0			10.0-153

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4088778-1 06/28/24 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0412	82.4	47.0-145	
Acenaphthylene	0.0500	0.0423	84.6	33.0-145	
Anthracene	0.0500	0.0421	84.2	27.0-133	
Benzidine	0.100	0.00658	6.58	1.00-120	
Benzo(a)anthracene	0.0500	0.0444	88.8	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0427	85.4	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0430	86.0	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0423	84.6	1.00-219	
Benzo(a)pyrene	0.0500	0.0445	89.0	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0386	77.2	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0463	92.6	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0414	82.8	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0406	81.2	53.0-127	

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

L1750525-01

Laboratory Control Sample (LCS)

(LCS) R4088778-1 06/28/24 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0389	77.8	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0396	79.2	25.0-158	
Chrysene	0.0500	0.0428	85.6	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0449	89.8	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0867	86.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0483	96.6	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0466	93.2	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0464	92.8	37.0-125	N2
Fluoranthene	0.0500	0.0412	82.4	26.0-137	
Fluorene	0.0500	0.0421	84.2	59.0-121	
Hexachlorobenzene	0.0500	0.0367	73.4	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0314	62.8	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0276	55.2	10.0-120	
Hexachloroethane	0.0500	0.0392	78.4	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0423	84.6	1.00-171	
Isophorone	0.0500	0.0337	67.4	21.0-196	
Naphthalene	0.0500	0.0340	68.0	21.0-133	
Nitrobenzene	0.0500	0.0429	85.8	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0210	42.0	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0435	87.0	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0370	74.0	1.00-230	
Phenanthrene	0.0500	0.0418	83.6	54.0-120	
Benzylbutyl phthalate	0.0500	0.0482	96.4	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0463	92.6	8.00-158	
Di-n-butyl phthalate	0.0500	0.0466	93.2	1.00-120	
Diethyl phthalate	0.0500	0.0452	90.4	1.00-120	
Dimethyl phthalate	0.0500	0.0427	85.4	1.00-120	
Di-n-octyl phthalate	0.0500	0.0473	94.6	4.00-146	
Pyrene	0.0500	0.0447	89.4	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0329	65.8	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0382	76.4	22.0-147	
2-Chlorophenol	0.0500	0.0350	70.0	23.0-134	
2,4-Dichlorophenol	0.0500	0.0375	75.0	39.0-135	
2,4-Dimethylphenol	0.0500	0.0429	85.8	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0467	93.4	1.00-181	
2,4-Dinitrophenol	0.0500	0.0468	93.6	1.00-191	
2-Nitrophenol	0.0500	0.0451	90.2	29.0-182	
4-Nitrophenol	0.0500	0.0158	31.6	1.00-132	
Pentachlorophenol	0.0500	0.0336	67.2	14.0-176	
Phenol	0.0500	0.0131	26.2	5.00-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4088778-1 06/28/24 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,6-Trichlorophenol	0.0500	0.0450	90.0	37.0-144	
(S) Nitrobenzene-d5			76.5	15.0-314	
(S) 2-Fluorobiphenyl			78.7	22.0-127	
(S) p-Terphenyl-d14			80.0	29.0-141	
(S) Phenol-d5			23.9	8.00-424	
(S) 2-Fluorophenol			33.6	10.0-120	
(S) 2,4,6-Tribromophenol			78.0	10.0-153	

L1750394-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750394-01 06/29/24 02:29 • (MS) R4088778-3 06/29/24 02:51 • (MSD) R4088778-4 06/29/24 03:12

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 %
Acenaphthene	0.0500	ND	0.0324	0.0316	64.8	63.2	1	47.0-145			2.50	48
Acenaphthylene	0.0500	ND	0.0334	0.0325	66.8	65.0	1	33.0-145			2.73	74
Anthracene	0.0500	ND	0.0363	0.0352	72.6	70.4	1	27.0-133			3.08	66
Benzydine	0.100	ND	ND	ND	0.000	0.000	1	1.00-120	J6	J6	0.000	40
Benzo(a)anthracene	0.0500	ND	0.0391	0.0372	78.2	74.4	1	33.0-143			4.98	53
Benzo(b)fluoranthene	0.0500	ND	0.0373	0.0358	74.6	71.6	1	24.0-159			4.10	71
Benzo(k)fluoranthene	0.0500	ND	0.0370	0.0359	74.0	71.8	1	11.0-162			3.02	63
Benzo(g,h,i)perylene	0.0500	ND	0.0368	0.0354	73.6	70.8	1	1.00-219			3.88	97
Benzo(a)pyrene	0.0500	ND	0.0396	0.0378	79.2	75.6	1	17.0-163			4.65	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0300	0.0283	60.0	56.6	1	33.0-184			5.83	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0374	0.0352	74.8	70.4	1	12.0-158			6.06	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0305	0.0283	61.0	56.6	1	36.0-166			7.48	76
4-Bromophenyl-phenylether	0.0500	ND	0.0338	0.0332	67.6	66.4	1	53.0-127			1.79	43
2-Chloronaphthalene	0.0500	ND	0.0297	0.0286	59.4	57.2	1	60.0-120	J6	J6	3.77	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0324	0.0315	64.8	63.0	1	25.0-158			2.82	61
Chrysene	0.0500	ND	0.0375	0.0359	75.0	71.8	1	17.0-168			4.36	87
Dibenz(a,h)anthracene	0.0500	ND	0.0389	0.0376	77.8	75.2	1	1.00-227			3.40	126
3,3-Dichlorobenzidine	0.100	ND	0.0552	0.0533	55.2	53.3	1	1.00-262			3.50	108
2,4-Dinitrotoluene	0.0500	ND	0.0418	0.0402	83.6	80.4	1	39.0-139			3.90	42
2,6-Dinitrotoluene	0.0500	ND	0.0387	0.0378	77.4	75.6	1	50.0-158			2.35	48
1,2-Diphenylhydrazine	0.0500	ND	0.0380	0.0374	76.0	74.8	1	18.0-156	N2	N2	1.59	34
Fluoranthene	0.0500	ND	0.0361	0.0350	72.2	70.0	1	26.0-137			3.09	66
Fluorene	0.0500	ND	0.0344	0.0339	68.8	67.8	1	59.0-121			1.46	38
Hexachlorobenzene	0.0500	ND	0.0306	0.0303	61.2	60.6	1	1.00-152			0.985	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0199	0.0194	39.8	38.8	1	24.0-120			2.54	62
Hexachlorocyclopentadiene	0.0500	ND	0.0208	0.0195	41.6	39.0	1	10.0-146			6.45	34

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

L1750394-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1750394-01 06/29/24 02:29 • (MS) R4088778-3 06/29/24 02:51 • (MSD) R4088778-4 06/29/24 03:12

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 %
Hexachloroethane	0.0500	ND	0.0234	0.0227	46.8	45.4	1	40.0-120			3.04	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0358	0.0345	71.6	69.0	1	1.00-171			3.70	99
Isophorone	0.0500	ND	0.0265	0.0250	53.0	50.0	1	21.0-196			5.83	93
Naphthalene	0.0500	ND	0.0249	0.0235	49.8	47.0	1	21.0-133			5.79	65
Nitrobenzene	0.0500	ND	0.0332	0.0311	66.4	62.2	1	35.0-180			6.53	62
n-Nitrosodimethylamine	0.0500	ND	0.0234	0.0235	46.8	47.0	1	10.0-120			0.426	40
n-Nitrosodiphenylamine	0.0500	ND	0.0370	0.0369	74.0	73.8	1	16.0-160			0.271	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0311	0.0292	62.2	58.4	1	1.00-230			6.30	87
Phenanthrene	0.0500	ND	0.0352	0.0354	70.4	70.8	1	54.0-120			0.567	39
Benzylbutyl phthalate	0.0500	ND	0.0435	0.0417	85.0	81.4	1	1.00-152			4.23	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0414	0.0389	80.2	75.2	1	8.00-158			6.23	82
Di-n-butyl phthalate	0.0500	ND	0.0413	0.0407	82.6	81.4	1	1.00-120			1.46	47
Diethyl phthalate	0.0500	ND	0.0385	0.0374	77.0	74.8	1	1.00-120			2.90	100
Dimethyl phthalate	0.0500	ND	0.0357	0.0341	71.4	68.2	1	1.00-120			4.58	183
Di-n-octyl phthalate	0.0500	ND	0.0417	0.0403	83.4	80.6	1	4.00-146			3.41	69
Pyrene	0.0500	ND	0.0396	0.0377	79.2	75.4	1	52.0-120			4.92	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0226	0.0217	45.2	43.4	1	44.0-142		J6	4.06	50
4-Chloro-3-methylphenol	0.0500	ND	0.0289	0.0277	57.8	55.4	1	22.0-147			4.24	73
2-Chlorophenol	0.0500	ND	0.0249	0.0233	49.8	46.6	1	23.0-134			6.64	61
2,4-Dichlorophenol	0.0500	ND	0.0286	0.0271	57.2	54.2	1	39.0-135			5.39	50
2,4-Dimethylphenol	0.0500	ND	0.0340	0.0318	67.4	63.0	1	32.0-120			6.69	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0390	0.0377	78.0	75.4	1	1.00-181			3.39	203
2,4-Dinitrophenol	0.0500	ND	0.0391	0.0379	78.2	75.8	1	1.00-191			3.12	132
2-Nitrophenol	0.0500	ND	0.0331	0.0312	66.2	62.4	1	29.0-182			5.91	55
4-Nitrophenol	0.0500	ND	0.0152	0.0144	30.4	28.8	1	1.00-132			5.41	131
Pentachlorophenol	0.0500	ND	0.0320	0.0301	64.0	60.2	1	14.0-176			6.12	86
Phenol	0.0500	ND	0.0104	ND	20.8	19.4	1	5.00-120			6.97	64
2,4,6-Trichlorophenol	0.0500	ND	0.0359	0.0344	71.8	68.8	1	37.0-144			4.27	58
(S) Nitrobenzene-d5					60.5	55.5		15.0-314				
(S) 2-Fluorobiphenyl					60.6	59.1		22.0-127				
(S) p-Terphenyl-d14					71.8	66.4		29.0-141				
(S) Phenol-d5					19.7	17.9		8.00-424				
(S) 2-Fluorophenol					27.0	25.8		10.0-120				
(S) 2,4,6-Tribromophenol					68.5	65.0		10.0-153				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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
C6	The initial calibration verification standard (SSCV) associated with this data responded low.
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.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
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

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

Company Name/Address:
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 73102-5015

Email To:
paul.barbour@dvn.com;asharma@ccrh2o.com

Report to:
Paul Barbour

Project Description:
Desalination Pilot

City/State Collected:
Jal, NM

Please Circle:
PT MT CT ET
PT

Phone: **405-228-4308**

Client Project #
212644-02831

Lab Project #
DEVENEOCOK-EFFLUENT

Collected by (print):
Danny Daniels

Site/Facility ID #
CCR

P.O. #

Collected by (signature):
[Signature]

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

No. of Cntrs

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

625.1 100ml Amb-NaTio

Custom Metals 250mlHDPE-HNO3

DO,ORP,pH 500mlHDPE-NoPres

DOC 250mlAmb-No Pres

GROSS ALPHA/BETA 1L-HDPE-Add HNO3

GROSS ALPHA/BETA 500mlHDPE-Add HNO3

MBAS,Cl,F,SO4,Br 1L-HDPE NoPres

NH3 250mlHDPENaThioH2SO4

OGHEX 1L-Clr-WT-HCl

PFAS 1633 500mlHDPE-Trizma

Chain of Custody Page 1 of 2

Pace
PEOPLE ADVANCING SCIENCE

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/hubs/pas-standard-terms.pdf>

SDG # **L1700525**
E036

Ta

Acctnum: **DEVENEOCOK**
Template: **T253875**
Prelogin: **P1083340**
PM: **3500 - Jennifer Gambill**
PB:

Shipped Via: **FedEX Ground**

Remarks

Sample # (lab only)

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
____ UPS ____ FedEx ____ Courier

Tracking #

Relinquished by: (Signature)
[Signature]

Date:
6-25-24

Time:
1530

Received by: (Signature)
[Signature]

Trip Blank Received: Yes ☒ No ☐
HCL/ MeOH
TBR

Relinquished by: (Signature)
[Signature]

Date:
6/25/24

Time:
4:00

Received by: (Signature)
[Signature]

Temp: **EDATC** Bottles Received:
15.1 + 0.3 = 15.4 ZV

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)
[Signature]

Date:
6-26-24

Time:
0800

Hold:

Condition:
NCF / OK

Sample Receipt Checklist
COC Seal Present/Intact: ☒ NP ☐ Y ☐ N
COC Signed/Accurate: ☒ N ☐ Y ☐ N
Bottles arrive intact: ☒ N ☐ Y ☐ N
Correct bottles used: ☒ N ☐ Y ☐ N
Sufficient volume sent: ☒ N ☐ Y ☐ N
If Applicable
VOA Zero Headspace: ☒ Y ☐ N
Preservation Correct/Checked: ☒ N ☐ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

[illegible]



July 03, 2024

Subout Team
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1750525
Pace Project No.: 30696464

Dear Subout Team:

Enclosed are the analytical results for sample(s) received by the laboratory on June 29, 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: L1750525

Pace Project No.: 30696464

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



SAMPLE SUMMARY

Project: L1750525

Pace Project No.: 30696464

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30696464001	L1750525-01	Water	06/25/24 08:40	06/29/24 10:28

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



SAMPLE ANALYTE COUNT

Project: L1750525

Pace Project No.: 30696464

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30696464001	L1750525-01	SM 5910B-11	SDW	1	PASI-BV

PASI-BV = Pace Analytical Services - Beaver

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



ANALYTICAL RESULTS

Project: L1750525

Pace Project No.: 30696464

Sample: L1750525-01		Lab ID: 30696464001	Collected: 06/25/24 08:40	Received: 06/29/24 10:28	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	0.014	cm-1	0.0030	1		07/02/24 14:03		H3,N2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/03/2024 03:17 PM

Page 5 of 10



QUALITY CONTROL DATA

Project: L1750525

Pace Project No.: 30696464

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: 30696464001

METHOD BLANK: 3309190

Matrix: Water

Associated Lab Samples: 30696464001

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/03/2024 03:17 PM

Page 6 of 10



QUALIFIERS

Project: L1750525
Pace Project No.: 30696464

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/03/2024 03:17 PM

Page 7 of 10



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1750525

Pace Project No.: 30696464

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30696464001	L1750525-01	SM 5910B-11	679668		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/03/2024 03:17 PM

Page 8 of 10

Sub-Contract Chain of Custody

Batch Date/Time: 06/26/24 13:29
Sub-Contract Lab: PACEBWV
Address: 225 Industrial Park Road
City/State: Beaver, WV 25813
Contact:
 Nikayla.Yasurek@pacelabs.com
Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG2312630
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/11/24
ESC Purchase Order #: L1750525
Send Reports to: James C Huckaba


 12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 Phone: (615) 773-9756
 Fax: (615) 758-5859

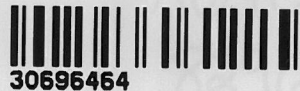
Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
CCR CLEAN EFFLUENT						
S48079415	WW	NM	06/25/24 08:40	UV-254	2. L1750525-01	UV-254
S48079416						

*= Container used for multiple Samples and/or Analyses

Relinquished by: _____ Date: 6-26-24
 Recieved by: [Signature] Date: 6-29-24 1028
 Relinquished by: _____ Date: _____
 Recieved by: _____ Date: _____

Temp 3.4

WO# : 30696464



30696464

DC#_Title: ENV-FRM-BEAV-0058 v03_Pace WV Sample Condition Upon Receipt (S
Effective Date: 2/8/2023

WO#: 30696464

PM: NMY

Due Date: 07/16/24

CLIENT: ESC

LIMS30 Lab Sample Condition Upon Receipt (West Virginia)

Put label here prior to scanning

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 _____ Type of Ice: Wet Blue None

Cooler Temperature _____ Observed Temp 3.4 °C Correction Factor: 0.0 °C Final Temp: 3.4 °C

Thermal Preservation Requirement Met Yes ☒ No ☐

pH paper Lot#

204524

Date and Initials of person examining

contents: RC 7/1/24

	Yes	No	N/A	
Chain of Custody Present:	☒			1.
Chain of Custody Filled Out:	☒			2.
Chain of Custody Relinquished:	☒			3.
Sampler Name & Signature on COC:	☒			4.
Sample Labels match COC:	☒			5.
-Includes date/time/ID				
Matrix: <u>WW</u>				
Samples Arrived within Hold Time:	☒			6.
Short Hold Time Analysis (<72hr remaining):		☒		7.
Rush Turn Around Time Requested:		☒		8.
Sufficient Volume:	☒			9.
Correct Containers Used:	☒			10.
-Pace Containers Used:	☒			
Containers Intact:	☒			11.
Orthophosphate field filtered:			☒	12.
Hex Cr Aqueous sample field filtered:			☒	13.
-pH adjusted within 24 hours? (If yes, indicate acid lot #)			☒	
Filtered volume received for Dissolved tests:			☒	14.
All containers have been checked for chemical preservation:			☒	15.
exceptions: VOA, coliform, O&G, LLMercury, Non-aqueous matrix				
All containers meet method/chemical preservation requirements:			☒	
Initial when completed			<u>RC</u>	Date: <u>7/1/24</u>
Tests not preserved:				
Headspace in VOA Vials:			☒	16.
Trip Blank Present:			☒	17.
Initial when completed			<u>RC</u>	Date: <u>7/1/24</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.



ANALYTICAL REPORT

July 23, 2024

¹Cp

²Tc

³Ss

⁴Cn

⁵Gl

⁶Al

⁷Sc

Devon Energy - Oklahoma City, OK

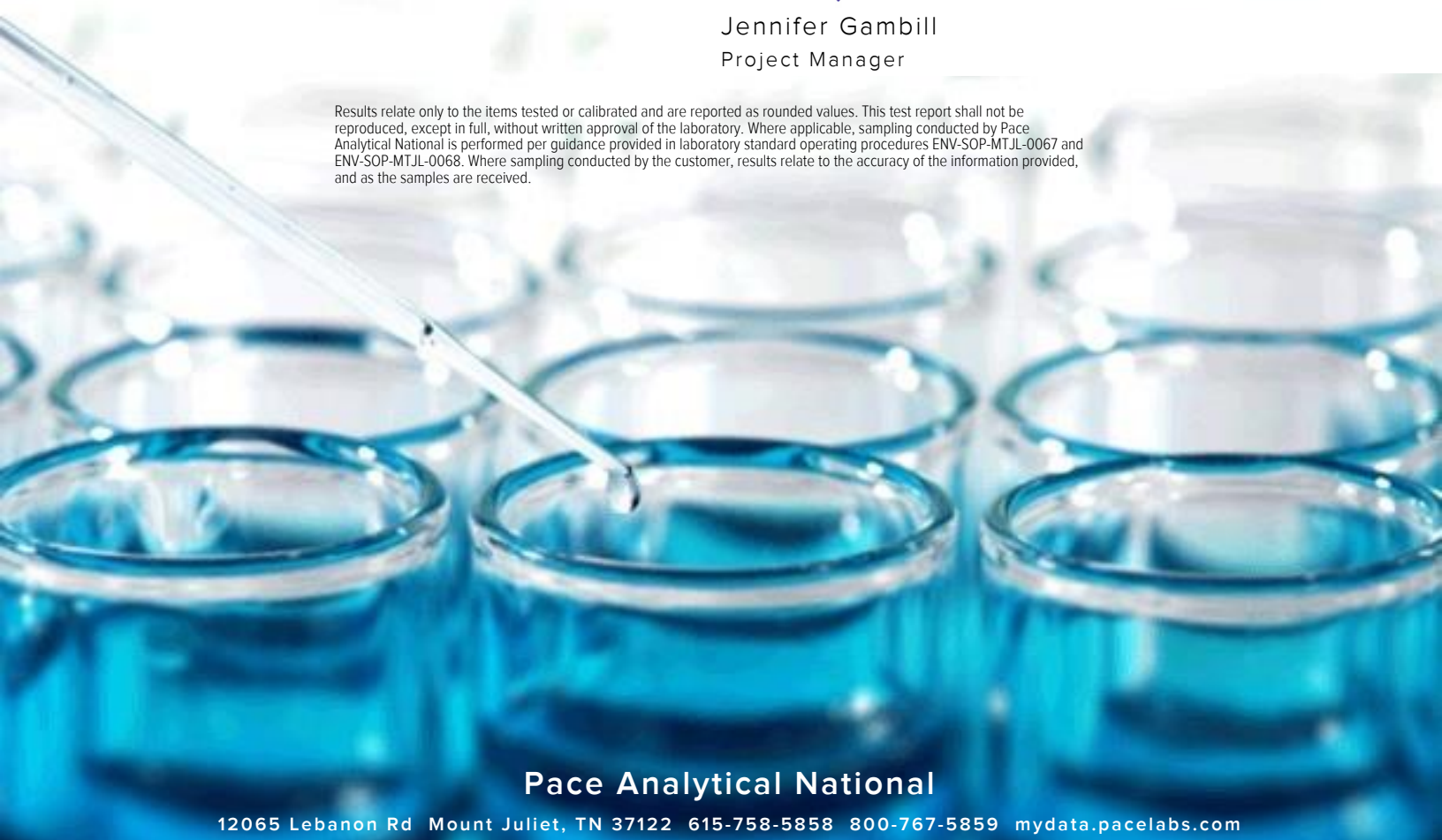
Sample Delivery Group: L1750526
Samples Received: 06/26/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot
Site: CCR
Report To: Paul Barbour
333 W Sheridan Avenue
Oklahoma City, OK 73102-5015

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

CCR CLEAN EFFLUENT PFAS L1750526-01 GW

Collected by
Danny Daniels

Collected date/time
06/25/24 08:40

Received date/time
06/26/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2312656	1	07/18/24 00:00	07/18/24 00:00	-	East Longmeadow, MA 01028

¹Cp

²Tc

³Ss

⁴Cn

⁵Gl

⁶Al

⁷Sc

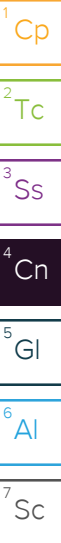
All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples 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

L1750526 -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.

1

Cp

2

Tc

3

Ss

4

Cn

5

Gl

6

Al

7

Sc

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 10:49:42 AM

Released to Imaging: 9/6/2024 10:49:42 AM



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

July 17, 2024

Subout Team
Pace National - TN
12065 Lebanon Road
Mt. Juliet, TN 37122

Project Location: NM
Client Job Number:
Project Number: WG2312656
Laboratory Work Order Number: 24F3940

Enclosed are results of analyses for samples as received by the laboratory on June 27, 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 A. Feliciano". The signature is fluid and cursive, with a large initial "K" and a long, sweeping underline.

Kaitlyn A. Feliciano
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

 24F3940-01 5

Sample Preparation Information 8

QC Data 9

 Semivolatile Organic Compounds by - LC/MS-MS 9

 B379732 9

 Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) 14

 B378608 14

Flag/Qualifier Summary 15

Certifications 16

Chain of Custody/Sample Receipt 18



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: Subout Team

REPORT DATE: 7/17/2024

PURCHASE ORDER NUMBER: L1750526

PROJECT NUMBER: WG2312656

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24F3940

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
CCR CLEAN EFFLUENT PFAS	24F3940-01	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.

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: 24F3940

Date Received: 6/27/2024

Field Sample #: CCR CLEAN EFFLUENT PFAS Sampled: 6/25/2024 08:40

Sample ID: 24F3940-01

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	3.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorooctanoic acid (PFOA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorononanoic acid (PFNA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorodecanoic acid (PFDA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.96	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	9.6	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.6	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
11Cl-PF3OUDS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.6	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
2H,2H,3H,3H-Perfluorooctanoic acid (FPePA)(5:3FTCA)	ND	48	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	48	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS



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

Project Location: NM

Sample Description:

Work Order: 24F3940

Date Received: 6/27/2024

Field Sample #: CCR CLEAN EFFLUENT PFAS Sampled: 6/25/2024 08:40

Sample ID: 24F3940-01

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	7/11/24	7/12/24 22:48	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	7/11/24	7/12/24 22:48	AMS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	14.9	10-130						7/12/24 22:48	
13C5-PFPeA	86.0	35-150						7/12/24 22:48	
13C5-PFHxA	85.5	55-150						7/12/24 22:48	
13C4-PFHpA	84.6	55-150						7/12/24 22:48	
13C8-PFOA	88.5	60-140						7/12/24 22:48	
13C9-PFNA	87.5	55-140						7/12/24 22:48	
13C6-PFDA	89.1	50-140						7/12/24 22:48	
13C7-PFUnA	78.3	30-140						7/12/24 22:48	
13C2-PFDoA	80.3	10-150						7/12/24 22:48	
13C2-PFTeDA	74.0	10-130						7/12/24 22:48	
13C3-PFBS	90.9	55-150						7/12/24 22:48	
13C3-PFHxS	88.9	55-150						7/12/24 22:48	
13C8-PFOS	88.4	45-140						7/12/24 22:48	
13C2-4:2FTS	91.3	60-200						7/12/24 22:48	
13C2-6:2FTS	83.8	60-200						7/12/24 22:48	
13C2-8:2FTS	73.1	50-200						7/12/24 22:48	
13C8-PFOSA	86.0	30-130						7/12/24 22:48	
D3-NMeFOSA	81.4	15-130						7/12/24 22:48	
D5-NEtFOSA	82.5	10-130						7/12/24 22:48	
D3-NMeFOSAA	91.1	45-200						7/12/24 22:48	
D5-NEtFOSAA	84.4	10-200						7/12/24 22:48	
D7-NMeFOSE	71.1	10-150						7/12/24 22:48	
D9-NEtFOSE	73.5	10-150						7/12/24 22:48	
13C3-HFPO-DA	89.3	25-160						7/12/24 22:48	



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

Project Location: NM

Sample Description:

Work Order: 24F3940

Date Received: 6/27/2024

Field Sample #: CCR CLEAN EFFLUENT PFAS Sampled: 6/25/2024 08:40

Sample ID: 24F3940-01

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		Draft Method 1633	6/28/24	6/28/24 10:42	LL



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

Sample Extraction Data

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date	
24F3940-01 [CCR CLEAN EFFLUENT PFAS]	B378608	50.0	06/28/24	

Prep Method:Draft Method 1633 Analytical Method:Draft Method 1633 Leachates were extracted on 6/28/2024 per NO PREP in Batch B378608

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24F3940-01 [CCR CLEAN EFFLUENT PFAS]	B379732	519	5.00	07/11/24



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
Batch B379732 - Draft Method 1633										
Blank (B379732-BLK1)										
				Prepared: 07/11/24 Analyzed: 07/12/24						
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.97	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.97	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.97	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.97	ng/L							
Perfluorodecanoic acid (PFDA)	ND	0.97	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.97	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.97	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.97	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.97	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.97	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.97	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.97	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.97	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.97	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	0.97	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.97	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.97	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.97	ng/L							
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.97	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.97	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.97	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.97	ng/L							
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	9.7	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.7	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.7	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	ND	1.9	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L							
Surrogate: 13C4-PFBA	91.6		ng/L	97.3		94.1	10-130			



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B379732 - Draft Method 1633

Blank (B379732-BLK1)

Prepared: 07/11/24 Analyzed: 07/12/24

Surrogate: 13C5-PFPeA	45.4		ng/L	48.6		93.3	35-150			
Surrogate: 13C5-PFHxA	22.8		ng/L	24.3		93.7	55-150			
Surrogate: 13C4-PFHpA	22.0		ng/L	24.3		90.4	55-150			
Surrogate: 13C8-PFOA	23.3		ng/L	24.3		95.6	60-140			
Surrogate: 13C9-PFNA	11.8		ng/L	12.2		97.4	55-140			
Surrogate: 13C6-PFDA	11.6		ng/L	12.2		95.8	50-140			
Surrogate: 13C7-PFUnA	10.8		ng/L	12.2		88.8	30-140			
Surrogate: 13C2-PFDoA	10.2		ng/L	12.2		84.2	10-150			
Surrogate: 13C2-PFTeDA	10.3		ng/L	12.2		84.4	10-130			
Surrogate: 13C3-PFBS	24.2		ng/L	24.3		99.4	55-150			
Surrogate: 13C3-PFHxS	22.9		ng/L	24.3		94.0	55-150			
Surrogate: 13C8-PFOS	22.3		ng/L	24.3		91.7	45-140			
Surrogate: 13C2-4:2FTS	50.5		ng/L	48.6		104	60-200			
Surrogate: 13C2-6:2FTS	45.2		ng/L	48.6		92.9	60-200			
Surrogate: 13C2-8:2FTS	40.6		ng/L	48.6		83.4	50-200			
Surrogate: 13C8-PFOA	21.4		ng/L	24.3		88.1	30-130			
Surrogate: D3-NMeFOSA	19.5		ng/L	24.3		80.0	15-130			
Surrogate: D5-NEtFOSA	21.1		ng/L	24.3		86.7	10-130			
Surrogate: D3-NMeFOSAA	48.3		ng/L	48.6		99.4	45-200			
Surrogate: D5-NEtFOSAA	43.3		ng/L	48.6		89.0	10-200			
Surrogate: D7-NMeFOSE	202		ng/L	243		83.0	10-150			
Surrogate: D9-NEtFOSE	209		ng/L	243		85.8	10-150			
Surrogate: 13C3-HFPO-DA	89.9		ng/L	97.3		92.5	25-160			

LCS (B379732-BS1)

Prepared: 07/11/24 Analyzed: 07/12/24

Perfluorobutanoic acid (PFBA)	90.6	3.9	ng/L	94.2		96.2	58-148			
Perfluoropentanoic acid (PFPeA)	45.3	2.0	ng/L	47.1		96.2	54-152			
Perfluorohexanoic acid (PFHxA)	22.6	0.98	ng/L	23.6		96.0	55-152			
Perfluoroheptanoic acid (PFHpA)	22.6	0.98	ng/L	23.6		95.9	54-154			
Perfluorooctanoic acid (PFOA)	22.2	0.98	ng/L	23.6		94.1	52-161			
Perfluorononanoic acid (PFNA)	21.5	0.98	ng/L	23.6		91.3	59-149			
Perfluorodecanoic acid (PFDA)	23.4	0.98	ng/L	23.6		99.1	52-147			
Perfluoroundecanoic acid (PFUnA)	22.8	0.98	ng/L	23.6		96.7	48-159			
Perfluorododecanoic acid (PFDoA)	23.6	0.98	ng/L	23.6		100	64-142			
Perfluorotridecanoic acid (PFTTrDA)	22.8	0.98	ng/L	23.6		96.9	49-148			
Perfluorotetradecanoic acid (PFTeDA)	22.6	0.98	ng/L	23.6		95.8	47-161			
Perfluorobutanesulfonic acid (PFBS)	19.8	0.98	ng/L	20.9		94.9	62-144			
Perfluoropentanesulfonic acid (PFPeS)	20.3	0.98	ng/L	22.1		91.8	59-151			
Perfluorohexanesulfonic acid (PFHxS)	23.8	0.98	ng/L	21.6		110	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	21.7	0.98	ng/L	22.4		96.7	55-152			
Perfluorooctanesulfonic acid (PFOS)	26.0	0.98	ng/L	21.9		119	58-149			
Perfluorononanesulfonic acid (PFNS)	21.2	0.98	ng/L	22.7		93.4	52-148			
Perfluorodecanesulfonic acid (PFDS)	20.5	0.98	ng/L	22.7		90.1	51-147			
Perfluorododecanesulfonic acid (PFDoS)	20.1	0.98	ng/L	22.9		87.7	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	92.0	3.9	ng/L	88.4		104	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	95.1	3.9	ng/L	89.5		106	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	91.3	3.9	ng/L	90.7		101	63-152			
Perfluorooctanesulfonamide (PFOSA)	22.3	0.98	ng/L	23.6		94.7	61-148			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	22.2	0.98	ng/L	23.6		94.4	63-145			



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B379732 - Draft Method 1633

LCS (B379732-BS1)

Prepared: 07/11/24 Analyzed: 07/12/24

N-ethyl perfluorooctanesulfonamide (NEtFOSA)	21.6	0.98	ng/L	23.6		91.9	65-139			
N-MeFOSAA (NMeFOSAA)	27.0	0.98	ng/L	23.6		115	58-144			
N-EtFOSAA (NEtFOSAA)	26.5	0.98	ng/L	23.6		112	59-146			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	234	9.8	ng/L	236		99.4	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	237	9.8	ng/L	236		101	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	92.1	3.9	ng/L	94.2		97.7	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	86.7	3.9	ng/L	88.9		97.5	68-146			
9Cl-PF3ONS (F53B Minor)	79.2	3.9	ng/L	88.4		89.7	56-156			
11Cl-PF3OUdS (F53B Major)	78.2	3.9	ng/L	88.9		88.0	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	219	9.8	ng/L	236		92.8	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid (FPePA) (5:3FTCA)	1100	49	ng/L	1180		93.5	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	996	49	ng/L	1180		84.6	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	40.3	2.0	ng/L	41.9		96.1	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	45.8	2.0	ng/L	47.1		97.3	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	45.6	2.0	ng/L	47.1		96.7	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	49.2	2.0	ng/L	47.1		104	48-161			
Surrogate: 13C4-PFBA	86.2		ng/L	98.2		87.8	10-130			
Surrogate: 13C5-PFPeA	42.8		ng/L	49.1		87.2	35-150			
Surrogate: 13C5-PFHxA	21.6		ng/L	24.5		88.0	55-150			
Surrogate: 13C4-PFHpA	21.1		ng/L	24.5		85.8	55-150			
Surrogate: 13C8-PFOA	21.8		ng/L	24.5		88.8	60-140			
Surrogate: 13C9-PFNA	11.5		ng/L	12.3		93.5	55-140			
Surrogate: 13C6-PFDA	10.5		ng/L	12.3		85.9	50-140			
Surrogate: 13C7-PFUnA	9.75		ng/L	12.3		79.4	30-140			
Surrogate: 13C2-PFDoA	9.51		ng/L	12.3		77.5	10-150			
Surrogate: 13C2-PFTeDA	9.29		ng/L	12.3		75.7	10-130			
Surrogate: 13C3-PFBS	22.6		ng/L	24.5		92.1	55-150			
Surrogate: 13C3-PFHxS	21.9		ng/L	24.5		89.3	55-150			
Surrogate: 13C8-PFOS	22.1		ng/L	24.5		90.0	45-140			
Surrogate: 13C2-4:2FTS	42.6		ng/L	49.1		86.7	60-200			
Surrogate: 13C2-6:2FTS	41.1		ng/L	49.1		83.7	60-200			
Surrogate: 13C2-8:2FTS	35.7		ng/L	49.1		72.8	50-200			
Surrogate: 13C8-PFOSA	20.7		ng/L	24.5		84.2	30-130			
Surrogate: D3-NMeFOSA	18.5		ng/L	24.5		75.6	15-130			
Surrogate: D5-NEtFOSA	19.4		ng/L	24.5		78.9	10-130			
Surrogate: D3-NMeFOSAA	45.5		ng/L	49.1		92.7	45-200			
Surrogate: D5-NEtFOSAA	40.9		ng/L	49.1		83.4	10-200			
Surrogate: D7-NMeFOSE	193		ng/L	245		78.7	10-150			
Surrogate: D9-NEtFOSE	190		ng/L	245		77.2	10-150			
Surrogate: 13C3-HFPO-DA	89.2		ng/L	98.2		90.9	25-160			

MRL Check (B379732-MRL1)

Prepared: 07/11/24 Analyzed: 07/12/24

Perfluorobutanoic acid (PFBA)	7.69	4.0	ng/L	7.92		97.2	44-157			
Perfluoropentanoic acid (PFPeA)	3.82	2.0	ng/L	3.96		96.6	57-148			



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B379732 - Draft Method 1633

MRL Check (B379732-MRL1)

Prepared: 07/11/24 Analyzed: 07/12/24

Perfluorohexanoic acid (PFHxA)	2.02	0.99	ng/L	1.98		102	62-149			
Perfluoroheptanoic acid (PFHpA)	1.86	0.99	ng/L	1.98		94.1	56-150			
Perfluorooctanoic acid (PFOA)	2.19	0.99	ng/L	1.98		111	57-161			
Perfluorononanoic acid (PFNA)	1.92	0.99	ng/L	1.98		96.9	53-157			
Perfluorodecanoic acid (PFDA)	2.05	0.99	ng/L	1.98		104	43-158			
Perfluoroundecanoic acid (PFUnA)	1.78	0.99	ng/L	1.98		90.0	50-155			
Perfluorododecanoic acid (PFDoA)	1.95	0.99	ng/L	1.98		98.5	60-141			
Perfluorotridecanoic acid (PFTrDA)	1.92	0.99	ng/L	1.98		96.8	52-140			
Perfluorotetradecanoic acid (PFTeDA)	1.84	0.99	ng/L	1.98		93.1	52-156			
Perfluorobutanesulfonic acid (PFBS)	1.70	0.99	ng/L	1.76		96.9	63-145			
Perfluoropentanesulfonic acid (PFPeS)	1.69	0.99	ng/L	1.86		90.9	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.35	0.99	ng/L	1.81		130	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	1.83	0.99	ng/L	1.88		97.0	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.32	0.99	ng/L	1.84		127	43-162			
Perfluorononanesulfonic acid (PFNS)	1.90	0.99	ng/L	1.90		99.9	46-151			
Perfluorodecanesulfonic acid (PFDS)	1.70	0.99	ng/L	1.91		89.2	50-144			
Perfluorododecanesulfonic acid (PFDoS)	1.77	0.99	ng/L	1.92		92.0	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	7.69	4.0	ng/L	7.42		104	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	7.67	4.0	ng/L	7.52		102	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	7.64	4.0	ng/L	7.62		100	46-165			
Perfluorooctanesulfonamide (PFOSA)	1.98	0.99	ng/L	1.98		100	47-163			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	2.06	0.99	ng/L	1.98		104	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.96	0.99	ng/L	1.98		99.0	49-156			
N-MeFOSAA (NMeFOSAA)	2.62	0.99	ng/L	1.98		132	32-160			
N-EtFOSAA (NEtFOSAA)	2.34	0.99	ng/L	1.98		118	51-154			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	19.8	9.9	ng/L	19.8		100	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	20.2	9.9	ng/L	19.8		102	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.47	4.0	ng/L	7.92		94.3	58-154			
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	6.67	4.0	ng/L	7.47		89.2	61-148			
9Cl-PF3ONS (F53B Minor)	6.41	4.0	ng/L	7.42		86.3	44-167			
11Cl-PF3OUdS (F53B Major)	6.11	4.0	ng/L	7.47		81.8	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	16.4	9.9	ng/L	19.8		82.8	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	83.3	49	ng/L	98.9		84.2	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	78.6	49	ng/L	98.9		79.4	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	2.93	2.0	ng/L	3.52		83.2	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.43	2.0	ng/L	3.96		86.7	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.41	2.0	ng/L	3.96		86.2	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.67	2.0	ng/L	3.96		92.7	47-160			
Surrogate: 13C4-PFBA	88.8		ng/L	98.9		89.8	10-130			
Surrogate: 13C5-PFPeA	43.5		ng/L	49.5		87.9	35-150			
Surrogate: 13C5-PFHxA	21.6		ng/L	24.7		87.4	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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B379732 - Draft Method 1633

MRL Check (B379732-MRL1)

Prepared: 07/11/24 Analyzed: 07/12/24

Surrogate: 13C4-PFHpA	21.4		ng/L	24.7		86.5	55-150			
Surrogate: 13C8-PFOA	22.5		ng/L	24.7		91.1	60-140			
Surrogate: 13C9-PFNA	11.3		ng/L	12.4		91.5	55-140			
Surrogate: 13C6-PFDA	11.1		ng/L	12.4		89.4	50-140			
Surrogate: 13C7-PFUnA	10.1		ng/L	12.4		81.6	30-140			
Surrogate: 13C2-PFDoA	9.90		ng/L	12.4		80.0	10-150			
Surrogate: 13C2-PFTeDA	9.76		ng/L	12.4		78.9	10-130			
Surrogate: 13C3-PFBS	23.4		ng/L	24.7		94.4	55-150			
Surrogate: 13C3-PFHxS	22.3		ng/L	24.7		90.2	55-150			
Surrogate: 13C8-PFOS	21.9		ng/L	24.7		88.4	45-140			
Surrogate: 13C2-4:2FTS	48.2		ng/L	49.5		97.4	60-200			
Surrogate: 13C2-6:2FTS	45.8		ng/L	49.5		92.6	60-200			
Surrogate: 13C2-8:2FTS	41.0		ng/L	49.5		83.0	50-200			
Surrogate: 13C8-PFOSA	20.3		ng/L	24.7		82.0	30-130			
Surrogate: D3-NMeFOSA	18.5		ng/L	24.7		74.8	15-130			
Surrogate: D5-NEtFOSA	19.5		ng/L	24.7		78.7	10-130			
Surrogate: D3-NMeFOSAA	44.3		ng/L	49.5		89.5	45-200			
Surrogate: D5-NEtFOSAA	41.8		ng/L	49.5		84.5	10-200			
Surrogate: D7-NMeFOSE	193		ng/L	247		77.9	10-150			
Surrogate: D9-NEtFOSE	190		ng/L	247		76.6	10-150			
Surrogate: 13C3-HFPO-DA	91.7		ng/L	98.9		92.6	25-160			



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

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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B378608 - Draft Method 1633

Blank (B378608-BLK1)				Prepared & Analyzed: 06/28/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B378608-BS1)				Prepared & Analyzed: 06/28/24						
Total Suspended Solids	221	5.0	mg/L	200		110	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.



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

24F3940

Sub-Contract Chain of Custody

Batch Date/Time: 06/26/24 13:45
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: WG2312656
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/25/24
ESC Purchase Order #: L1750526
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
CCR CLEAN EFFLUENT PFAS	GW	NM	06/25/24 08:40	SUBPFAS1633	2. L1750526-01	

Relinquished by: [Signature] Date: 6-26-24
Received by: MM 56 Date: 6/27/24 941
Relinquished by: _____ Date: _____
Received by: _____ Date: _____



FedEx® Tracking



DELIVERED

Thursday

6/27/24 at 9:41 AM

Signed for by: L.ARROYO

↓ Obtain proof of delivery

DELIVERY STATUS

Delivered

Report missing package

TRACKING ID

746408516624

FROM

MOUNT JULIET, TN US

Label Created

6/26/24 5:52 PM

NASHVILLE, TN

6/26/24 5:59 PM

ON THE WAY

WINDSOR LOCKS, CT

6/27/24 8:08 AM

OUT FOR DELIVERY

WINDSOR LOCKS, CT

6/27/24 8:16 AM

DELIVERED

East Longmeadow, MA US

Delivered

6/27/24 at 9:41 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.

MORE OPTIONS

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

Short Hold: Yes / No (6) Notify

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE <u>6/26/24</u>	☒	☐
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 Banks	☐	☒
Lap to Filters	☐	☒
COC Legible	☒	☐
COC Included (Check all included)		
Client ☒ Analysis ☒		
Project ☒ IDs ☒		
	Sampler Name	
	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.*

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		250mL		100mL	1 Liter		500mL	250mL					Unpreserved	HCl	MeOH	D.I. Water	BiSulfate	Col/Bact	
1					Unpreserved	HCL	Sulfuric	Sulfuric	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc					
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								
18																								
19																								
20																								

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Page



ANALYTICAL REPORT

July 30, 2024

Revised Report

1

Cp

2

Tc

3

Ss

4

Cn

5

Gl

6

Al

7

Sc

Devon Energy - Oklahoma City, OK

Sample Delivery Group: L1750556
Samples Received: 06/26/2024
Project Number: 212C-HN-02831
Description: Desalination Pilot
Site: CCL
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

CONCENTRATED BRINE L1750556-01 WW

Collected by
Danny Daniels

Collected date/time
06/25/24 09:45

Received date/time
06/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2312608	1	07/08/24 00:00	07/08/24 00:00	-	Indianapolis, IN 46268
Subcontracted Analyses	WG2312642	1	07/17/24 00:00	07/17/24 00:00	ANF	East Longmeadow, MA 01028
Subcontracted Analyses	WG2312651	1	07/11/24 00:00	07/11/24 00:00	-	Green Bay, WI 54302

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

1Cp

2Tc

3Ss

4Cn

5Gl

6Al

7Sc

Report Revision History

Level II Report - Version 1: 07/23/24 17:44

Project Narrative

The following report has been revised to correct the PFAS reporting.
L1750556 -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.

QualifierDescription

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

[illegible]

[illegible]



July 08, 2024

Jimmy Huckaba
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: Deselination Pilot/WG2312608
Pace Project No.: 50376925

Dear Jimmy Huckaba:

Enclosed are the analytical results for sample(s) received by the laboratory on June 27, 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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Deselination Pilot/WG2312608

Pace Project No.: 50376925

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Deselination Pilot/WG2312608

Pace Project No.: 50376925

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50376925001	CONCENTRATED BRINE PFAS	Water	06/25/24 09:45	06/27/24 08:55

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: Deselination Pilot/WG2312608

Pace Project No.: 50376925

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50376925001	CONCENTRATED BRINE PFAS	EPA 9056	ADM	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



SUMMARY OF DETECTION

Project: Deselination Pilot/WG2312608
Pace Project No.: 50376925

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50376925001	CONCENTRATED BRINE PFAS					
EPA 9056	Iodide	231	mg/L	50.0	07/06/24 02:27	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Deselination Pilot/WG2312608

Pace Project No.: 50376925

Sample: **CONCENTRATED BRINE** Lab ID: **50376925001** Collected: 06/25/24 09:45 Received: 06/27/24 08:55 Matrix: Water
PFAS

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	231	mg/L	50.0	100		07/06/24 02:27		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/08/2024 10:51 AM

Page 6 of 12



QUALITY CONTROL DATA

Project: Deselination Pilot/WG2312608

Pace Project No.: 50376925

QC Batch: 798157

Analysis Method: EPA 9056

QC Batch Method: EPA 9056

Analysis Description: 9056 Iodide by IC

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50376925001

METHOD BLANK: 3651992

Matrix: Water

Associated Lab Samples: 50376925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iodide	mg/L	ND	0.50	07/05/24 17:42	

LABORATORY CONTROL SAMPLE: 3651993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iodide	mg/L	5	5.7	114	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3655427 3655428

Parameter	Units	50376768001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iodide	mg/L	ND	5	5	5.8	5.7	115	113	80-120	2	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/08/2024 10:51 AM

Page 7 of 12



QUALIFIERS

Project: Deselination Pilot/WG2312608

Pace Project No.: 50376925

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/08/2024 10:51 AM

Page 8 of 12



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Deselination Pilot/WG2312608
Pace Project No.: 50376925

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50376925001	CONCENTRATED BRINE PFAS	EPA 9056	798157		

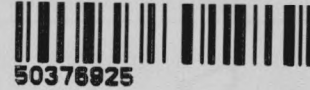
REPORT OF LABORATORY ANALYSIS

Date: 07/08/2024 10:51 AM

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

WO# : 50376925

Sub-Contract Chain of Custody



50376925

PACELAB

Batch Date/Time: 06/26/24 13:10
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: WG2312608
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/11/24
ESC Purchase Order #: L1750556
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
CONCENTRATED BRINE PFAS	WW	NM	06/25/24 09:45	Iodide	2. L1750556-01	

Relinquished by: [Signature] Date: 6-26-24Recieved by: Fedex Date: _____Relinquished by: [Signature] Fedex Date: 6/27/24 8:55Recieved by: F [Signature] Date: 6/27/24 8:55

F-IN-Q-290-rev.26, 30Apr2024



SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 6/27/24 16:57 JG

1. Courier: ☒ FED EX ☐ UPS ☐ CLIENT ☐ PACE ☐ NOW/JETT ☐ OTHER _____2. 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 A B C D E F G H

4. Cooler Temperature(s): 1.1/1.0
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)5. Packing Material: ☒ Bubble Wrap ☐ Bubble Bags☐ None ☐ Other _____6. Ice Type: ☒ Wet ☐ Blue ☐ None7. Was the PM notified of out of temp cooler?: ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C8. 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)? Analysis:		☒	Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) 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:			<u>Present</u>	<u>Absent</u>	<u>N/A</u>
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	<u>Present</u>	<u>Absent</u>	<u>No VOA Vials Sent</u>
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	WGFU	WGKU	BG1U	MeOH (only)	DG9H	VG9H	VOA VIAL HS (≥6mm)	VG9U	DG9U	VG9T	AMBER GLASS							PLASTIC								OTHER					Matrix	Nitric				Sulfuric	Sodium Hydroxide	Sodium Hydroxide ZnAc																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
				SBS							R	AG0U	AG1H	AG1U	AG3U	AG3S	AG3SF	AG3B	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Red	Yellow	Green	Black																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
				DI																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	CG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	CG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
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
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGUFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3B	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

NT3U	Non Teflon 250mL unpreserved plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe



July 11, 2024

MTJLSuboutTeam
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1750556 WG2312651
Pace Project No.: 40280339

Dear MTJLSuboutTeam:

Enclosed are the analytical results for sample(s) received by the laboratory on June 27, 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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



CERTIFICATIONS

Project: L1750556 WG2312651

Pace Project No.: 40280339

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: L1750556 WG2312651

Pace Project No.: 40280339

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40280339001	CONCENTRATED BRINE PFAS	Water	06/25/24 09:45	06/27/24 09:45

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: L1750556 WG2312651

Pace Project No.: 40280339

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40280339001	CONCENTRATED BRINE PFAS	SM 2710F	HML	2

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: L1750556 WG2312651

Pace Project No.: 40280339

Sample: **CONCENTRATED BRINE** Lab ID: **40280339001** Collected: 06/25/24 09:45 Received: 06/27/24 09:45 Matrix: Water
PFAS

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	1.2	g/mL			1		07/09/24 16:46		
Specific Gravity	1.2	no units			1		07/09/24 16:46		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/11/2024 08:26 AM

Page 5 of 11



QUALITY CONTROL DATA

Project: L1750556 WG2312651

Pace Project No.: 40280339

QC Batch: 479113

Analysis Method: SM 2710F

QC Batch Method: SM 2710F

Analysis Description: Specific Gravity /Bulk Density

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40280339001

SAMPLE DUPLICATE: 2743769

Parameter	Units	40280338001 Result	Dup Result	RPD	Max RPD	Qualifiers
Density	g/mL	1.1	1.1	0	20	
Specific Gravity	no units	1.1	1.1	0	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/11/2024 08:26 AM

Page 6 of 11



QUALIFIERS

Project: L1750556 WG2312651

Pace Project No.: 40280339

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Date: 07/11/2024 08:26 AM

Page 7 of 11



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1750556 WG2312651
Pace Project No.: 40280339

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40280339001	CONCENTRATED BRINE PFAS	SM 2710F	479113		

REPORT OF LABORATORY ANALYSIS

Date: 07/11/2024 08:26 AM

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

40280339

Sub-Contract Chain of Custody

Batch Date/Time: 06/26/24 13:41
 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: WG2312651

Email: MTJLSuboutTeam@pacelabs.com

Results Due Date: 07/11/24

ESC Purchase Order #: L1750556

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
CONCENTRATED BRINE PFAS 48194896	WW	NM	06/25/24 09:45	Specific Gravity	2. L1750556-01	

*= Container used for multiple Samples and/or Analyses

Relinquished by: [Signature] Date 6-26-24

Received by: _____ Date _____

Relinquished by: Fedex Date 6/27/24 09:45

Received by: [Signature] Date 6/27/24 09:45

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 # 40280339

All containers needing preservation have been checked and noted below:
Lab Lot# of pH paper:

☐ Yes ☐ No ☒ N/A

Lab Std #ID of preservation (if pH adjusted):

Initial when
completed:

Date/
Time:

Pace Lab #	Glass						Plastic						Vials					Jars				General				VOA Vials (>6mm) *	Initial when completed:		Date/ Time:	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			H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted																												
001																																																															
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, WLDRO, Phenolics, CHL																																																															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 H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	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 National

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Walto
☐ Client ☐ Pace Other: _____

Tracking #: 7464 0851 6635Custody 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 ☐ OtherThermometer Used SR - 120Type 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: 8/21/24 /Initials: mitLabeled By Initials: Stu

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>IRW mit 8/21/24</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 IB</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



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

July 17, 2024

Subout Team
Pace National - TN
12065 Lebanon Road
Mt. Juliet, TN 37122

Project Location: NM
Client Job Number:
Project Number: WG2312642
Laboratory Work Order Number: 24F3942

Enclosed are results of analyses for samples as received by the laboratory on June 27, 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 A. Feliciano". The signature is fluid and cursive, with a large initial "K" and a long, sweeping underline.

Kaitlyn A. Feliciano
Project Manager

Table of Contents

Sample Summary	3
Case Narrative	4
Sample Results	5
24F3942-01	5
Sample Preparation Information	8
QC Data	9
Semivolatile Organic Compounds by - LC/MS-MS	9
B379732	9
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)	14
B378608	14
Flag/Qualifier Summary	15
Certifications	16
Chain of Custody/Sample Receipt	18



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: Subout Team

REPORT DATE: 7/17/2024

PURCHASE ORDER NUMBER: L1750556

PROJECT NUMBER: WG2312642

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24F3942

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
CONCENTRATED BRINE PFAS	24F3942-01	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:

D-03

Sample diluted pre-extraction due to elevated TSS pre-analysis result.

Analyte & Samples(s) Qualified:

24F3942-01[CONCENTRATED BRINE 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: 24F3942

Date Received: 6/27/2024

Field Sample #: CONCENTRATED BRINE PFA

Sampled: 6/25/2024 09:45

Sample ID: 24F3942-01

Sample Matrix: Ground Water

Sample Flags: D-03

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	200	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluoropentanoic acid (PFPeA)	ND	100	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorohexanoic acid (PFHxA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluoroheptanoic acid (PFHpA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorooctanoic acid (PFOA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorononanoic acid (PFNA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorodecanoic acid (PFDA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluoroundecanoic acid (PFUnA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorododecanoic acid (PFDoA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorononanesulfonic acid (PFNS)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	200	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	200	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	200	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
N-MeFOSAA (NMeFOSAA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
N-EtFOSAA (NEtFOSAA)	ND	50	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	500	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	500	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	200	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	ND	200	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
9Cl-PF3ONS (F53B Minor)	ND	200	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
11Cl-PF3OUDS (F53B Major)	ND	200	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	500	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
2H,2H,3H,3H-Perfluorooctanoic acid (FPePA) (5:3FTCA)	ND	2500	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	2500	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	100	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	100	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS



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

Project Location: NM

Sample Description:

Work Order: 24F3942

Date Received: 6/27/2024

Field Sample #: CONCENTRATED BRINE PFA Sampled: 6/25/2024 09:45

Sample ID: 24F3942-01

Sample Matrix: Ground Water

Sample Flags: D-03

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	100	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	100	ng/L	1		Draft Method 1633	7/11/24	7/12/24 23:04	AMS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	85.2	10-130						7/12/24 23:04	
13C5-PFPeA	86.0	35-150						7/12/24 23:04	
13C5-PFHxA	86.9	55-150						7/12/24 23:04	
13C4-PFHpA	84.2	55-150						7/12/24 23:04	
13C8-PFOA	85.5	60-140						7/12/24 23:04	
13C9-PFNA	84.0	55-140						7/12/24 23:04	
13C6-PFDA	82.2	50-140						7/12/24 23:04	
13C7-PFUnA	78.7	30-140						7/12/24 23:04	
13C2-PFDoA	78.4	10-150						7/12/24 23:04	
13C2-PFTeDA	77.4	10-130						7/12/24 23:04	
13C3-PFBS	91.0	55-150						7/12/24 23:04	
13C3-PFHxS	84.4	55-150						7/12/24 23:04	
13C8-PFOS	80.0	45-140						7/12/24 23:04	
13C2-4:2FTS	84.1	60-200						7/12/24 23:04	
13C2-6:2FTS	87.0	60-200						7/12/24 23:04	
13C2-8:2FTS	66.3	50-200						7/12/24 23:04	
13C8-PFOSA	65.1	30-130						7/12/24 23:04	
D3-NMeFOSA	74.3	15-130						7/12/24 23:04	
D5-NEtFOSA	77.2	10-130						7/12/24 23:04	
D3-NMeFOSAA	81.5	45-200						7/12/24 23:04	
D5-NEtFOSAA	80.4	10-200						7/12/24 23:04	
D7-NMeFOSE	82.2	10-150						7/12/24 23:04	
D9-NEtFOSE	77.9	10-150						7/12/24 23:04	
13C3-HFPO-DA	94.1	25-160						7/12/24 23:04	



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

Project Location: NM

Sample Description:

Work Order: 24F3942

Date Received: 6/27/2024

Field Sample #: CONCENTRATED BRINE PFA

Sampled: 6/25/2024 09:45

Sample ID: 24F3942-01

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	3200	10	mg/L	1		Draft Method 1633	6/28/24	6/28/24 10:42	LL



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

Sample Extraction Data

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24F3942-01 [CONCENTRATED BRINE PFAS]	B378608	50.0	06/28/24

Prep Method:Draft Method 1633 Analytical Method:Draft Method 1633 Leachates were extracted on 6/28/2024 per NO PREP in Batch B378608

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24F3942-01 [CONCENTRATED BRINE PFAS]	B379732	10.0	5.00	07/11/24



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
Batch B379732 - Draft Method 1633										
Blank (B379732-BLK1)										
				Prepared: 07/11/24 Analyzed: 07/12/24						
Perfluorobutanoic acid (PFBA)	ND	3.9	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	0.97	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	0.97	ng/L							
Perfluorooctanoic acid (PFOA)	ND	0.97	ng/L							
Perfluorononanoic acid (PFNA)	ND	0.97	ng/L							
Perfluorodecanoic acid (PFDA)	ND	0.97	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	0.97	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	0.97	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	0.97	ng/L							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.97	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	0.97	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.97	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.97	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.97	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	0.97	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	0.97	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	0.97	ng/L							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.97	ng/L							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L							
Perfluorooctanesulfonamide (PFOSA)	ND	0.97	ng/L							
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.97	ng/L							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.97	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	0.97	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	0.97	ng/L							
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	9.7	ng/L							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.7	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.7	ng/L							
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	ND	1.9	ng/L							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	1.9	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L							
Surrogate: 13C4-PFBA	91.6		ng/L	97.3		94.1	10-130			



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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B379732 - Draft Method 1633

Blank (B379732-BLK1)

Prepared: 07/11/24 Analyzed: 07/12/24

Surrogate: 13C5-PFPeA	45.4		ng/L	48.6		93.3	35-150			
Surrogate: 13C5-PFHxA	22.8		ng/L	24.3		93.7	55-150			
Surrogate: 13C4-PFHpA	22.0		ng/L	24.3		90.4	55-150			
Surrogate: 13C8-PFOA	23.3		ng/L	24.3		95.6	60-140			
Surrogate: 13C9-PFNA	11.8		ng/L	12.2		97.4	55-140			
Surrogate: 13C6-PFDA	11.6		ng/L	12.2		95.8	50-140			
Surrogate: 13C7-PFUnA	10.8		ng/L	12.2		88.8	30-140			
Surrogate: 13C2-PFDoA	10.2		ng/L	12.2		84.2	10-150			
Surrogate: 13C2-PFTeDA	10.3		ng/L	12.2		84.4	10-130			
Surrogate: 13C3-PFBS	24.2		ng/L	24.3		99.4	55-150			
Surrogate: 13C3-PFHxS	22.9		ng/L	24.3		94.0	55-150			
Surrogate: 13C8-PFOS	22.3		ng/L	24.3		91.7	45-140			
Surrogate: 13C2-4:2FTS	50.5		ng/L	48.6		104	60-200			
Surrogate: 13C2-6:2FTS	45.2		ng/L	48.6		92.9	60-200			
Surrogate: 13C2-8:2FTS	40.6		ng/L	48.6		83.4	50-200			
Surrogate: 13C8-PFOA	21.4		ng/L	24.3		88.1	30-130			
Surrogate: D3-NMeFOSA	19.5		ng/L	24.3		80.0	15-130			
Surrogate: D5-NEtFOSA	21.1		ng/L	24.3		86.7	10-130			
Surrogate: D3-NMeFOSAA	48.3		ng/L	48.6		99.4	45-200			
Surrogate: D5-NEtFOSAA	43.3		ng/L	48.6		89.0	10-200			
Surrogate: D7-NMeFOSE	202		ng/L	243		83.0	10-150			
Surrogate: D9-NEtFOSE	209		ng/L	243		85.8	10-150			
Surrogate: 13C3-HFPO-DA	89.9		ng/L	97.3		92.5	25-160			

LCS (B379732-BS1)

Prepared: 07/11/24 Analyzed: 07/12/24

Perfluorobutanoic acid (PFBA)	90.6	3.9	ng/L	94.2		96.2	58-148			
Perfluoropentanoic acid (PFPeA)	45.3	2.0	ng/L	47.1		96.2	54-152			
Perfluorohexanoic acid (PFHxA)	22.6	0.98	ng/L	23.6		96.0	55-152			
Perfluoroheptanoic acid (PFHpA)	22.6	0.98	ng/L	23.6		95.9	54-154			
Perfluorooctanoic acid (PFOA)	22.2	0.98	ng/L	23.6		94.1	52-161			
Perfluorononanoic acid (PFNA)	21.5	0.98	ng/L	23.6		91.3	59-149			
Perfluorodecanoic acid (PFDA)	23.4	0.98	ng/L	23.6		99.1	52-147			
Perfluoroundecanoic acid (PFUnA)	22.8	0.98	ng/L	23.6		96.7	48-159			
Perfluorododecanoic acid (PFDoA)	23.6	0.98	ng/L	23.6		100	64-142			
Perfluorotridecanoic acid (PFTTrDA)	22.8	0.98	ng/L	23.6		96.9	49-148			
Perfluorotetradecanoic acid (PFTeDA)	22.6	0.98	ng/L	23.6		95.8	47-161			
Perfluorobutanesulfonic acid (PFBS)	19.8	0.98	ng/L	20.9		94.9	62-144			
Perfluoropentanesulfonic acid (PFPeS)	20.3	0.98	ng/L	22.1		91.8	59-151			
Perfluorohexanesulfonic acid (PFHxS)	23.8	0.98	ng/L	21.6		110	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	21.7	0.98	ng/L	22.4		96.7	55-152			
Perfluorooctanesulfonic acid (PFOS)	26.0	0.98	ng/L	21.9		119	58-149			
Perfluorononanesulfonic acid (PFNS)	21.2	0.98	ng/L	22.7		93.4	52-148			
Perfluorodecanesulfonic acid (PFDS)	20.5	0.98	ng/L	22.7		90.1	51-147			
Perfluorododecanesulfonic acid (PFDoS)	20.1	0.98	ng/L	22.9		87.7	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	92.0	3.9	ng/L	88.4		104	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	95.1	3.9	ng/L	89.5		106	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	91.3	3.9	ng/L	90.7		101	63-152			
Perfluorooctanesulfonamide (PFOSA)	22.3	0.98	ng/L	23.6		94.7	61-148			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	22.2	0.98	ng/L	23.6		94.4	63-145			



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B379732 - Draft Method 1633

LCS (B379732-BS1)

Prepared: 07/11/24 Analyzed: 07/12/24

N-ethyl perfluorooctanesulfonamide (NEtFOSA)	21.6	0.98	ng/L	23.6		91.9	65-139			
N-MeFOSAA (NMeFOSAA)	27.0	0.98	ng/L	23.6		115	58-144			
N-EtFOSAA (NEtFOSAA)	26.5	0.98	ng/L	23.6		112	59-146			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	234	9.8	ng/L	236		99.4	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	237	9.8	ng/L	236		101	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	92.1	3.9	ng/L	94.2		97.7	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	86.7	3.9	ng/L	88.9		97.5	68-146			
9Cl-PF3ONS (F53B Minor)	79.2	3.9	ng/L	88.4		89.7	56-156			
11Cl-PF3OUDS (F53B Major)	78.2	3.9	ng/L	88.9		88.0	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	219	9.8	ng/L	236		92.8	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid (FPePA) (5:3FTCA)	1100	49	ng/L	1180		93.5	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	996	49	ng/L	1180		84.6	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEA)	40.3	2.0	ng/L	41.9		96.1	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	45.8	2.0	ng/L	47.1		97.3	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	45.6	2.0	ng/L	47.1		96.7	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	49.2	2.0	ng/L	47.1		104	48-161			
Surrogate: 13C4-PFBA	86.2		ng/L	98.2		87.8	10-130			
Surrogate: 13C5-PFPeA	42.8		ng/L	49.1		87.2	35-150			
Surrogate: 13C5-PFHxA	21.6		ng/L	24.5		88.0	55-150			
Surrogate: 13C4-PFHpA	21.1		ng/L	24.5		85.8	55-150			
Surrogate: 13C8-PFOA	21.8		ng/L	24.5		88.8	60-140			
Surrogate: 13C9-PFNA	11.5		ng/L	12.3		93.5	55-140			
Surrogate: 13C6-PFDA	10.5		ng/L	12.3		85.9	50-140			
Surrogate: 13C7-PFUnA	9.75		ng/L	12.3		79.4	30-140			
Surrogate: 13C2-PFDoA	9.51		ng/L	12.3		77.5	10-150			
Surrogate: 13C2-PFTeDA	9.29		ng/L	12.3		75.7	10-130			
Surrogate: 13C3-PFBS	22.6		ng/L	24.5		92.1	55-150			
Surrogate: 13C3-PFHxS	21.9		ng/L	24.5		89.3	55-150			
Surrogate: 13C8-PFOS	22.1		ng/L	24.5		90.0	45-140			
Surrogate: 13C2-4:2FTS	42.6		ng/L	49.1		86.7	60-200			
Surrogate: 13C2-6:2FTS	41.1		ng/L	49.1		83.7	60-200			
Surrogate: 13C2-8:2FTS	35.7		ng/L	49.1		72.8	50-200			
Surrogate: 13C8-PFOSA	20.7		ng/L	24.5		84.2	30-130			
Surrogate: D3-NMeFOSA	18.5		ng/L	24.5		75.6	15-130			
Surrogate: D5-NEtFOSA	19.4		ng/L	24.5		78.9	10-130			
Surrogate: D3-NMeFOSAA	45.5		ng/L	49.1		92.7	45-200			
Surrogate: D5-NEtFOSAA	40.9		ng/L	49.1		83.4	10-200			
Surrogate: D7-NMeFOSE	193		ng/L	245		78.7	10-150			
Surrogate: D9-NEtFOSE	190		ng/L	245		77.2	10-150			
Surrogate: 13C3-HFPO-DA	89.2		ng/L	98.2		90.9	25-160			

MRL Check (B379732-MRL1)

Prepared: 07/11/24 Analyzed: 07/12/24

Perfluorobutanoic acid (PFBA)	7.69	4.0	ng/L	7.92		97.2	44-157			
Perfluoropentanoic acid (PFPeA)	3.82	2.0	ng/L	3.96		96.6	57-148			



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B379732 - Draft Method 1633

MRL Check (B379732-MRL1)

Prepared: 07/11/24 Analyzed: 07/12/24

Perfluorohexanoic acid (PFHxA)	2.02	0.99	ng/L	1.98		102	62-149			
Perfluoroheptanoic acid (PFHpA)	1.86	0.99	ng/L	1.98		94.1	56-150			
Perfluorooctanoic acid (PFOA)	2.19	0.99	ng/L	1.98		111	57-161			
Perfluorononanoic acid (PFNA)	1.92	0.99	ng/L	1.98		96.9	53-157			
Perfluorodecanoic acid (PFDA)	2.05	0.99	ng/L	1.98		104	43-158			
Perfluoroundecanoic acid (PFUnA)	1.78	0.99	ng/L	1.98		90.0	50-155			
Perfluorododecanoic acid (PFDoA)	1.95	0.99	ng/L	1.98		98.5	60-141			
Perfluorotridecanoic acid (PFTrDA)	1.92	0.99	ng/L	1.98		96.8	52-140			
Perfluorotetradecanoic acid (PFTeDA)	1.84	0.99	ng/L	1.98		93.1	52-156			
Perfluorobutanesulfonic acid (PFBS)	1.70	0.99	ng/L	1.76		96.9	63-145			
Perfluoropentanesulfonic acid (PFPeS)	1.69	0.99	ng/L	1.86		90.9	58-144			
Perfluorohexanesulfonic acid (PFHxS)	2.35	0.99	ng/L	1.81		130	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	1.83	0.99	ng/L	1.88		97.0	51-150			
Perfluorooctanesulfonic acid (PFOS)	2.32	0.99	ng/L	1.84		127	43-162			
Perfluorononanesulfonic acid (PFNS)	1.90	0.99	ng/L	1.90		99.9	46-151			
Perfluorodecanesulfonic acid (PFDS)	1.70	0.99	ng/L	1.91		89.2	50-144			
Perfluorododecanesulfonic acid (PFDoS)	1.77	0.99	ng/L	1.92		92.0	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	7.69	4.0	ng/L	7.42		104	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	7.67	4.0	ng/L	7.52		102	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	7.64	4.0	ng/L	7.62		100	46-165			
Perfluorooctanesulfonamide (PFOSA)	1.98	0.99	ng/L	1.98		100	47-163			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	2.06	0.99	ng/L	1.98		104	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.96	0.99	ng/L	1.98		99.0	49-156			
N-MeFOSAA (NMeFOSAA)	2.62	0.99	ng/L	1.98		132	32-160			
N-EtFOSAA (NEtFOSAA)	2.34	0.99	ng/L	1.98		118	51-154			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	19.8	9.9	ng/L	19.8		100	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	20.2	9.9	ng/L	19.8		102	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.47	4.0	ng/L	7.92		94.3	58-154			
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	6.67	4.0	ng/L	7.47		89.2	61-148			
9Cl-PF3ONS (F53B Minor)	6.41	4.0	ng/L	7.42		86.3	44-167			
11Cl-PF3OUDS (F53B Major)	6.11	4.0	ng/L	7.47		81.8	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	16.4	9.9	ng/L	19.8		82.8	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid (FPePA)(5:3FTCA)	83.3	49	ng/L	98.9		84.2	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	78.6	49	ng/L	98.9		79.4	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	2.93	2.0	ng/L	3.52		83.2	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.43	2.0	ng/L	3.96		86.7	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.41	2.0	ng/L	3.96		86.2	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.67	2.0	ng/L	3.96		92.7	47-160			
Surrogate: 13C4-PFBA	88.8		ng/L	98.9		89.8	10-130			
Surrogate: 13C5-PFPeA	43.5		ng/L	49.5		87.9	35-150			
Surrogate: 13C5-PFHxA	21.6		ng/L	24.7		87.4	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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B379732 - Draft Method 1633

MRL Check (B379732-MRL1)

Prepared: 07/11/24 Analyzed: 07/12/24

Surrogate: 13C4-PFHpA	21.4		ng/L	24.7		86.5	55-150			
Surrogate: 13C8-PFOA	22.5		ng/L	24.7		91.1	60-140			
Surrogate: 13C9-PFNA	11.3		ng/L	12.4		91.5	55-140			
Surrogate: 13C6-PFDA	11.1		ng/L	12.4		89.4	50-140			
Surrogate: 13C7-PFUnA	10.1		ng/L	12.4		81.6	30-140			
Surrogate: 13C2-PFDoA	9.90		ng/L	12.4		80.0	10-150			
Surrogate: 13C2-PFTeDA	9.76		ng/L	12.4		78.9	10-130			
Surrogate: 13C3-PFBS	23.4		ng/L	24.7		94.4	55-150			
Surrogate: 13C3-PFHxS	22.3		ng/L	24.7		90.2	55-150			
Surrogate: 13C8-PFOS	21.9		ng/L	24.7		88.4	45-140			
Surrogate: 13C2-4:2FTS	48.2		ng/L	49.5		97.4	60-200			
Surrogate: 13C2-6:2FTS	45.8		ng/L	49.5		92.6	60-200			
Surrogate: 13C2-8:2FTS	41.0		ng/L	49.5		83.0	50-200			
Surrogate: 13C8-PFOSA	20.3		ng/L	24.7		82.0	30-130			
Surrogate: D3-NMeFOSA	18.5		ng/L	24.7		74.8	15-130			
Surrogate: D5-NEtFOSA	19.5		ng/L	24.7		78.7	10-130			
Surrogate: D3-NMeFOSAA	44.3		ng/L	49.5		89.5	45-200			
Surrogate: D5-NEtFOSAA	41.8		ng/L	49.5		84.5	10-200			
Surrogate: D7-NMeFOSE	193		ng/L	247		77.9	10-150			
Surrogate: D9-NEtFOSE	190		ng/L	247		76.6	10-150			
Surrogate: 13C3-HFPO-DA	91.7		ng/L	98.9		92.6	25-160			



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

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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B378608 - Draft Method 1633

Blank (B378608-BLK1)				Prepared & Analyzed: 06/28/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B378608-BS1)				Prepared & Analyzed: 06/28/24						
Total Suspended Solids	221	5.0	mg/L	200		110	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-03	Sample diluted pre-extraction due to elevated TSS pre-analysis result.



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

24F3942

Sub-Contract Chain of Custody

Batch Date/Time: 06/26/24 13:34

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: WG2312642

Email: MTJLSuboutTeam@pacelabs.com

Results Due Date: 07/11/24

ESC Purchase Order #: L1750556

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
CONCENTRATED BRINE PFAS	GW	NM	06/25/24 09:45	SUBPFAS1633	2. L1750556-01	

Relinquished by: _____ Date: 6-26-24Received by: QUVA S.G Date: 6/27/24 941

Relinquished by: _____ Date: _____

Received by: _____ Date: _____



FedEx® Tracking



DELIVERED

Thursday

6/27/24 at 9:41 AM

Signed for by: L.ARROYO

Obtain proof of delivery

DELIVERY STATUS

Delivered

Report missing package

TRACKING ID

746408516624

FROM
MOUNT JULIET, TN US
Label Created
6/26/24 5:52 PM

NASHVILLE, TN
6/26/24 5:59 PM

ON THE WAY
WINDSOR LOCKS, CT
6/27/24 8:08 AM

OUT FOR DELIVERY
WINDSOR LOCKS, CT
6/27/24 8:16 AM

DELIVERED
East Longmeadow, MA US
Delivered
6/27/24 at 9:41 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.

MORE OPTIONS

	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 NA
MCP/RCP Required no
Deliverable Package Requirement no
Location NM
PWSID# (When Applicable) NA
Arrival Method:
Courier ☐ Fed Ex ☒ Walk In ☐ Other ☐
Received By / Date / Time SL 6/27/24 991
Back-Sheet By / Date / Time SL 6/27/24 1615
Temperature Method gun # 6
WV samples: Yes (see note*) / No (follow normal procedure) 0
Temp < 6° C Actual Temperature 5.6
Rush Samples: Yes / 0 No / Notify
Short Hold: Yes / 0 No / Notify

Notes regarding Samples/COC outside of SOP:

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE <u>6/26/24</u> 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: N/A	☒	☐

Additional Container Notes

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

Sample	Soils Jars				Ambers				Plastics								VOA Vials					Other / Fill in																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	(Circle Amb/Clear)				1 Liter		250mL		100mL	500mL		250mL						Unpreserved	HCl	MeOH	D.I. Water	BiSulfate	Col/Bact	500ml plastic trizma																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Unpreserved	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Unpreserved	Unpreserved								Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved	Unpreserved

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Page

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 381253

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 381253
	Action Type: [C-147] Water Recycle Long (C-147L)

CONDITIONS

Created By	Condition	Condition Date
vvenegas	None	9/6/2024